JAMES G. MARCH, January 22, 2017, Palo Alto, California © Marianna Cook 2017

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ALTERNATIVES AND COMPLEMENTS TO RATIONALITY[1]

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As a scholar, James G. March looms large over the field of organization theory – and his influence extends to sociology, political science, psychology, economics, public administration, and education. This profound impact belies his quiet and humble persona as a "country boy from Wisconsin."[2] Born in Ohio, and raised in Wisconsin, his first job after receiving his PhD in Political Science from Yale University was at the Carnegie Institute of Technology (now Carnegie-Mellon University) in Pittsburgh. Jim March served on the faculty there from 1953 to 1964, with colleagues and eventual co-authors Herbert Simon, Richard Cyert, and Harold Guetzkow. Together they worked to develop a behaviorally oriented science of "administration." This interdisciplinary effort established the field of organizations[3] and is what we now call the "Carnegie School."

Along with Simon's (1997) *Administrative Behavior*, March and Simon's (1958) *Organizations* and Cyert and March's (1963) *A Behavioral Theory of the Firm* are the texts that encapsulate the Carnegie School. It is worth pausing to appreciate the fact that *Organizations* was published when March was 30 and *A Behavioral Theory of the Firm*, 35. Jim March may have been humble, but those are two humbling facts for those of us no longer in our 30s. Another fact worth noting: although they would be good friends for many years, Jim March and Herb Simon worked together for three years … "Just three" (March, 2004, p. 534).

While these numbers underscore just how extraordinary this burst of intellectual productivity was, they also reveal how much attention is focused on an early and short period of a long academic career. When Jim March left for California in 1964, he was 36 years old and the bulk of his career was still before him. March's post-Carnegie academic life would continue for 50 more years.[4] However, this "later" work,[5] with the exception work on organizational learning, has received less appreciation than its quality deserves. The goal of this paper – and indeed

this volume – is to focus attention on March's post-1970 scholarship, much of which challenges conventional organizational thinking (and to give a sense of the man who wrote so beautifully and poetically).

In brief, this paper delineates six decision-making processes introduced by March that deviate from rationality. Each of these processes can be seen as constituting or serving intelligent choice. Although March's exact definition of intelligence evolved (e.g., see March, 1999, 2006, 2010), the key insight is that intelligence and rationality are not synonymous. Rather, intelligence is a genus with multiple species. It is a destination reachable by several paths, of which rationality is only one. And often the most accomplished travelers are those who can take a variety and combination of routes.

Notably, these alternatives to rationality are neither a repudiation nor a repetition of his early work, but rather an evolution and broadening of his initial ideas. Although we conceive of the Carnegie School work as canonical, with all the fixedness that entails, March neither ossified nor deified his prior thinking. He continually poked, prodded, iterated, and revised. In playing with ideas, he tried out new phrasings and explored different nuances. To understand the evolution, however, it is important to start at the beginning.

THE CARNEGIE SCHOOL

The sheer number of (now) familiar ideas found in the Carnegie School's principal texts is astonishing. For example, bounded rationality, satisficing, problemistic search, standard operating procedures, sequential attention to goals, dominant coalitions, allocation of attention, and aspirations levels. These are powerful "little ideas" that have shaped scholarly conversations for over 60 years (Liu, Maslach, Desai, & Madsen, 2015, p. 153). Several reviews have summarized this work and subsequent scholarship (Gavetti, Greve, Levinthal, & Ocasio, 2012; Gavetti, Levinthal, & Ocasio, 2007). As noted by Argote and Greve (2007), two hallmarks of this work are an emphasis on process and on behaviorally accurate representations – the focus is not normative in describing what firms *should* do, but rather descriptive in describing what firms *actually* do.

Bounded rationality is perhaps the Carnegie School's most prominent legacy. Its core insights about the ways that human limitations of time, attention, information, and cognitive ability restrict rationality challenged the economic models of the time. This came to be an increasingly accepted part of scholarly understandings of choice: neoclassical economic rationality as the primary tool for decision making was increasingly modified to allow for *bounded rationality*. March would take these ideas as a point of departure as he and his family headed West.

Before we follow him there, there are a few things to note. First, I use "rationality" as an umbrella term for pure rationality, bounded rationality, procedural rationality, and intended rationality. Since the focus of the present work is on March's alternatives and complements to rationality, distinguishing between versions of rationality itself is less of a priority. Second, all decision makers

in these models are "bounded" – having limited time, attention, and cognitive abilities – even when rationality is not the decision-making process they employ. Finally, I do not focus on March's extensions of bounded rationality itself. For example, while it is true that bounded rationality was developed at Carnegie, the notion that preferences are ambiguous and unstable was developed by March after he left Pittsburgh (March, 1978).

CARNEGIES GOES TO CALIFORNIA

Although March joined the faculty at Stanford in 1970 and spent the rest of his career there, he first moved to Irvine, in sunny Southern California. He was the founding dean of the School of Social Sciences at the University of California, Irvine when it first opened its doors to students in 1965. This was a formative experience that shaped the next phase of his career. There are any number of hypotheses about why this experience was so influential: because as Dean he was responsible for on-the-ground organizational decisions while establishing a *new* school at a *new* university; he was teaching students and "managing" faculty in the bohemian, free-love environment of 1960s California; he was establishing new and strong professional relationships (Michael Cohen was a doctoral student at UC Irvine,[6] and Johan Olsen was a visiting scholar from Norway). Whatever the reasons, it is at UC Irvine where many of his views of education were first articulated (see Weil, this volume), and it is also where he began to embrace ambiguity in organizational life (Cohen & March, 1974).

In the foreword to *On Leadership*, Jean-Claude Thoenig begins: "The thinking of March is disconcerting" (March & Weil, 2005, p. vii). Irvine is where we can start to see just how disconcerting this work is – work that remains unsettling today even as bounded rationality has become well-established and familiar. Unfortunately, the provocative ideas March introduced during these decades, and the work of scholars building on them, are often eclipsed by the original Carnegie School trilogy in our teachings and memories. My goal is to encourage organizational scholars to embrace a broader reading of the Carnegie School – including after Carnegie went to California.

March explored many possibilities for intelligence in decision making. He described alternatives to rational decision-making processes, and he allowed these other distinct decision-making processes to be part of intelligent choosing. I speak to them here individually, but it can be argued that it is in combination that these processes are most powerful (such as by combining rationality and foolishness; see Hu and Rerup, this volume; Ocasio, Rhee, & Boynton, 2020). Here, six decision-making processes are surveyed:[7]

1. Organizational adaptation through learning, in particular learning under uncertainty and the challenges of exploration and exploitation (Levinthal & March, 1993; March, 1991; March & Olsen, 1975).
2. Garbage can models (Cohen, March, & Olsen, 1972).
3. A technology of foolishness (March, 1971, 1972, 1976).

4. Models of chance (e.g., March & March, 1977).
5. Decision making as interpretation (March & Sevón, 1989).
6. A logic of appropriateness (March & Olsen, 1984, 2006).

The contributors to this volume present these core ideas in more detail in their respective pieces, but here I offer a brief summary and example. In his classes, March commonly drew on a parent's vantage point – using what a parent sees (and sometimes says and does) as a familiar reference to make his points clear. I do the same here, using my son Theo's choice of college major as a way to illustrate March's ideas about possible decision-making processes.

Theo has to choose his major. How can he decide?

0. Rationality. A rational decision process is the baseline to explore before elaborating alternatives to rationality. Although pure and bounded rationality differ in important ways, they both call for decisions to be made based on the attractiveness of expected consequences. The decision maker asks: What are my preferences? What are the alternatives? What are the expected consequences of those alternatives? And how do I value those potential consequences?[8]

As Theo works through this process, he starts by looking at physics and math. These were his favorite classes in high school, so he focuses on those, not paying much attention to majors like comparative literature or electrical engineering. He doesn't even realize Portuguese is an option. He makes a list of pros and cons to help him think through the potential consequences of majoring in physics versus math. He considers how well he is likely to do in his classes. He considers his probable job prospects after graduation. He notes that majoring in physics seems like it would work out fine – he expects his grades would be good enough and that he'd be able to find a good job after graduation. This decision-making process is defensible, despite his limited knowledge of alternatives and the uncertain consequences of pursuing any one of them; yet, doubts begin to creep in. He hasn't enjoyed his math and physics classes as much as he had expected. Are these still his favorite subjects or is that changing? And what about the potential consequences – it feels like he is making up what life after college might be like? His discomfort isn't resolved by his lists, but he is not sure how else to think about it. For Theo's sake, what are some alternatives to this decision-making process?

1. Decision making as learning. A good deal of Jim March's work falls within the broad bucket of organizational learning. Juxtaposed against rationality, a key assumption of organizational learning is that organizations determine their behavior based on past performance rather than calculations of expected consequences. This is visible in the original Carnegie School writings: organizations are adaptive, learning from past experience, and developing aspirations as a function of that past performance (Cyert & March, 1963). Organizational learning offers the first alternative decision-making process, as another form of intelligence; learning is adaptive and attentive to the past, and is subject to a different set of limitations than decision-making processes of rationality. History is inefficient, experience is ambiguous, and it can be difficult to learn from small samples of experience. An additional challenge is that feedback leads organizations to

become trapped in competency or exploration traps given the myopia of learning (Levinthal & March, 1993; Levitt & March, 1988; March, Sproull, & Tamuz, 1991; March & Olsen, 1975). Organizational learning highlights the possibility of superstitious learning, where one can "learn" a particular action leads to success when that is not actually the case. Given the ambiguity of cause–effect relationships, and the likelihood of getting trapped in a sub-optimal solution (due to local search, short time horizons, and rugged landscapes), this type of superstitious learning happens frequently. Just as bounded rationality limits decision makers' ability to predict the future, the ambiguities of experience limit decision makers' ability to learn from their past experiences. But it's a strong alternative to rationality as a decision-making process.

Theo is attentive to his past performance, observing how he performed in his classes during his first year, and comparing himself to his peers in those classes. Of course, there are some ambiguities in his experience. He liked physics better but got a better grade in math. He knows how only some of his peers did, and those tend to be his friends. He's taken more math, physics, and history classes in his first year and a half, so he has more data on those experiences. One friend is a computer science major and thinks Theo might like that. His parents agreed, and he took a computer science class last semester. He did like it, but it was just one class. There is only so much he feels like he has learned thus far.

2. Garbage can models. March and colleagues described how garbage can models of decision making reflect behavior as a constellation of problems, solutions, participants, and choice opportunities (Cohen et al., 1972). Rather than organizations working with clear and stable preferences, certain of its processes, and comprised of stable participants, organizations are viewed as organized anarchies with problematic preferences, unclear technologies, and fluid participation. March observed that this describes behavior in organizations – particularly faculty meetings, based on his observations as Dean. Choices are made based on a temporal assemblage: who is in the room at the moment, the preferred "solutions" those people are offering, the problems participants are raising, and the decision that must be made today. Rather than trying to establish a decision-making process of rationality (a fool's errand, given human beings' limitations), decision makers might learn to manage such garbage can processes (see Lomi & Harrison, 2012, for an entire volume dedicated to garbage can processes). Garbage can models highlight the importance of temporal ordering and the political dynamics of decision making. This is a descriptive model, focused on trying to explain how decision makers actually behave. Although they acknowledged that "the garbage can process does not resolve problems well" (Cohen et al., 1972, p. 16), they also argue that the conditions for rationality cannot be met. Where does that leave us, prescriptively (even if answering this question wasn't the focus of the original model)? Rather than strive for rationality in our decision-processes, a decision maker might focus on broadening participation or the choice set. Another approach is to consider when garbage can processes produce superior outcomes to a boundedly rational one. Ganz (this volume) outlines certain conditions under which garbage can decision making results in more optimal decisions than the alternatives.

What does a garbage can model suggest about Theo's search for a major? At his university, Theo has to declare his major in a 2-week period in the spring (this is the choice opportunity). The decision hinges on what is happening in Theo's life (and mind) in that window. The requirement to declare a major is one of the problems facing Theo. But so too is making friends and developing a social life. March might point out that there is someone cute in Theo's physics class. The professor decided to assign seating and suddenly there were new people in Theo's sight line. That's now a problem to be solved too – and one that may not have been there last week much less last term. Depending on his current course load, he may have more or less time to contemplate the decision than he would have at other times. He also may be discussing the decision with different people walking to and from class than he would have last term, and some of those people may be advocating for their intended major. Plus, don't some decisions just look a little different in spring than winter? Rather than a logical process based on stable preferences and a systematic search for a solution to a clearly defined problem, Theo's choice is highly influenced by simultaneity – by the ideas, preferences, problems, alternatives, and people that happen to come together at the time of choice.

3. Technology of foolishness. March introduced the term "technology of foolishness" as a complement to "technology of reason" for those "situations in which there has been an overlearning of virtues of conventional rationality" (March, 1976, p. 79). Again, and importantly, this is not the antithesis of rational decision making, but rather a beneficial companion to it.[9] A technology of foolishness suggests that goals are discovered through choice, not only known prior to it, and we make decisions in order to discover and test new possibilities. Decision making is a form of hypothesis testing. We can "treat action as a way of creating more interesting goals at the same time as we treat goals as a way of justifying action" (March, 1976, p. 75). To enable discovery and experimentation, playfulness is promoted as the temporary letting go of rules and rationalizations. It encourages us to tolerate inconsistent beliefs and behavior. At the heart of a technology of foolishness is *Don Quixote*: "The point is to act foolishly without justification." This action for the sake of acting, or for "no good reason," is how we discover new goals and test out new hypotheses.

Where does this leave Theo? Jim March spoke at the junior convocation at Stanford in 1988 and had some clear advice for him:

> choose the area of your expertise arbitrarily, not because it will help you or is relevant to your future life in some measurable way, but precisely because it probably will not and is not.

This approach broadens horizons considerably. Theo opens the course catalog and asks his parents what anthropology entails. This approach also takes the pressure off the decision itself – there is not a "wrong" choice, maybe he could flip a coin – although the bureaucracy still requires a decision to be made. Each class he has taken offered a question – a hypothesis of a possible major. This is the beauty of distribution or general education requirements taken early in college, those courses provided some hypothesis testing and goal exploration. But that matters little. The point is to decide and commit for no legitimate reason, as

Theo is committing to education as an "arbitrary affirmation of the importance of learning and life."

4. Models of chance. Remember that the Carnegie School is interested in how decisions are *actually* made (not how they *could* be made or how they *should* be made). One of the alternatives to decision making based on an intendedly rational process is decision making through a process of chance or luck (harkening back to the arbitrariness in a technology of foolishness). March developed a range of models that demonstrate how often observed outcomes are consistent with chance (and describing the simple mechanisms by which this happens). March[10] and March (1977), for example, examine the careers of superintendents in Wisconsin. At a certain point in their career, individual performers become nearly indistinguishable because selection processes reduce variation among candidates. This makes future promotion decisions basically a function of sampling error. The same might be expected of chief executive officers (CEOs), a large subset of undergraduates applying for college admissions, and even many decisions selecting doctoral students, job candidates, and faculty for tenure. It may be an unsettling premise that CEOs or undergraduates are indistinguishable from each other (from a performance-based perspective). But attributing performance to skill, when luck is behaviorally accurate, has far-reaching implications for considerations of justice and rewards (see Liu & Tsay, this volume).

For Theo's decision of a college major, the implication is that his decision may be based on the chance of having been assigned the section of a math class with a less-than-clear professor and having lucked into a history course with an inspired teacher. The unexpected and abrupt transition to virtual learning at the start of the pandemic advantaged the history professor over the physics professor; this was not something even prior years' course evaluations could have predicted. Certainly this might explain his mother's choice of sociology as a major after taking Jim March's Organizational Decision Making class at Theo's age. This awareness does reduce some of his existential angst about the decision.

5. Decision making as interpretation. Decision-making processes are opportunities for people to find meaning, to interpret their behaviors, and proclaim their values (March, 1994; March & Sevón, 1989[11]). March (1994, p. 213) tells the story of Dale Carnegie (no relation to any other Carnegie mentioned here), who took advantage of this fact in his philosophy of selling. Dale Carnegie was not selling pots and pans, he was selling love and respect. A purchaser's decision to buy pots and pans was a symbolic one; significant primarily as an opportunity for purchasers (with Carnegie's subtle guidance) to develop their self-esteem. Decision making as interpretation sees choice as an opportunity to find meaning and make sense of one's actions, self, and world: "Individuals and organizations discover their wants by making choices and experiencing the reactions of others as well as themselves" (March, 1997, p. 23; see also Newark, 2014). This perspective also has implications for the desirability of ambiguity. Decision theory orthodoxy seeks to reduce ambiguity in calculative decision processes, but in decision-making processes based in sense-making, ambiguity is often what evokes appealing interpretations.

Theo's grandfather was a mathematician. His parents remind him that his grandfather was also an avid chess player, like Theo. The decision to declare a major is an occasion to make sense of himself in relation to his grandfather. But Theo has always liked history too. He takes a history class every quarter for fun. Theo's dad majored in history and economics, and as he takes more history and economics classes, Theo wonders if he's more like his dad than his grandfather. The decision is really an opportunity to make sense of himself in relation to the important influences in his life.

6. Logic of appropriateness. Jim March had a longstanding collaboration with Johan Olsen (who, you may recall, March met when Olsen was a visiting scholar at UC Irvine). Together they developed an institutional perspective with the logic of appropriateness as a decision making alternative to a logic of consequences (March & Olsen, 2006). As Newark and Becker (this volume) describe, a logic of consequences has decision makers engaged in rational decision-making processes – where actors analyze potential consequences based on their preferences and predictions of future outcomes, and make a choice based on that analysis. The limitations of this framework, as noted above, are substantial (e.g., unstable preferences, uncertainty and limited information, and cognitive constraints). March and Olsen suggest that decisions can also be made based on a logic of appropriateness. In these instances, decisions are based on the rules and demands evoked by a particular identity in a given situation. Actors make decisions based on their responses to three questions: What kind of person am I? What kind of situation is this? What does a person like me do in a situation like this? Decisions are based on what is "socially defined as exemplary, normal and good without calculating the pros and cons of instrumental consequences" (Christensen & Lægreid, this volume, p. 182). The normative constraints about what someone like them should do drives the decision-making process.

If Theo were to decide his major based on the logic of appropriateness, he would consider his identity and the dictates associated with it. He thinks of himself as a mathematician. His friends in high school were in all of the same advanced math and science classes, and his favorite teachers were his math teachers. People like him, with this identity as a quantitative person, major in math or physics. This is complicated by the fact that Theo doesn't see himself as a pure techie; he has always thought of himself as more well-rounded. He loved his history classes in high school. But the core of his identity centers around math and science.

What should Theo decide? I hope by now you can see that's the wrong question. The right question is, How does Theo decide? It is hard to disentangle all of these possible decision-making processes in this single decision, but all of them are possible and to some extent observable. The point is to not privilege a decision-making process rooted in rationality over these others. All of these approaches to choice are perfectly reasonable, dare I say intelligent, ways to make a decision.

Theo decided to be a history major, though through which combination of decision-making processes his parents are not entirely sure. The fact that he can now tell you how he made that choice, in a way that seems to follow a logic of consequences, technology of rationality, or intendedly rational decision-making

process (all terms Jim March used), does not mean this is actually how he made the decision. It may simply reflect the normative strength of rationality as the intelligence that we value. It exposes a conventional but misguided belief that the rational process was the right process, leading to the best outcome.[12]

Despite the promise of the volume's title, I must point out that the alternative decision-making processes highlighted here are not the totality of Jim March's work after moving to California in 1964. In his Society of Progress acceptance speech, March (2016) described six themes or elaborations in his work: (1) organizational decisions as the outcomes of ecologies of organizational decision making; (2) action as rule-based following a logic of appropriateness; (3) decision making as an opportunity for shaping values; (4) mechanisms of adaptation leading to change but not necessarily improvement; (5) organizational environments as ambiguous with multiple meanings and contradictions; (6) adaptation as a balance of exploration and exploitation. The last five of these themes are captured to some extent in the models of decision making described above, although we could have explored any one of these themes in more depth. I have ignored what March called "decision-making ecologies" (March, 1997, p. 24). Organizational decisions are made not by individual actors in isolation but rather within a social context, who juggle a set of competing interests, in response to and in interaction with other organizations, and these decisions have impacts at different levels of analysis. It is through an examination of these ecologies that many important distinctions between individual and organizational decisions are revealed (a distinction that for simplicity I have ignored in using Theo as an example). In overlooking this work, I do not mean to imply it is less important. Decision-making ecologies describe a good amount of my own research (in the context, often, of organizational learning). But focusing instead on how March's ideas capture alternatives to rationality provides a broad lens to understand how his thinking challenged conventional views.

Jim March wasn't creating a grand theory of intelligent decision-making processes, and there is some risk of imposing too neat a frame to this diverse body of work. Yet, I find it useful to juxtapose these different ideas about how decisions are made with conventional models of rationality. The contributors to the volume each detail one of these models, as well as highlight more recent work by other scholars. They jump off from these provocative ideas and extend them in exciting new directions. They encourage us to puzzle over, explore, and develop new understandings of decision-making processes. Directions that are inspired by March but can evolve to fit our changing world.

BUILDING ON JIM MARCH'S SCHOLARSHIP

Augier and Barrett (this volume) introduce a number of "little ideas" in their history of amphibious operations in the US Navy and the US Marine Corps between World War I and World War II. "Little ideas" are a familiar concept to those familiar with March's work (Liu et al., 2015). March and Simon recount "two little ideas" central to their book, *Organizations*, lest you think little means

unimportant or uninfluential. As Augier and Barrett point out, "little ideas" refer to underlying mechanisms or infusing new operational meaning into bigger ideas. Little ideas may have an outsized impact. This paper highlights *organizational learning* processes and highlights the evolutionary nature of innovation. It is a collection of "little ideas" that results in change. The military adapts – but slowly, unevenly, with pockets of powerful resistance, and through an accrual of small actions taken by many people over time.

Burton and O'Reilly (this volume) extend ideas from Jim March's most highly cited article on *organizational learning*, on the topic of exploration and exploitation (March, 1991). They point out that the structures and processes supporting exploration and exploitation within organizations are not well understood, and they use Burns and Stalker's (1961) conceptualizations of structure to examine this further. Taking advantage of a reorganization that changed the management structure for organizational projects, they find that explore projects suffer under mechanistic structures. However, exploit project performance is not dependent on whether it operates under a mechanistic or organic structure. They decompose different components of the structure and find that it is managers engaging in high levels of monitoring that underlies this misalignment and drives the negative effect for explore projects. These results provide useful insights into questions about how exploration and exploitation thrive under similar and different management structures.

Ganz (this volume) works within the political science realm, highlighting the influence of March's ideas across disciplines. Ganz develops *garbage can models* of legislative decision making to reveal how they can be advantageous in different policy environments. As Ganz demonstrates, not only does a garbage can model explain much of the legislative success in the United States in the 1970s, but it can help organizations avoid competency traps and result in better outcomes than some of the imagined rational alternatives. Garbage can processes allow for change, keep legislators from getting stuck with poor solutions, and provide utility in the long term. Although March described garbage cans as a behavioral model of decision making – without attending to normative implications – Ganz shows how a garbage can model that is often described as "irrational" may actually be "adaptively rational" in the decision-making process. His article offers an appreciation of what is commonly dismissed as a messy and chaotic process.

Hu and Rerup (this volume) extend March's *technology of foolishness* to explain the actions of organizations tackling complex, social problems like grand challenges. Using the case of People for the Ethical Treatment of Animals, they explain how seemingly impossible goals are sustained in an organization. A combination of foolish and sensible actions allow organizational members to imagine a different future. This energizes their beliefs and links impossible goals with more proximate and mundane activities necessary to support their efforts. Importantly, foolishness is a motivational tool that allows the organization to sustain its members and intensify organizational identity and commitment despite discouragement from the larger society. Hu and Rerup explain how foolishness is useful both inside and outside the organization, showing the positive outcomes of behavior that doesn't fit our models of rationality.

Liu and Tsay (this volume) provide an excellent overview of the chance models motivating much of Jim March's work. Underlying the four models (organized anarchies, careers of top managers, a learning perspective on risk-taking, and adaptation under inefficient histories) is a broad embrace of March's non-agentic worldview. Overall, they show that *models of chance* (or luck) offer reasonable alternative explanations for many management phenomena, and they offer this non-agentic worldview as an important contrast to much of the management literature. Rather than seeing this as a reason to throw up our hands in despair, their normative stance is that such recognition would lead to more truth and more justice in our organizational theories. CEOs of high performing companies are lucky, for example, and thus not deserving of astronomical salaries.

Zbaracki, Watkiss, McAlpine, and Barg (this volume) argue for the importance of attending to more than just truth in models of social science. They highlight the challenges of evaluating models according to truth, beauty, and justice, both individually and in conjunction. Models in the social sciences, and how to develop and evaluate such models, are the subject of the class March taught with Charles Lave at UC Irvine (they also wrote a textbook; see Weil, this volume). Their paper is inspired by March (1972), which can be seen as a predecessor of the idea of *decision making as interpretation*. Truth, beauty, and justice are important not only to evaluate a model but because of what they reveal about what we see in and imagine for the world.

Christensen and Lægreid (this volume) provide an overview of March and Olsen's concept of *logic of appropriateness*. Given the dominance of the logic of consequence in management, they usefully provide examples of what the logic of appropriateness is and where the logic of appropriateness may prove particularly advantageous. Given their disciplinary home, Christensen and Lægreid highlight the work done on public institutions. Their contribution demonstrates the breadth of March and Olsen's influence in the field of political science (as does Scott Ganz's paper). March's influence within management is monumental, but this paper offers an important reminder that Jim March was a political scientist and his institutional work with Olsen has a large footprint outside management.

Newark and Becker (this volume) provide some empirical tools for expanding and deepening our understanding of the *logic of appropriateness* by taking the concept into the lab. They explore whether a logic of appropriateness and a logic of consequences can be experimentally manipulated in popular two-person behavioral games (yes, they can), then examine whether these decision frameworks cause different behaviors (yes, in some instances, but not others). They also highlight the importance of understanding the cognitive processes evoked by each logic. What do decision makers actually consider when they are making decisions? Reference to money is most often associated with the logic of consequences in these lab experiments, as one might anticipate, but so too is emotion and ambivalence. By contrast, the logic of appropriateness makes moral concerns more salient. The focus on cognition is an important contribution of this work and demonstrates that logics direct attention in different directions, with real implications for the decision itself.

APPRECIATING JIM MARCH AS AN EDUCATOR

The second section of the volume highlights another under-appreciated aspect of Jim March: He was a phenomenal teacher and committed educator, and he inspired and shaped untold numbers of students. He won Stanford University awards for undergraduate teaching in 1974, 1985, and 1995. It is unusual for an academic of March's stature to have such a strong impact on students at all levels – undergraduate, MBA, and doctoral.

When he joined Stanford in 1970, he asked (and Stanford agreed) that his classes always be open to all students. His classes were wildly popular. They met at the unreasonable hour of 8 a.m., twice a week, to a full auditorium. He taught "Organizational Leadership," discussed in the subsequent papers with a reading list that comprised *War and Peace*, *Don Quixote, Othello*, and *Saint Joan* (see March & Weil, 2005). His other class, "Organizational Decision Making," read most of the articles I referenced above (see March, 1994, with Chip Heath). In the same way that March played with ideas that don't easily map onto our traditional understanding of intelligence, March experimented in new ways to teach and connect with students. How else to explain a leadership class that read *War and Peace* rather than Tom Peters? Leadership requires a multitude of skills – from plumbing to poetry – and March taught the poetic aspects of leadership most lacking in the curriculum.

These were not easy classes for any level of student. My notes from his decision making class have graphs of indifference curves, utility surfaces, and hazard rates. Lectures ranged from, "The idea of limited (or bounded) rationality" to "Life as interpretation," and March was a mesmerizing lecturer. After lecture, he would call on students to discuss the query he had posted for the week. He took pictures of each student at the beginning of the quarter and put them on flashcards for himself, so he was able to call on students by name in the audience. He led discussion sections on Fridays for small groups of students.

When soliciting remembrances, we often turn to doctoral students, and the volume includes reflections from junior faculty and graduate students who worked with him. Dan Newark and I are examples of undergraduate students whose life trajectory was fundamentally shaped by Jim March. I want to point out, however, that for a person whose leadership class was about the ambiguities and complexities of leadership (a lecture from this class: "Genius, heresy, and madness"), he inspired people who went on to become great leaders. In an obituary published by Stanford, two notable public servants offered reflections of March's teachings (Chang, 2018). Joseph Castro, a first-generation college student who is now President of the California State University system, remembers March as the most influential professor of his life. Castro reported immense caring alongside high standards for rigor. He was surprised to learn that such an esteemed professor was so accessible and engaged with students (a sentiment I've heard expressed by others). US Senator Cory Booker remembers Jim March as a giant in his life whose "ideas ignited something within me." Senator Booker kept in contact with March after graduating in 1991 and appeared in March's 2003 movie, *Passion and Discipline: Don Quixote's Lessons for Leadership*, as

one of the friends that March sits down with to chat about leadership. This deep influence on great leaders might encourage us to reconsider how to teach leadership.

I've included this section in the volume because Jim March encouraged us to think differently about our work as professors and educators. When I was a student, March taught me that the world is filled with evocative ambiguity, ambiguity that was beautiful and awe-inspiring. As someone who grew up with a mathematician as a father, a father who saw the world in black and white, March's teachings were mind-blowing. Jim March impacted the lives of thousands of students. He saw teaching as a calling, and his approach gives us new ways (or perhaps they are old ways) to approach educating.

The first piece in this section, by Thierry Weil, brings us back to the mid-1960s when March was the founding Dean of the School of Social Sciences at University of California, Irvine. Weil worked with March to memorialize key aspects of his popular leadership course in their book *On Leadership*. But other aspects of their joint work, appearing in French, were never translated and Weil has translated some of those efforts here. Weil describes what March taught (from rigorous model building to leadership through literature) as well as the bigger questions of how and why he taught the way he did. For those who were students of March, Weil (this volume) will bring back a range of memories (the spin lottery balls for class discussion made me break out in a cold sweat). For those who were not, the paper makes a powerful argument that our role as educators is less about teaching technical skills and more about teaching appreciation and a tolerance for ambiguity. This lesson is useful for a faculty career and is a pretty good life lesson overall. The paper closes with a memo Dean March wrote to students, faculty, and staff in the Winter of 1967. It leaves us with an important statement about the university as an institution.

Next are a series of short and heart-felt reflections on Jim March as a mentor, friend, and teacher by Mie Augier (this volume), Zur Shapira (this volume), and Sim Sitkin (this volume). They each share personal stories, and these stories reflect consistent experiences of March as caring, hard-working and dedicated, funny, and humble.

The volume concludes with a piece written by Dan Newark (this volume). He has composed a wonderful portrait of March the educator, scholar, colleague, and poet – complete with a map and methods section to orient viewers. It is fitting to close the volume with this inspired depiction and invitation to wander, "Pictures at an Exhibition."

CONCLUSION

The challenge for us is where to go from here. We have lost a great thinker, a great writer, a great teacher, and a great friend. What would Jim March want us to do? He would want us to continue to explore and play with "little ideas," in a rigorous and thoughtful way. To that end, I leave you with the final exam from Jim March's 1988 Organizational Decision Making course, in its entirety:

Query 17

REALISTS OF HAPPINESS

There is a dark hold

For each of us; and

Each is connected to the others

By tunnels of despair.

But those labyrynths are

Products of our fantasies,

Cold caverns carved

By imaginations of importance.

So, come play with me

Among the realists of happiness.

Sanity is an arbitrary act

By a temporary man.

Comment on the relevance of such sentiments to our understanding of organizational decision making, life, and love.

NOTES

1. This introduction emerged from a series of conversations with Dan Newark, and the paper itself benefited from his comments both big and small. I am grateful. All mistakes, over-simplifications and mis-characterizations are my own.

2. Jim commonly said a version of this; this particular phrasing is from a convocation speech at Stanford in 1988.

3. Within sociology, Robert Merton and his students at Columbia University (such as Peter Blau, Alvin Gouldner, and Philip Selznick) were also engaging in important field building work.

4. 50 years if you stop the clock when he last published in an academic journal, which is long after he retired.

5. This common designation is not without irony. Even if one ignores the 20 years of publications after March had technically retired, 75% of March's academic career still came after his time at Carnegie. That's a lot to think of as "the later years."

6. As a proud former faculty member at UC Irvine, I'm compelled to share that John Van Maanen was a doctoral student as well.

7. The original citations for some of these ideas are unclear. Works were published in an obscure journal or volume then republished in a later volume, meaning there are multiple citations to a single paper. In addition, some working papers and speeches remained unpublished for long periods of time (March, 1976, 2014). This was consistent with Jim's general lack of interest in claiming credit, his playfulness with ideas regardless of their origin, and his embrace of the constant evolution of ideas.

8. For boundedly rational decision makers, it is assumed that not all alternatives will be considered and not all possible consequences will be anticipated. Decision makers satisfice and make a decision with "good enough" rather than maximized expected utility.

9. Just as neither exploration nor exploitation alone is ideal, rationality alongside foolishness (or "sensible foolishness") work together best (Hu and Rerup, this volume; Ocasio et al., 2020).

10. This is Jim March's son, James C. March.

11. Originally published in 1984.

12. It is worth noting that if we lived in a world where foolishness dominated, March may have advocated for rationality. He was a contrarian and encouraged people not to hold their beliefs too tightly. But we live in a world dominated by consequentialist thinking, so these alternatives are important to take seriously.

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