Notebook - Thinking, Fast and Slow

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Kahneman, Daniel

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> Systematic errors are known as biases, and they recur predictably in particular circumstances.

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> Much of the discussion in this book is about biases of intuition.

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> Most of us are healthy most of the time, and most of our judgments and actions are appropriate most of the time.

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> intuitive statistics

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> our intuitions were governed by the resemblance of each child to the cultural stereotype of a profession.

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> we found that participants in our experiments ignored the relevant statistical facts and relied exclusively on resemblance.

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> People tend to assess the relative importance of issues by the ease with which they are retrieved from memory—and this is largely determined by the extent of coverage in the media.

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> This is the essence of intuitive heuristics: when faced with a difficult question, we often answer an easier one instead, usually without noticing the substitution.

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> describes a puzzling limitation of our mind: our excessive confidence in what we believe we know, and our apparent inability to acknowledge the full extent of our ignorance and the uncertainty of the world we live in.

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> We are prone to overestimate how much we understand about the world and to underestimate the role of chance in events.

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> distinction between two selves, the experiencing self and the remembering self, which do not have the same interests.

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> exploit so that the worse episode leaves a better memory.

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> System 1 operates automatically and quickly, with little or no effort and no sense of voluntary control.

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> System 2 allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice, and concentration.

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> We are born prepared to perceive the world around us, recognize objects, orient attention, avoid losses, and fear spiders. Other mental activities become fast and automatic through prolonged practice.

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> The often-used phrase “pay attention” is apt: you dispose of a limited budget of attention that you can allocate to activities, and if you try to go beyond your budget, you will fail.

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> Intense focusing on a task can make people effectively blind, even to stimuli that normally attract attention.

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> The gorilla study illustrates two important facts about our minds: we can be blind to the obvious, and we are also blind to our blindness.

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> System 1 continuously generates suggestions for System 2: impressions, intuitions, intentions, and feelings. If endorsed by System 2, impressions and intuitions turn into beliefs, and impulses turn into voluntary actions.

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> The gorilla experiment demonstrates that some attention is needed for the surprising stimulus to be detected.

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> One further limitation of System 1 is that it cannot be turned off.

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> The best we can do is a compromise: learn to recognize situations in which mistakes are likely and try harder to avoid significant mistakes when the stakes are high. The premise of this book is that it is easier to recognize other people's mistakes than our own.

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> I suspect that the mild physical arousal of the walk may spill over into greater mental alertness.

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> self-control and cognitive effort are forms of mental work.

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> People who are cognitively busy are also more likely to make selfish choices, use sexist language, and make superficial judgments in social situations.

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> all variants of voluntary effort—cognitive, emotional, or physical—draw at least partly on a shared pool of mental energy.

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> if you have had to force yourself to do something, you are less willing or less able to exert self-control when the next challenge comes around. The phenomenon has been named ego depletion.

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> activities that impose high demands on System 2 require self-control, and the exertion of self-control is depleting and unpleasant.

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> Intuitive errors are normally much more frequent among ego-depleted people, and

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> many people are overconfident, prone to place too much faith in their intuitions.

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> Intelligence is not only the ability to reason; it is also the ability to find relevant material in memory and to deploy attention when needed.

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> less willing to be satisfied with superficially attractive answers,

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> invite an intuitive answer that is both compelling and wrong

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> System 1 is impulsive and intuitive; System 2 is capable of reasoning, and it is cautious, but at least for some people it is also lazy. We recognize related differences among individuals: some people are more like their System 2; others are closer to their System 1.

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> high intelligence does not make people immune to biases.

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> rationality should be distinguished from intelligence.

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> a priming effect

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> priming is not restricted to concepts and words.

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> This remarkable priming phenomenon—the influencing of an action by the idea—is known as the ideomotor effect.

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> the idea of money primes individualism: a reluctance to be involved with others, to depend on others, or to accept demands from others.

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> “The experience of familiarity has a simple but powerful quality of ‘pastness’ that seems to indicate that it is a direct reflection of prior experience.” This quality of pastness is an illusion.

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> The impression of familiarity is produced by System 1, and System 2 relies on that impression for a true/false judgment.

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> Anything that makes it easier for the associative machine to run smoothly will also bias beliefs. A reliable way to make people believe in falsehoods is frequent repetition, because familiarity is not easily distinguished from truth.

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> couching familiar ideas in pretentious language is taken as a sign of poor intelligence and low credibility.

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> The psychologists who do these experiments do not believe that people are stupid or infinitely gullible. What psychologists do believe is that all of us live much of our life guided by the impressions of System 1—and we often do not know the source of these impressions. How do you know that a statement is true? If it is strongly linked by logic or association to other beliefs or preferences you hold, or comes from a source you trust and like, you will feel a sense of cognitive ease. The trouble is that there may be other causes for your feeling of ease—including the quality of the font and the appealing rhythm of the prose—and you have no simple way of tracing your feelings to their source.

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> the mere exposure effect.

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> the words that were presented more frequently were rated much more favorably than the words that had been shown only once or twice. The finding has been confirmed in many experiments, using Chinese ideographs, faces, and randomly shaped polygons.

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> the effect of repetition on liking is a profoundly important biological fact, and that it extends to all animals. To survive in a frequently dangerous world, an organism should react cautiously to a novel stimulus, with withdrawal and fear. Survival prospects are poor for an animal that is not suspicious of novelty.

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> The mere exposure effect occurs, Zajonc claimed, because the repeated exposure of a stimulus is followed by nothing bad. Such a stimulus will eventually become a safety signal, and safety is good.

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> creativity is associative memory that works exceptionally well.

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> when we are uncomfortable and unhappy, we lose touch with our intuition.

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> A single incident may make a recurrence less surprising

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> We have norms for a vast number of categories, and these norms provide the background for the immediate detection of anomalies such as pregnant men and tattooed aristocrats.

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> We have limited information about what happened on a day, and System 1 is adept at finding a coherent causal story that links the fragments of knowledge at its disposal.

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> Jumping to conclusions is efficient if the conclusions are likely to be correct and the costs of an occasional mistake acceptable, and if the jump saves much time and effort. Jumping to conclusions is risky when the situation is unfamiliar, the stakes are high, and there is no time to collect more information.

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> System 1 does not keep track of alternatives that it rejects, or even of the fact that there were alternatives. Conscious doubt is not in the repertoire of System 1; it requires maintaining incompatible interpretations in mind at the same time, which demands mental effort. Uncertainty and doubt are the domain of System 2.

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> when System 2 is otherwise engaged, we will believe almost anything. System 1 is gullible and biased to believe, System 2 is in charge of doubting and unbelieving, but System 2 is sometimes busy, and often lazy. Indeed, there is evidence that people are more likely to be influenced by empty persuasive messages, such as commercials, when they are tired and depleted.

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> The tendency to like (or dislike) everything about a person—including things you have not observed—is known as the halo effect.

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> participants who saw one-sided evidence were more confident of their judgments than those who saw both sides.

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> It is the consistency of the information that matters for a good story, not its completeness. Indeed, you will often find that knowing little makes it easier to fit everything you know into a coherent pattern.

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> Overconfidence: As the WYSIATI rule implies, neither the quantity nor the quality of the evidence counts for much in subjective confidence. The confidence that individuals have in their beliefs depends mostly on the quality of the story they can tell about what they see, even if they see little.

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> Framing effects: Different ways of presenting the same information often evoke different emotions. The statement that “the odds of survival one month after surgery are 90%” is more reassuring than the equivalent statement that “mortality within one month of surgery is 10%.”