Book Review

Don Sull (2009). The Upside of Turbulence: Seizing Opportunities in an Uncertain World (New York: Harper Collins Publishers), pp. 276, U.S. $ 27.99, (h/b), ISBN 978-0-06-177115-6.

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What is turbulence? What are turbulent markets? What must firms do to seize opportunities in these markets? And, most importantly: What are the strategic approaches required to do so? These then are the four questions that Don Sull sets out to address in this book. Sull was educated at Harvard University and has served as a McKinsey consultant. He is presently a faculty at the London Business School, where he is in charge of executive education. This book is an attempt to take forward a theme that Sull has developed in his previous books on strategy, where the main focus was on the notion of "active inertia" (which forces firms to do "more of the same" rather than innovate in the wake of tumultuous changes in the business environment). Sull's early set of strategic insights were developed while serving as a McKinsey consultant with U.S. Steel. He was deeply influenced by the sad fate of the tyre companies in Akron, Ohio which resulted from not being able to sufficiently anticipate the role that radial technology would play in the manufacture of tyres when they were first introduced by Michelin. Sull therefore can't help but ask these questions: What is it that makes it possible for some firms to respond dynamically to challenges and emerge as winners? And, even more importantly: Why are most stuck with active inertia? In order to answer these questions, Sull developed a research methodology of working with "matched pairs" of companies in a given industry comprising both the emerging and developed markets. The pair of companies that he invokes in his methodology would include both a successful company and a less successful company. The idea was to isolate those attributes of companies that did well, and ask to what extent these attributes were specific to a context, and to what extent they could be extrapolated into a general theory. The key terms in Sull's approach to strategy include "turbulence, dynamism, complexity, and competition". This book, then, is an attempt to understand the relationship between these terms, and formalize the findings into a general strategy which firms can apply, if necessary, in specific contexts.

There are eleven chapters in the book - the first few recapitulate Sull's previous work that culminated in the notion of active inertia, and what firms must do to re-invent themselves. The main difference here is that Sull not only invokes the notion of "mental maps" that are built into strategic frameworks, but also poses the question of how certain we can be of the validity of these frameworks given the exponential increase in the levels of change and turbulence in the contemporary world. In order to think-through this problem, Sull invokes the work of Karl Popper, the renowned philosopher of science, who introduced the analytic difference between "verification" and "falsification" in testing the validity of scientific theories. Popper's contention was that no number of verifications will prove the validity of a theory decisively. It is therefore more important to attempt to falsify rather than attempt to verify a theory; and, furthermore, regard all theories as providing us at best with "provisional knowledge" of the empirical phenomena that it seeks to describe. The takeaway from Popper then for entrepreneurs is that they should conduct strategic experiments in order to let the flaws, if any, in their frameworks, i.e., "business plans" emerge as early as possible and then make course corrections quickly. It is, needless to say, not possible to verify the validity of a business plan; it is at best possible to falsify it in terms of what will work or will not work in specific contexts. Sull therefore sets out his suggestions on how firms must experiment with the presuppositions and propositional structure of their business plans before moving on to draw lessons from the work of Thomas Kuhn, who also worked in the philosophy of science but disagreed with Popper on the nature of scientific work. Kuhn, for instance, introduced the important difference between "normal science" (which is the work that scientists do every day without reflecting upon their epistemological axioms or presuppositions), and the problem of "paradigm shifts", which is related to the changes that come to pass when new frameworks are invoked to explain empirical phenomena. So it is not as though scientific theories are falsified at once since those who are committed to a framework will look for alternative explanations only when an "anomaly" or a series of anomalies emerge(s). When scientists decide to work within a theoretical framework, it is analogous to making a long-term investment; this is why falsification in the Popperian sense, even when epistemologically possible, does not lead to instantaneous change, but requires the emergence of several anomalies to usher in a new framework. It takes the scientific community a lot of time to change their patterns of theoretical investments given the residues of the older paradigm. So, like firms that work with obsolete strategic approaches, scientific communities are also subject to the problem of active inertia given that a framework is often a collection of inter-connected theories rather than a single theory which can always be either decisively verified or falsified. It is therefore important to be alert to the uncertainty that will be introduced in both scientific theory and management theory when anomalies emerge.

Scientists therefore have to be proactive in thinking-through the need to construct theories that actually represent what constitutes the structure of the physical world and, analogously, that of socio-economic phenomena without getting bogged down by legacy systems in place. The significance of invoking Popper is also important for Sull because of the problem of epistemological and ontological commitments in the context of scientific theories. For Popper, the essence of the scientific mind was "under-commitment"; for Kuhn, it was "over-commitment". Sull however argues that while a commitment to a strategic framework is inevitable, it is important to *optimize commitments effectively* rather than swing between the problems of too little and too much. It is easy to misunderstand Sull's argument since most readers may be unable to distinguish between commitment to frameworks in general and a specific framework in particular. What Sull is advocating is the notion of commitment in the structural sense of the term—what strategic framework an executive commits to will vary depending on the needs and requirements of his particular firm and the environments in which it operates. But, irrespective of which framework is invoked, the firm must spend a certain amount of effort, money, resources, and time to make it work. The question however that a firm must ask is this: What is the level of commitment that is optimal now? And, how will the *optimization of commitment* make it possible to navigate the socio-economic turbulence in the world in which we live? Sull therefore sets out the symptoms of active inertia along with advice to CEOs on what they must do if they find that they have picked up some of these symptoms. He also discusses some "common anomalies" and "anomaly pitfalls", and the learning from the study of such anomalies for the strategic frameworks in place. What this form of learning requires then is a kind of *epistemological vigilance* and the willingness to calibrate the levels of commitment to a scientific or strategic framework or a particular course of action according to the needs of the situation. It is much more cost-effective to make small mistakes quickly in order to generate a much-needed knowledge of the world that can serve as a guide to further action rather than get stuck within frameworks that are not responsive to the increasing levels of "turbulence, dynamism, complexity, and competition". So while mental maps and frameworks are necessary, they are not sufficient; since ultimately decision-makers must take responsibility for what they do and how they lead.

What then is required to ensure that strategic frameworks retain a sense of dynamism without lapsing into something static? The answer is to develop a sense of "agility" both in terms of leadership style and in terms of the firm's ability to respond to fast moving situations. Sull explains clearly what he means by agility by invoking the three types in which it is usually manifest. This is a general notion since it encompasses a range of domains and is not specific to businesses as such. The case study that accompanies the invocation of agility is itself, I would think, an example of theoretical agility on the part of Sull. The study pertains to the formalization of aerial combat by John Boyd, a fighter pilot and flight instructor for the U.S. Air Force, who wrote a riveting study of aerial combat in 150 pages. This manual, which is titled Aerial Attack Study, has become a mandatory source for training fighter pilots. It was written in response to the sense of wonder that Boyd experienced in trying to answer this simple question: How are we to explain the extraordinary hit-rate of the F-86 Sabre, which was the main strike aircraft of the U.S. Air Force over the Russian MiG which had much superior features and technology? The answer, needless to say, is linked to the problem of agility. Boyd identified three crucial attributes, which gave the F-86 a competitive advantage; these included a "bubble canopy", "full hydraulic controls", and "greater autonomy" in how the plane will fly. And, most importantly, the agility required for maximizing these opportunities. What these fighter pilots did furthermore was not to avoid turbulence; instead they actively sought out turbulence in order to convert them into opportunities. Boyd's formalization of the basic modalities of aerial combat then becomes the prototype of agility, for Sull, in the domain of strategic theory. Sull is also interested in the learnings from the approaches that characterize the U.S. Marine Corps as set out by Albert Gray in a text titled Warfighting, which is also preoccupied with the strategic agility required to negotiate turbulence. Here the assumption is that battle plans usually don't survive contact with the enemy; and therefore, is important to differentiate between a plan that is easy to implement in peace time and a strategic "plunge" that is more appropriate during combat. The learning for entrepreneurs here is that in turbulent environments they cannot anticipate all possible contingencies and must seek resort to strategic agility as the way forward. They must learn the modalities of reconnaissance and probes along with the maneuvers required to "pass surfaces and swarm gaps" in order to "finish strong". The learning from the notion of taking anomalies and agility seriously is not reducible to speed, but is linked to the challenges of effective timing.

Sull, needless to say, provides a description of the three forms of agility by differentiating between "operational agility", "portfolio agility", and "strategic agility". What this basically means is that in order to keep the "mental map" fluid and not static, the decision-maker must be willing to learn from any or as many sources as possible without making a fetish of the source. Each of these forms of agility is accompanied by advice on what a firm must do in each of these contexts along with the names of the firms that have in fact succeeded in doing so. Sull's advice also takes note of the locus in the firm's hierarchy from which an individual might act depending on whether he is a leader, follower, or a member. Agility then is not just a requirement for the CEO, but for all the members of the firm. What after all is the point of having an agile general if the officers and soldiers are not willing to be agile in battle? Boyd, as Sull points out, is only continuing with the tradition that recognizes the need for agility in the literature of strategic studies and strategic management (as represented in the works and strategic approaches of "Sun Tzu, Napoleon, and the architects of the German blitzkrieg"). Boyd however was not just a military philosopher, but also somebody who took the work of theorists like Karl Popper and W. Edward Deming seriously. What Popper and Deming (who is synonymous with the Quality movement) emphasized was the need to recognize the cognitive import of learning through "iterative loops"; which, in the case of Boyd, was termed the "OODA Loop". What this acronym stands for is Observe, Orient, Decide, and Act. Sull's contribution then is to formalize the "agility loop" as a further development on Popper's "experimental loop", the "Deming cycle", and "Boyd's OODA loop". He also builds upon the notion of "co-designing" with customers. This is a strategy that is used not only in the iterative approach to new product development, but also in the notion of "stage investment" that is deployed by venture capitalists to fund new ventures (depending on which "round" of the funding or development process that a firm or an entrepreneur finds himself in).

The essence of the effective leader in turbulent economies then is not only agility, but an optimal commitment to building agile organizations. But, needless to say, while agility is necessary, it is not sufficient. Sull therefore introduces the notion of strategic "absorption" by invoking an interesting case study of the clash between Muhammad Ali and George Foreman in 1974 at Kinshasa. These renowned boxers used different strategies. Ali deployed agility; Foreman used absorption. While it is not possible to win all battles using either of these strategies, it is nonetheless important for strategists to list the learnings from such strategic encounters. What Sull sets out to do then is to demarcate the circumstances when agility is required and those when absorption is needed. He then sets out to "deconstruct" this opposition and creates a new strategic approach that is neither fully about agility nor about absorption, but about "agile absorption". This new approach will fortify a firm's approach to strategy by incorporating the approaches of both Ali and Foreman in a deadly combination that would redefine these approaches as loci which either Ali or Foreman can occupy in response to the competitive dynamics that characterize turbulent or emerging economies. Sull comes to this conclusion after listing separately the pros and cons of having a strategic approach that is characterized by only agility or absorption, and argues that the ability to switch strategic positions effectively between these loci is what will generate competitive advantage for firms in the years to come. Or, as Sull puts it, in his concluding line, "I hope that the insights in this book help managers throughout the world balance agility with absorption to seize the upside of turbulence".