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MAST: Mental Ambidexterity in Strategic Thinking

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Introduction

Classical thinking about strategy has tended to depict strategic management as a *science* of rational decision-making. It has emphasized analysis and planning before execution. And it has come with a metaphorical portrait of managers as commanders. Yet, any illusion that todays' strategists are engaged in tackling well-defined problems through long-range planning techniques, as might have been entertained in the early post-War days of strategy's founding, have long since disappeared, at least in many industries[i]. As the rules of competition shift towards faster cycles, higher sociotechnical uncertainty and blurring of industry boundaries, comes the realization that traditional approaches to strategic problem-solving are no longer enough. In fact, current prognoses that we live in 'wicked times', characterized by problems beyond simple description, beyond single discipline solutions, and considerable uncertainty call for responses as yet unknown, or perhaps underexplored.

This, per se, is nothing exceptionally new. Starting from the early 1990s new concepts and tools – such as Normal and Ramirez idea of *reinventing value*, Kim and Maubourgne *Blue Ocean Strategy*, MacMillan and McGrath *Discovery Driven Planning* and Ries modern version of it, the *Lean Startup* - have progressively made inroad into strategy thinking. What is common about these ideas is a progressive departure from the view of strategy as *science* and the view of managers as commanders in favor of a different paradigmatic view of it, on that understands strategic management as the *art* of canvassing visions and pathways[ii]. And within this new perspective a metaphor is emerging, one of managers as *designers*[iii]*,* architects of socio-technical change[2].

Witness the case of consulting firms, arguably the quintessential manifestation of organizations specializing in the market for strategic management ideas. In May 2013, Accenture completed the acquisition of Fjord, a global service design firm and integrated design into its portfolio of offers. Shortly afterwards it acquired Chaotic Moon, a technology studio renowned for its creativity and strong focus on software, mobile development and design. McKinsey & Co. has developed design-thinking capabilities to help its clients innovate at the pace of startups and "build a design driven culture"[3] in their organizations. In May 2015 it acquired the San Francisco based Lunar Design, a product design and development consultancy. Next, it created the McKinsey Digital Lab, which is home to "more than 850 of the world's best human-centered designers, data scientists, software specialists, and agile engineers and coaches". This allows McKinsey to combine the best of its "traditional strategic and analytical rigor with innovative rapid-prototyping capabilities to deliver

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[2] Design is an umbrella term, characterized by significant interpretive flexibility: it means different things to different people. In the popular press and even so in countries with a tradition on luxury brands such as Italy, design often refers to style or fashion. In other circles, such as in engineering silos, design if often both a verb and a noun: it refers to a completed whole thing, the final product of process, and the process itself. In this article design is understood as a mode of cognition, a mental model and a way of thinking.

[3] http://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/building-a-design-driven-culture last retrieved June 2017

digital transformations". BCG is following suit with its Digital Ventures arm. A quick excursus into their website is telling. Much of the vocabulary is about reinventing, redesigning, agility and rethinking, from products, to experiences, from companies to ecosystems and even cities.

These developments are indicative of a broadening movement departing from the commander metaphor and progressively embracing the designer metaphor.

A *commander* attitude toward problem solving is still overwhelmingly dominant in many industries. It portrays the manager as making rational optimizing choices among alternative courses of action, employing analytical tools and well-established heuristics. In other words, it starts with an assumption that the alternatives to consider are easy to come up with, but difficult to choose among them. The *designer* attitude toward problem solving, in contrast, is concerned with creating and exploring new alternatives. It portrays managers as form-givers who care deeply about the world that is being shaped and refuse to accept the default alternatives.

Managers as commanders and managers as designers are more than just metaphors. They represent two alternative yet complementary worldviews that entail fundamentally different thinking patterns or modes of cognition (see the Table contrasting managers as commanders and managers as designers). These worldviews determine how we think, what we see and perhaps even how we feel, offering two different paradigms which - often unconsciously – affect our ability to recognize opportunities falling outside our prevailing cognitive orientation[iv].

A Commander Worldview	A Designer Worldview
• Management as the *science* of rational decision making	• Management as the *art* of creating visions and pathways
• Winning this game	• Changing the game
• Anticipation: Prepare to react to forces that can materialize in the future	• Ambition: Design and create the future
• Forecasting: on the basis of the past we can assess the future or, at least, develop scenarios	• Backcasting: we first depict a vision of a desirable future, and then sketch a plan depicting what we should be doing today in order to get there.
• Decision Making	• Decision Enabling
• Pipeline value creation	• Orchestration of multiple value streams
• Transaction Based	• Relationship Based

Table 1 – the commander and designer worldviews

Consider the case of Nokia. Back in 2001, then-Nokia chairman Jorma Ollila stated that the mobile Internet would have remained "under the control of the mobile industry". From the perspective of Nokia, at that time a dominant player in the mobile telecommunication industry, this claim may well have made perfect sense. It did not, however, when computer manufacturers such as Apple entered

the industry by offering mini-computers and Internet mobile devices with phone capabilities. These new entrants demonstrated that once well-defined industry boundaries did no longer hold.

It is difficult to navigate change without seeing it. And it is difficult to see it if the focus is on what it is today, be it the dominant industry, the dominant player, the dominant business models or the dominant wisdom of what constitutes value to customers[v]. An excess of preoccupation with dynamics in the existing market may drive away attention from customers. And customers are the ultimate judge of the business.

The commander worldview and the designer view differ along key dimensions of strategic thinking. Those differences determine which questions managers ask, what opportunities they see and pursue, and how they understand the process of value creation. For instance, designers do not primarily think in terms of maneuvering within the existing playing field. They think in terms of changing the game. They ask how they could create great offerings for their customers no one is yet creating, or design work environments no one has even created. They do not focus on rational attempts to forecast the future and anticipate changes in the external environment. They envision the future and engage in backcasting, which is the exercise of depicting a vision of a desirable future state, and then sketch a pathway to get there. They are ready to embrace alternatives that may lie outside of the boundaries of how we traditionally see the world. They are willing to go beyond the boundaries of established business models and industries and rethink them.

One may be tempted to ask whether one perspective is better than the other. It is our contention, and the contention of many of the senior managers we worked with, that neither perspective is better in the strict sense. And asking whether one is better than the other perhaps does not even matter. Instead, we should focus on incorporating a better balance of the two approaches to problem solving in management practice and education.

MAST

In Roman mythology, the Gemini twins Castor and Pollux symbolize the duality of the mind. Though opposites, representing the form (Castor) and spirit (Pollux), they innately work together for the benefit of the whole. Our decade-long experience working with and studying hundreds of executives suggests that this resolution of duality into harmonious synthesis is a distinctive cognitive capability, what we term *Mental Ambidexterity in Strategic Thinking (MAST)[vi]*.

MAST is the ability to hold both views of the world—that of the commander and that of the designer— and play with them simultaneously, rather than focusing solely on one and rejecting the other (See Figure 1). MAST is an individual level capability. It is a mode of cognition which is flexible, non-ideological and fluid. At the core, it is characterized by switching flexibility back and forth between control and design approaches, between rational decision-making among alternatives, and creation of new alternatives, between what is and what could be.

An artistic representation of the twin brothers Castor and Pollux, associated to the Gemini constellation in Roman mythology

A design mindset supports the envisioning of alternatives that may lie outside of the boundaries of how we traditionally see the world. But it takes a commander's mindset to rationally evaluate among those alternatives and make the bold moves that are sometimes needed to pursue them. The commander approach works better under conditions of predictability. Design, in contrast, entails moving proactively to generate data that did not exist previously. It is most effective under conditions of ambiguity or even unknowability. Designer and commander are not incompatible ways of thought and action. Through deliberate effort, one approach can be used to inform the other, making the two mutually constitutive.

Consider the example of Yvon Chouinard, who in 1974 found Patagonia, the clothing and gear company widely admired for its values-laden business practices and financial success. When asked how he knows if he's making the right move, he responded "If you study something to death, if you wait for the customer to tell you what he wants, you are going to be too late. That comes from henry Ford: Customers did not want a Model T, they wanted a faster horse […] This company exists to ask the tough questions and make the choices, and then prove that it's good business to other companies so that they can do it". Chouinard takes pioneering actions and uses the insights from his actions to guide decisions and trigger change. He is aware of the constraints that our implicit assumptions pose on our way of thinking and is willing to move across cognitive and physical domains to search for inspiration and challenge is business beliefs. As he explained, "Mainly, my job is to be on the outside and bring ideas into the company and forge change. Most people hate change, it's threatening. I thrive on it".

Ambidextrous mental frames enable thinking in more than one thought world by cognitive templates that allow individuals to reconcile inconsistencies and routines, and recognize and accept the simultaneous existence of complex, sometimes opposing forces. Chouinard is not afraid to make audacious moves and take responsibility for them, but at the same time, he is willing to rely on others to take strong initiative. As he often uses to say "I don't like anybody to tell me what to do, and I don't like to tell anybody else what to do".

Managers as commanders emphasizes analysis. Managers as designers emphasizes envisioning the new and the possible. MAST emphasize a resolution between both into a path that would reveal new strategic intuitions.

Three Principles for MAST

Our experience with managers suggests that there may be three core principles that act as a catalyst for individuals to embrace MAST. We offer them to you not as scientifically proved evidence, but as a way to provoke fresh thoughts.

Reflective consciousness. Reflective consciousness is primarily about non-ideological thinking. It is the product of cognitive reflection coupled with intellectual humility. In this sense, it may well resemble the Socratic admittance of one's own ignorance. It rests on accepting that we rely on images of the world (mental models) to make decisions, and such images of the world are often based on tacit simplification of assumptions that affect how we think. Reflective consciousness is about accepting the existence of alternatives, in particular when those are outside the boundaries of how we see the world. It means to acknowledge that our implicit worldviews channel the way we think to the point that we may overlook opportunities related to thinking differently. In our experience, this attitude is typically manifested in a manager's curiosity to understand why others would see the world differently, as well as a strong willingness to reflect on one's own assumptions, make them explicit and then challenge them. It is also manifested in the tendency to listen and ask many times "why" and meditate.

Contingent Thinking: Contingent thinking is about balance. In our work with managers, we often observe two types of reactions to game changing ideas: one of immediate rejection of the new and one of boundless enthusiasm. The problem with the former is one of missed opportunities. New ideas are often undefined, at least at the beginning. Thinking about them as solely a house of cards and rejecting them as lacking substance, means to preclude capturing opportunities related to them. It means failing to put the effort necessary to give it some structured thinking and understand its potential (if any). The problem with the latter is associated with the risk of being naïve and non-rigorous. Because expectations following boundless enthusiasm may be too high, another risk is disillusion when the test of the market would offer the almost inevitable challenges. Contingent thinking goes hand in hand with the idea of balance in the sense that it manifests in avoiding monotonic, overenthusiastic or pessimistic, reactions. This requires asking questions such as: under what condition is this idea potentially useful? For what classes of problems does it offer a valuable perspective? For example, crowdsourcing and is a potentially useful approach for problem solving. However not all types of problems are likely to benefit from crowdsourcing. It works best when what we are searching for is distant from us, whether physically or cognitively[vii]. In a nutshell crowdsourcing does not invalidate all past approaches to problem solving. It complements them, offering a valuable alternative that nicely fits certain types of problems. In the same way, open innovation does not invalidate all past accumulated wisdom on the management of R&D.

Poke into Ambiguity: poke into ambiguity is an attitude which is manifested in the tendency to proactively and voluntarily embrace uncertainty and venture into the unknown. This third principle may be the most difficult to master as it clashes with primary human instincts. Ambiguity is generated by unfamiliarity, and by facing challenges related to making sense of wicked problems and complex systems, such as organizations, their business models and markets, which are subject to multiple interpretations. We perceive ambiguity as a threat, and naturally try to reduce the level of uncertainty in our decision-making. We want solutions, not problems.

This tendency to reduce uncertainty oftentimes encourages authoritarian / dogmatic behaviors and leads to reject unfamiliar concepts and situations regardless of their intrinsic characteristics.

Avoidance of the non-pleasant feelings related to ambiguous situations encourage early selection of familiar solutions rather than openness to alternatives.

Ambiguity, however, generates different levels of discomfort for individuals. Some seek it proactively and see an opportunity in dealing with it. They aliment it constantly, and put themselves in unfamiliar situations and diverse experiences.

Much as architects leave their drawing boards to experience notable buildings, getting to know diverse organizations and their activities can inspire design-orientated management practice. MAST generates ambiguity by offering multiple possible interpretations to any problem. An experienced MAST manager would recognize that each solution applies to specific situations and therefore address uncertainty without rejecting a solution potentially offering a better outcome too early.

Conclusion

In his pioneering work on artificial intelligence, Nobel laureate in Economics Herbert Simon famously defines design as "courses of action aimed at changing existing situations into preferred ones" (Simon, 1966, p. 55). Managers, like architects and engineers, are form givers shaping organizational settings and business processes. As Simon vividly writes in the preface to the second edition: "*Engineering, medicine, business, architecture, and painting are concerned not with the necessary but with the contingent—not how things are but how they might be—in short, with design*" (Simon, 1996, p. xii.). In advocating the case for design, Simon hoped for the ascendancy of a new type of management education and practice centered on design. Today, his advocacy is more important than ever before.

While command and design are inextricably linked worldviews in management action, we have for too long emphasized the command face of management over the design face. Ideas belonging to the design face of management have much to offer managers who are looking to ameliorate both the form and substance of the organizations that they create and lead through their day-to-day thinking patterns. Strategy consulting firms have realized that and they have started to complement their traditional services with new ones pertaining to the design view of the world.

There is value in the doctrine of strategic management as a science of rational decision-making. And there is value in the notion of strategy as the art of envisioning what could be and how to get there. Both come with a cognitive perspective, a way of looking at things. They catalyze our attention on certain things and drive away from others. We think there is much to be gained in realizing this and in aiming at developing MAST capabilities.

End Notes

[i] In his famous article titled "Your Strategy needs a Strategy" BCG Martin Reeves and colleagues note that while this is true for many industries, software or telecommunication, it does not hold universally. Some industries, such as Oil and Gas, are still enjoying conditions of relative predictability, making conventional strategy analysis more valuable than elsewhere. See Reeves, M., Love, C., & Tillmanns, P. (2012). Your strategy needs a strategy. *Harvard Business Review*, *90*(9), 76-83.

[ii] Explicit reference to the notion of design in management writing is relatively recent (a notable exception of the writing by Herber Simon). However ideas similar to design and design thinking has been existed for a while, e.g., see Normann, R., & Ramirez, R. (1992). From value chain to value constellation: Designing interactive strategy. *Harvard business review*, *71*(4), 65-77. Chan Kim, W., & Mauborgne, R. (2005). Blue Ocean Strategy: How to create uncontested market space and make the competition irrelevant. *Harvard Business School Press, Boston, MA*.).

The term design has been mostly employed in relationship to innovation. This includes the great deal of work done by Professor Verganti on design driven innovation (e.g., see Verganti, R. (2009). *Design driven innovation: changing the rules of competition by radically innovating what things mean*. Harvard Business Press; Verganti, R. (2008). Design, meanings, and radical innovation: A metamodel and a research agenda. *Journal of product innovation management*, *25*(5), 436-456.) as well as work on design-thinking and management/creativity (e.g., Gruber, M., De Leon, N., George, G., & Thompson, P. (2015). Managing by design. *Academy of Management Journal*, *58*(1), 1-7; Brown, Tim. Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation, New York: HarperBusiness, 2009). Roger Martin and Jeanne Liedtka have done more work on design in relationship to strategy (e.g., see Martin, R. L. (2009). *The design of business: why design thinking is the next competitive advantage*. Harvard Business Press. Liedtka, J. (2000). In defense of strategy as design. *California Management Review*, *42*(3), 8-30; Ogilvie, T., & Liedtka, J. (2011). *Designing for growth: A design thinking toolkit for managers*. Columbia University Press.). A third line of interest on design is related to it as a way of managing (e.g., see Boland, Richard J., and Collopy, Fred, (eds.) (2004). Managing as Designing, Palo Alto: Stanford.).

[iii] Explicit reference to the notion of design in management writing is relatively recent (a notable exception of the writing by Herber Simon). However ideas similar to design and design thinking has been existed for a while, e.g., see Normann, R., & Ramirez, R. (1992). From value chain to value constellation: Designing interactive strategy. *Harvard business review*, *71*(4), 65-77. Chan Kim, W., & Mauborgne, R. (2005). Blue Ocean Strategy: How to create uncontested market space and make the competition irrelevant. *Harvard Business School Press, Boston, MA*.).

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[iv] the role images and metaphors relationship to managers has been analyzed in the seminal works of Gareth Morgan (e.g.,, Morgan, G. (1997). Images of organization.; Morgan, G. (1980). Paradigms, metaphors, and puzzle solving in organization theory. *Administrative science quarterly*, 605-622.) or Peter Senge (Senge P. M. (2006). *The fifth discipline: The art and practice of the learning organization*. Crown Pub.) among others. Barret adopted the jazz metaphor to talk about management as improvising - Barrett, F. J. (1998). Managing and improvising: Lessons from jazz. *Career Development International*, *3*(7), 283-286.

[v] There is a long tradition on cognitive barriers to innovation and change in management research. See for example Levitt, T. (1960). Marketing myopia. *Harvard business review*, *38*(4), 24-47; Prahalad, C. K., & Bettis, R. A. (1986). The dominant logic: A new linkage between diversity and performance. *Strategic management journal*, *7*(6), 485-501.; Tripsas, M., & Gavetti, G. (2000). Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic management journal*, 1147-1161; Recent literature on business model innovation is revitalizing interest in cognition in relationship to innovation. See for example: Chesbrough, H. (2010). Business model innovation: opportunities and barriers. *Long range planning*, *43*(2), 354-363., Massa, L., Tucci, C., & Afuah, A. (2016). A critical assessment of business model research. *Academy of Management Annals*, annals-2014.

[vi] There is a rich line of research on ambidexterity in organizations. Starting from the seminal work of James March (James G. March, "Exploration and Exploitation in Organizational Learning," *Organiza- tion Science*, 2/1 (February 1991) ambidexterity has been mostly framed as the ability of firms to manage the tension between exploration (search for new opportunities) and exploitation (seizing of present opportunities). Several insights have been provided into how organizations can both explore and exploit, including what types of organizational structures, incentives, and business models are encountered in organizations which are successful in being ambidextrous, for example Ze-Lin He and Poh-Kam Wong, "Exploration vs. Exploitation: An Empiri- cal Test of Ambidexterity," *Organization Science*, 15/4 (July/August 2004): 481-494; Sebastian Raisch, Julian Birkinshaw, Gilbert Probst, and Michael L. Tushman, "Organizational Ambi- dexterity: Balancing Exploitation and Exploration for Sustained Performance," *Organization Science*, 20/4 (July/August 2009): 685-695; Michael L. Tushman and Charles A. O'Reilly, "The Ambidextrous Organization: Managing Evolutionary and Revolutionary Change," *California Management Review*, 38/4 (Summer 1996): 8-30. A related line of inquiry focuses on the nature of the tensions or the tensions arising from the simultaneous pursuit of the two, e.g. see Markides, C. C. (2013). Business model innovation: what can the ambidexterity literature teach us?. *The Academy of Management Perspectives*, *27*(4), 313-323. Markides, C., & Charitou, C. D. (2004). Competing with dual business models: A contingency approach. *The academy of Management executive*, *18*(3), 22-36.
 As noted, in this article we conjugate the term differently, to indicate a cognitive capability, as opposed to a managerial/organizational one. In this sense MAST resonates with Roger Martin's idea of integrative thinking, which is defined as "The ability to face constructively the tension of opposing ideas and, instead of choosing one at the expense of the other, generate a creative resolution of the tension in the form of a new idea that contains elements of the opposing ideas but is superior to each". Differently from MAST, which is intended as the ability to shift from one view of the world to another, the ideas put forth in the opposable mind is one of integration of alternatives into a third emerging alternative which takes the best elements of each alternative.

[vii] See for example Afuah, A., & Tucci, C. L. (2012). Crowdsourcing as a solution to distant search. *Academy of Management Review*, *37*(3), 355-375.