“For every complex problem there is an answer that is clear, simple, and very wrong.”
H.L. Mencken

Imagine that you have been asked to forecast which of the following stocks will offer the best returns over the next three months: Swissfirst or Ypsomed. According to Thinking, Fast and Slow, this fascinating book by Daniel Kahneman, 2002 Nobel laureate in economic science, most people will choose Swissfirst. Stocks with more easily pronounced names induce a favourable state of mind so you become more optimistic about their prospects. There is even evidence that they tend to do better in early trading.

The book is full of similar examples where factors that we are unaware of have powerful influences on our thinking. Ask people to shake their heads when they make a forecast, and they are less likely to be over-influenced by last week’s sales figure. Ask people to frown when they make a judgment, and they will rely less on their intuition. Being in a bad mood is also more likely to invoke analytical thinking than intuition.

SYSTEM 1 vs. SYSTEM 2

At the heart of the book is the notion that our thinking results from the operations of two systems. System 1 is the intuitive one. It is rapid, involuntary, and emotional, and operates with little or no effort. It judges ideas and stories to be true when they involve little mental exertion or are felt to be coherent and consistent, whatever the quality of the evidence. It blocks out doubt and aims to believe and confirm.

System 2 is used in our conscious, reflective reasoning. It constructs thoughts as orderly steps and is therefore relatively slow. It operates when complex calculations need to be made or a logical argument needs to be checked. Although System 2 can overrule its “freewheeling” partner, this demands effort. Frequently, though, System 2 is lazy, so we often make judgments by falling back on System 1; and in our field, this can lead to forecasts that are erroneous and biased.

Kahneman provides an example of where System 1 can mislead. You are told that a bat and ball cost $1.10, and the bat costs
one dollar more than the ball. Then, you are asked how much the ball costs. The intuitive answer that “feels right” is 10 cents, but a vigilant System 2 would reveal that this answer, of course, is wrong. The correct answer is $1.05 for the bat and 5 cents for the ball.

**JUDGMENTAL FLAWS**

Many of these errors and biases apply when we use our judgment to make forecasts. For example, we have a proclivity for creating stories to explain random patterns in sales graphs. These stories can sometimes be based on the merest morsels of evidence, but as long as they are coherent, an unpolicied System 1 provides us with a warm, confident feeling that we have discovered the truth about what is driving our sales. We then use our new discovery to produce forecasts. By pure chance, our sales have dropped in the last two months, but System 1 needs a cause and a story to explain this. We know that our Head of Sales is experiencing marital problems which are clearly distracting him from the task of boosting demand. If his problems remain unresolved, we forecast a continued decline in sales.

This book is unusual in that it lives up to the hype on its back cover. It is well written, accessible, insightful, and at times quite shocking. It’s the sort of book where your partner’s television viewing is ruined because you keep interrupting to read out loud the latest fascinating passage. Any forecaster who uses a lot of judgment at work would benefit from reading it.

*Regression to the Mean*

This tendency to invent causes and stories points up a phenomenon known as *regression to the mean*, one that is particularly troublesome for judgments emanating from System 1. “Regression to the mean” refers to the tendency for extreme events (that are largely the result of chance factors) to be followed by closer-to-average events. For example, the exceptionally high sales a company experienced in March will probably have been partly due to an unusually lucky combination of chance factors. This combination is unlikely to be repeated in the following month, so sales then will probably be nearer to the norm.

However, as we have seen, resorting to accounts based on chance and randomness is not the style of System 1, which thrives instead on strong causal explanations. At the end of March, the CEO happily gives the Marketing Department credit for the brilliance of their efforts and expects similarly high sales for the next few months. When he is surprised by a sales decline in April, he attributes this to the complacency of the sales team who have been resting on their laurels after their success in March.

*The Planning Fallacy*

Coherent stories are also more appealing than cold, hard statistics, and this can lead to what Kahneman calls the *planning fallacy*. When forecasting how long a project will take, we tend to focus on the specific attributes of our own project and usually weave a best-case scenario around these attributes to predict how the project will unfold. As such, our scenario neglects the many unforeseen events that are likely to set us back (Donald Rumsfeld’s “unknown unknowns”), and we make a forecast that is hopelessly optimistic. For example, the costs of building the new Scottish Parliament in Edinburgh were originally forecast to be £40 million. They ended up being more than 10 times this figure. Stepping back and taking what Kahneman calls “the outside view” would avoid many of these disasters. Doing so involves looking at statistics, or base rates, for similar projects that will already have experienced the effects of the “unknown unknowns.” These statistics are likely to provide more realistic guidance on the costs or durations of projects than our sanguine System 1.

*“Ease of Recall” Paradox*

System 1 also judges the probability of future events based on how easily we can recall or imagine similar events. Of course, ease of recall may be completely unrelated to the true probabilities of these future events. Hence,
events that are easily remembered because they are recent or have been highlighted by the media tend to be judged as much more probable than they really are.

Kahneman reports an interesting paradox: ask people to create a long list of past instances of an event, and they will sometimes consider the event to be less likely to occur in the future. This is because it is harder to recall more instances than a few and, as System 1 equates ease of recall to probability, we judge the event to be less probable. You can turn this paradox to your advantage. Ask people for a longer list of how you can improve the way you do your job, and they may well give you a higher rating.

**Overconfidence of Experts**

It is tempting to believe that experts are less susceptible to these judgmental flaws than the rest of us. Here Kahneman draws on the work of Philip Tetlock, which found that experts’ long-term forecasts of political and economic events were, on average, less accurate than random guessing. As experts acquire more knowledge, their perception of their own skill is inflated to the point that it becomes illusory; forecasts are thus produced with unrealistic overconfidence. The illusion is particularly prominent among stock-market forecasters, who often interpret occasional runs of luck as further evidence of skill.

But *Thinking, Fast and Slow* is not an unmitigated attack on experts and intuition. Kahneman argues that expert intuition can be trusted in environments where variables to be forecast follow regular patterns, even though these patterns may be complex, and where the forecaster has a chance to learn to recognise these patterns through practice over a long period. He also provides a number of remedies designed to overcome flaws in our judgment. For example, to avoid extreme predictions he sets out a step-by-step procedure that allows you to position your forecast appropriately between the statistical average and your intuitive estimate, based on the specific attributes of the case you are forecasting.

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**WHOM CAN YOU TRUST?**

All of this suggests that statistical formulae generally produce more reliable forecasts than judgment, particularly when the variable being forecast is subject to a great deal of noise. In these situations, according to Kahneman, statistics have the advantage that they can detect relatively weak, but nevertheless valid, relationships between the variable and factors that are influencing it. Human judges will miss these relationships – or, if they spot them, they will use them inconsistently.

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