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TOPIC #7: **Dual Self Model**

PROMPT: **Compare and contrast the dual-self model.**

Traditional economic models were rational, whilst investor behavior often exhibits irrational spontaneity stemming from perception, intuition and combinations of personal experience or biases. This observed lack in consistent rationality inspired a more comprehensive model unifying the divide between one's rational and irrational tendencies. The dual-self model is a descriptive economic model that posits the human mind as a dichotomous system by nature, which processes thought as a division of labor between System 1 (automatic mental reactions, with instantaneous speed) and System 2 (deliberate mental work, with slow speed).

System 1 features a wide range of patterns from innate skills to broad cultural associations. It is effortless in denoting simple relations between objects/issues and in tethering information to particulars but not capable of "dealing with multiple distinct topics at once" (Kahneman, 2013, p. 36). Contrastingly, System 2 can construct rational order but requires uninterrupted attention. Like a muscle it can develop more skills over time or experience atrophy. "If System 1 is involved, the conclusion comes first and the arguments follow," and System 2 is unlikely to recognize inaccuracy of a System 1 conclusion after it has been drawn (Kahneman, 2013, p.45). However, System 2 can override System 1 at the outset of a decision by sustaining the effort to "follow rules, compare objects on several attributes, and make deliberate choices between options" (Kahneman, 2013, p. 36).

The present balance of one's "two systems" have been the source of examination for many researchers. O'Donoghue and Rabin (1999) examine self-control problems, through grouping those with less formalized System 2 processes as "naïve" and those with more prominent self-control abilities as "sophisticated" and comparing the present-biased preference of each group. "When considering trade-offs between two future moments, present-biased preferences give stronger relative weight to the earlier moment as it gets closer" (O'Donoghue & Rabin, 1999, p. 103). Those lacking sophisticated System 2 attention displayed a bias towards immediate reward and will consequently *undersave* in any savings model, foregoing the increased future payoffs that saving allows (O'Donoghue & Rabin, 1999, p. 103).

The interplay of the two systems is present in one's daily judgments, however the systems are said to be "fictitious characters" in that there is "no one part of the brain that either of the systems would call home" (Kahneman, 2013, p. 29). James (2011) reappropriates a striking analogy for the two systems—the "elephant and rider" respectively—as a more visual communication concept than "doer-planner", "passions-spectator" or "affective-deliberative." Still, scientists were hindered by the inability to understand the mechanics of the two systems except through observation. As technology improved,

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neuroscientists used non-invasive research techniques to observe brain activity and brain damage to map the functions of the brain. The “elephant” is the neural analogy for human’s mammalian brain; being predisposed to process the emotional impact of any contemplated action, and is associated with the limbic and midbrain dopamine systems, which is the shared central parts of all mammalian brains. The rational “rider” represents human’s larger “lateral prefrontal cortex and posterior parietal cortex [which] are engaged uniformly by intertemporal choices irrespective of delay” (Fudenberg & Levine, 2006, p. 1449).

Combining the analogy with the neurology, the dual-self model is substantiated by science but acknowledges three observable imperfections in each system that can lead to bias. The Rider may exhibit speed deficiency [rider is slower than elephant], endurance inefficiency [rider is easy exhaustible] and overconfidence [the rider mis-projects control]; while the Elephant may exhibit myopia [elephant focuses on now, the immediate], somatic marker processing [elephant activates by tangible emotional/social imagery] and loss aversion [the elephant fears loss relative to status quo] (James, 2011, p. 43).

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