

Review of Daniel Kahneman's Thinking, Fast and Slow

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Abstract

Nobel Laureate (Economic Sciences, 2002) Daniel Kahneman's latest offering Thinking, Fast and Slow (Farrar, Straus and Giroux, USA) is a magnum opus, giving us a superb compendium and forward-looking discussion of his award winning work conducted often with his longtime collaborator Amos Tversky. Kahneman's work created significant ripples in decision making and behavioral economics, rendering contentious one of the fundamental assumptions of modern economic theory, namely, the rational agent paradigm. In this review, we discuss the key elements of the book, while also bringing into perspective the main findings of the works presented therein.

Index terms— daniel kahneman; thinking, fast and slow; behavioral economics; cognitive biases; prospect theory.

1 Introduction

o the current foundations of management sciences we seem to have no qualms in ascribing the description of quasi-absolute. This characterization of the field's foundations is occasionally identified by researchers as a lacuna of sorts, but for working managers this concern-concern indeed if they understood it as-often did not merit immediate or serious consideration in their scheme of things for long. Consequentially, case studies and data collection became widespread and research of the fundamental kind-the kind that constitutes & contributes to scientific theory-building-took a backseat. Furthermore, the other fore of this gap grew in the form of researchers rarely attempting to situate increasing piles of meaningful data within the ambit of a fundamental theory; and insofar as they intended to do that, they did not know where to look-maybe because most times there was nowhere to look. As an upshot of this tendency, construction of models was as far as most research in the field reached. But alas, models are no theory. Every so often management science has witnessed a definitive change in this picture characterized by a visible shift in attention from case studies to theory-building. And Daniel Kahneman is one of those who exemplify this long-pending shift. And it is from this more crucial standpoint that we view and appreciate Kahneman's latest offering Thinking, Fast and Slow.

Thus, what stands out prominently in Thinking, Fast and Slow is Kahneman's attempt at theory-building within which to construct explanatory accounts of his revolutionary findings on decision making. This is refreshing and crucial for the field as it calls itself a scientific enterprise. Of course, Thinking, Fast and Slow presents readers with a rich canvas of the revolutionary joint work of Kahneman with Tversky that fetched the former the 2002 Economic Sciences Nobel. When reviewing Thinking, Fast and Slow, therefore, it would be tendentious of many to focus on the findings of Kahneman's work on decision making-after all, they forced economists to revise their longstanding notion of how people make their decisions. However, the real gem in Kahneman's Thinking, Fast and Slow is his attempt at theory-building to account for his empirical findings on decision making, by espousing the so called dual-process model of human information processing. And Kahneman wastes no time in according the model's importance-he discusses the model right in the beginning of the book.

Kahneman advocates that our cognitive apparatus comprises of two main parts viz. System 1 and System 2. Whereas System 1 is supposed to refer to that aspect of our mental apparatus which is clearly dominated by intuition and hunch, System 2 is supposed to refer to the mental apparatus that employs logical, algorithmic reasoning or simply, rational thinking. System 1 is largely a prerogative of the subliminal realm of mind's information processing, and is therefore characterized by automaticity, swiftness, less executive control and less mental workload. System 2 is the work of the conscious realm of information processing, and is therefore

1 INTRODUCTION

47 characterized by deliberate efforts, relative slowness, comparatively more mental workload, and is largely under
48 the control of executive function/control.

49 People's decision making biases, a theoretical construct to explain them and Prospect Theory to model decision
50 making behaviors-these strands together form the hallmark of Kahneman's book. From Bernoulli utility function
51 to Expected Utility to Kahneman and Tversky's Prospect Theory-the enterprise of Decision Making has come a
52 long way in our understanding of how people make decisions and Thinking, Fast and Slow is arguably the most
53 significant landmark in this understanding. The defining feature of Kahneman and Tversky's Prospect Theory
54 is the value function: Prospect Theory, Expected Utility Theory's utility function is replaced by a more correct
55 value function and knowledge about how it responds to the reference point.

56 Kahneman's 1979 *Econometrica* article-his joint work with Tversky on Prospect Theory-remains to this date
57 the most cited article of the prestigious journal.

58 Thinking, Fast and Slow is an awe-inspiring work that marks a reasoned departure from the orthodox
59 assumptions of economic science. Economic theorists portrayed humans as Bayesian estimators who invariably
60 work at maximizing expected utilities. From Adam Smith to Leonard Savage, and for close to two hundred
61 years, there was a general consensus that people act as rational agents (forming the Rational Agent Theory in
62 economics). This was, arguably, an empirically uninformed consensus. Nevertheless, this view prevailed until
63 Herbert Simon seminal work indicated the unavoidable constraints on human decision making, which marred
64 traditional economists' idealist expectation of people's decision making tendencies. Kahneman and Tversky's
65 work presented in this book is an empirical testimony to Herbert Simon's theoretical postulation of bounded
66 rationality. For instance, when presented with two competing economic scenarios-one certain and the other
67 uncertain-people consistently choose the certain outcome showing aversion for risky alternative. This is the
68 phenomenon of "risk aversion", which is anchored in "loss aversion" behavior-people's consistent tendency to
69 weigh negatives of losses more than the positives from gains. Kahneman discusses this whole set of decision
70 making biases, which include "loss aversion", "risk aversion", "sunk-cost effect", "endowment effect", "base-rate
71 fallacy", "duration neglect", heuristics such as "anchoring heuristic" and availability heuristic. These cognitive
72 biases in decision making share a common property: they are all deemed irrational decisions in light of economic
73 science's orthodox rational agent hypothesis. The book suggests "heuristics" as the key tool people employ in
74 making decisions. This suggestion is actually twofold-people tend to use heuristics (due mainly to bounded
75 rationality) which in turn lead to a wide range of cognitive biases while making judgments or weighing tradeoffs
76 between economic decision alternatives. A note of caution is in order here: saying that people have propensity
77 for using heuristics is not tantamount to saying that they are biologically predisposed to rely on heuristics-far
78 from it. So, what bearing does it have on whether or not Kahneman believes that people's decision making
79 behavior under uncertainty is fundamentally irrational, or, if on the contrary he could perhaps be understood
80 as inclined toward believing that if people were somehow trained/habituated toward becoming ideal Bayesian
81 estimators and in the absence of the constraints that bound our rationality-cognitive biases in decision making
82 could be avoided. This is a highly moot and equivocal point both for the enterprise of decision sciences as well
83 as for Kahneman.

84 Thanks to Kahneman, these are exciting times for decision sciences. The profundity of Kahneman's work will
85 only increase with time. ¹

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