Article

Are we as in control of our actions as we believe? Bernard Ross and Omar Mahmoud look at how behavioural economics can effect our decision making.

Behavioural economics

Why we think much less than we think we think… and why it's important

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This article is written by **Bernard Ross**, Director at the Management Centre (**=mc**) and **Omar Mahmoud**, Chief of Market Knowledge, UNICEF, Private Fundraising and Partnerships. It draws heavily on the work and words of Daniel Kahneman and the case studies use two papers from the Behavioural Insights Team (BIT) at the Cabinet Office in the UK.

(Bernard and Omar are currently writing a book on brain sciences. If you'd like to contribute to then please contact us through Bernard Ross b.ross@managementcentre.co.uk. See more information at the end of this download.)

"Humans are to thinking as cats are to swimming – we can do it when we have to, but we'd much prefer not to."

Daniel Kahneman

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Try this quiz

Before you read the article below take this quiz, based loosely on Kahneman's four decades of research. (The quiz itself is adapted from a *Vanity Fair* article in 2011.) At the end of this download you can see the scoring and rationale. Let's see how smart you are...?

1. A town has two hospitals: one large and one small. Assuming there is an equal number of boys and girls born every year in the United States, which hospital is more likely to have close to 50 percent girls and 50 percent boys born on any given day?

A. The larger

B. The smaller

C. About the same (say, within 5 percent of each other)

2. A team of psychologists performed personality tests on 100 professionals, of which 30 were engineers and 70 were lawyers. Brief descriptions were written for each subject. The following is a sample of one of the resulting descriptions:

Jack is a 45-year-old man. He is married and has four children. He is generally conservative, careful, and ambitious. He shows no interest in political and social issues and spends most of his free time on his many hobbies, which include home carpentry, sailing, and mathematics. What is the probability that Jack is one of the 30 engineers?

A. 10-40%

B. 40-60%

C. 60-80%

D. 80-100%

3a. How many dates did you have last month/dinner parties did you attend? (Please choose whichever relates to your life style!)

A. 1—3

B. 3—5

C. 0

3b. On a scale of 1 to 5, how happy are you these days (5 being the happiest)?

A. 1

B. 2

C. 3

D. 4

E. 5

4. Imagine that you decided to see a play and you paid €10 for the admission price of one ticket. As you enter the theatre, you discover that you have lost the ticket. The theatre keeps no record of ticket purchasers, so the ticket cannot be recovered. Would you pay €10 for another ticket to the play?

A. Yes

B. No

5a. Choose between getting €900 for sure or a 90% chance of getting €1,000.

A. Getting €900

B. 90% chance of getting €1,000

5b. Choose between losing €900 for sure or a 90% chance of losing €1,000.

A. Losing €900

B. 90% chance of losing €1,000

Solutions and explanations for the quiz can be found at the end of this download

The Big Idea

Traditional economics argues humans are rational beings who show they are acting rationally by conducting benefit/cost analysis, assessing the usefulness of options, and then making decisions. This is how we like to think we choose where to live, approach our career options, and frame our 'healthy selection' at restaurants.

Behavioural economics says we are sometimes rational, but most of the time our rationality is limited by our ability to work things out, the large amount of information available, the limited relevant knowledge we have, and our own lack of time and energy. In these cases — and whether we are deciding on donating to charity, buying services or goods, or even dating — we make decisions based on mental short cuts, or heuristics.

These heuristics form part of the thinking developed by psychologist Daniel Kahneman, regarded as the founding father of behavioural economics as a discipline.[1] Extraordinarily, he won the Nobel Prize for Economics without having ever taken an economics course. His book summarising his award winning ideas, ***Thinking, Fast and Slow***, and a body of wider work, has influenced what we know about decisions, risk, and even happiness.

Kahnemann argues the brain has two approaches to decision-making, which he calls System 1 and System 2. These "respectively produce fast and slow thinking." For our purposes these can also be thought of as the process of intuitive and deliberate thought.

[1] Although this article is primarily about Behavioural Economics the related fields of Neuroscience and Evolutionary Psychology also apply

He argues that the two systems can often be in conflict. **System 1** is how we *actually* make decisions. This is our fast, intuitive effortless, automatic, and emotional decision-making system. Occasionally we switch to **System 2** — which is how we *think* we make decisions. This is our slow, rational, tiring, deliberate, and considered system. If asked to pick which kind of thinker they are, most people pick system 2.

The systems have different characteristics:

System 1 operates automatically and quickly, with little or no effort and no sense of voluntary control, such as driving home in a car and on a route we know.

System 2 allocates attention to the effortful mental activities that demand it, such as complex computations, or learning to play a new instrument.

The automatic operations of System 1 generate surprisingly complex patterns of ideas, but only the slower System 2 can organise thoughts in an orderly logical critical series of steps.

Choose Your Weapon: the duel between System 1 and 2

Each of the two systems comes with specific abilities, limitations, and functions.

System 1

Kahneman argues System 1 skills are often "innate skills that we share with other animals."

He says we are born prepared to perceive the world around us, recognise objects, orientate our attention, avoid losses, and perhaps even fear spiders. So some kinds of mental activities become fast and automatic through pre-programming or prolonged practice. System 1 has learned the associations between ideas. (Do we prefer person A or B as a partner? What is the capital of France? What is 2+2?)

System 2 has also learned skills such as reading, cycling and understanding nuances of social situations. Some skills, such as finding strong chess moves, are acquired only by specialised experts. Others are widely shared.

Detecting the similarity of a personality sketch to an occupational stereotype — as in the quiz above — requires broad knowledge of the language and the culture, which most of us possess. The knowledge is stored in our memory and accessed without intention and without effort.

System 2

This kicks in when we do something that does not come naturally and requires some sort of continuous mental exertion.

In all these situations you must pay attention, and you will perform less well, or not at all, if you are not ready or if your attention is directed inappropriately.

Paying attention is not always the answer as it is mentally expensive and can make people "effectively blind, even to stimuli that normally attract attention." This is the point of Christopher Chabris and Daniel Simons in their book **The Invisible Gorilla.** (The book expands on the famous gorilla film where observers are unable to spot a gorilla in a group of basketball players swopping balls.) Not only are we blind to what is plainly obvious when someone points it out, but we fail to see that we are blind in the first place.

The Division of Labour

Both Systems are active whenever we are awake. System 1 runs automatically and System 2 is normally in a low-effort mode, in which only a fraction of its capacity is engaged. 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.

An analogy of System 1/System 2 is Auto-pilot and Pilot. When we learn a new skill, think riding a bike or driving a car, we exert much conscious mental effort and focus our attention on every move (System 2). Once we've mastered the new skill, our brain defers the task to its faster and effortless subconscious, partly so that it can perform other tasks such as talking or singing while performing the riding or driving task completely subconsciously (System 1). It is only when we need to do something unusual that we switch back to the pilot (System 2). Driving in a straight line uses the Auto-pilot/System 1, while making a turn towards an unfamiliar address switches to Pilot/System 2."

In general when all goes smoothly, which is most of the time, System 2 adopts the suggestions of System 1 with little or no modification. (You generally believe your impressions and act on your desires, and that is fine — usually.)

On the other hand, when System 1 runs into difficulty, it calls on System 2 to deliver more detailed and specific processing that may solve the problem. System 2 is mobilised when a question arises for which System 1 does not offer a ready answer. So this is what happens when you encounter a multiplication problem like 17x24. (Notice the difference between that and a problem like 2x2.) You can also feel a surge of conscious attention whenever you are surprised. System 2 is activated when an event is detected that violates the model of the world that System 1 maintains. The famous 'gorilla crossing a basketball court experiment' demonstrates that some attention is needed for the surprising stimulus to be detected.

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When this happens surprise activates and orientates your attention: you will stare, and you will search your memory for a rationale that makes sense of the surprising event.

System 2 is also credited with the continuous monitoring of your own behaviour — the control that keeps you polite when you are angry, and alert when you are driving at night.[2]

The division of labour between System 1 and System 2 is highly efficient: it minimises effort and optimises performance. The arrangement works well most of the time because System 1 is generally very good at what it does: its models of familiar situations are accurate, its short-term predictions are usually right, and its initial reactions to challenges are swift and generally appropriate. System 1, however, has biases. These are systematic errors that it's prone to make in specified circumstances. It sometimes answers easier questions than the one it was asked, and it has little understanding of logic and statistics. One further limitation of System 1 is that it can't be turned off.

Conflict between an automatic reaction and an intention to control it is common in our lives. We are all familiar with the experience of trying not to stare at the oddly dressed couple at the neighbouring table in a restaurant. We also know what it's like to force our attention on a boring book, when we constantly find ourselves returning to the point at which the reading lost its meaning. Where winters are hard, many drivers have memories of their car skidding out of control on the ice and of the struggle to follow well-rehearsed instructions that go against what they would naturally do: "Steer into the skid, and whatever you do, don't touch the brakes!" And every human being has had the experience of not telling someone to go to hell. One of the tasks of System 2 is to overcome the impulses of System 1. In other words, System 2 is in charge of self-control.

Systems and Behavioural Economics

One of the key ideas underpinning Behavioural Economics is that our decisions are influenced by the context in which options are framed, prompting our System 1 to resort to the heuristics or mental short cuts appropriate for that context. This framing includes the decision architecture, timing, and what other people are doing... and our emotions. Note these decision-making biases are *not* random and have clear patterns. Behavioural economists study these biases, technically called heuristics, and test them, so they can come up with generalisable lessons.

These lessons have many social implications — in the commercial world for marketers to persuade us to buy products, and in the social sphere to encourage 'positive' behaviour — such as eating more healthily, or to encouraging philanthropy.

[2] System 2 is mobilised to increased effort when it detects an error about to be made. Remember a time when you almost blurted out an offensive remark in a social situation and note how hard you worked to restore self-control. In summary, most of what you (your System 2) think and do originates in your System 1, but System 2 takes over when things get difficult, and it normally has the last word.

Case Study: British experiment in improving organ donation

In 2012 over one million people registered to join the UK Organ Donor Register, bringing the total to almost 20M. Although this may seem like a lot of people, it's not. On average, three people die every day because there aren't enough organs available.

The big challenge seems to be people expressing a desire to join the Register, but then failing to do so. Current opinion polls suggest that 9 out of 10 people support organ donation, but fewer than 1 in 3 are registered.

The Register organisers decided to try some interventions, based on the 'nudge' heuristic of Behavioural Economics. They were looking for a technique to close the gap between intention and action. One intervention involved a series of Randomised Controlled Trials (RCTs). These trials compared the effectiveness of various 'nudges' against the status quo.

One trial tested the effect of including different messages on a high traffic public webpage. The best-performing message drew on ideas of *reciprocity* and *fairness* by asking people "If you needed an organ transplant, would you have one? If so please help others."

The results are impressive: if this best-performing message was used over the whole year, it would lead to approximately 96,000 *extra* registrations.

Behavioural Economics and Fundraising

Behavioural Economics has many implications for fundraising. These include timing of fundraising asks, hints or 'nudges' for desired action and framing of messages.

On the next page are ten key heuristics useful for fundraising which are outlined with their implications.

Heuristic	Implication
1. Anchor it	We respond to an initial stimulus in our subsequent choice. So if people are willing to make a gift, and you ask for a larger gift then you are more likely to secure an actual gift at a higher level. So the larger initial number 'anchors' the result.
2. Put it in a Frame	The context or frame in which something is experienced makes a difference to the result. The frame might include the perceived brand value of your agency. So a gift made to an agency we know and trust may well be higher.
3. Offer a Nudge	By offering a 'nudge' to individuals you can help them make a preferred choice So asking a very specific question can direct action and increase results. (see the case study below for an example of this in legacy/bequest propositions.)
4. Make Progress	We like to see progress to a result and to contribute to it. So donors, it turns out, like to contribute more at the very start and at the end of any campaign. Also showing visual evidence of progress to a target as in Kiva or Just Giving helps others to come on board.
5. Make it Social	By making something seem normal for a specific person they are more likely to take part. So by offering employees a small gift + a personal email from the CEO asking them to contribute to an employee giving scheme, a company was able to improve participation from 5% to 17%.
6. Build Empathy	We like to identify with the people that we are being asked to help. And we like them to be individuals. So by highlighting the situation of a specific individual we can help, we gain more and higher gifts than a generalised ask for 'the mass'. It also helps to present the situation from their point of view.
7. Avoid Loss	A very basic piece of mental programming means we are keener to avoid losses than to avoid gains. Sadly that means portraying the negative consequences of not donating are more important than the positive vision of what money will achieve.
8. Limit Data	We tend to make judgements based on the data we have available rather than search out detail. And our brains can't handle too much data. Offer supporters simple choices rather than too many and make the choices clear and easy to make.
9. Confirmation bias	We tend to look for data that confirms choices we have already made (Think of political discussions!). If someone is a supporter, feed them information that reinforces the 'wisdom' of that decision. This makes them more likely to continue support.
10. IKEA Effect	We ascribe a high value to anything we have been involved in making out of proportion to its true value. (As in IKEA furniture we assembled.) To engage supporters more, ask them to get involved - events are a good way to increase connection.

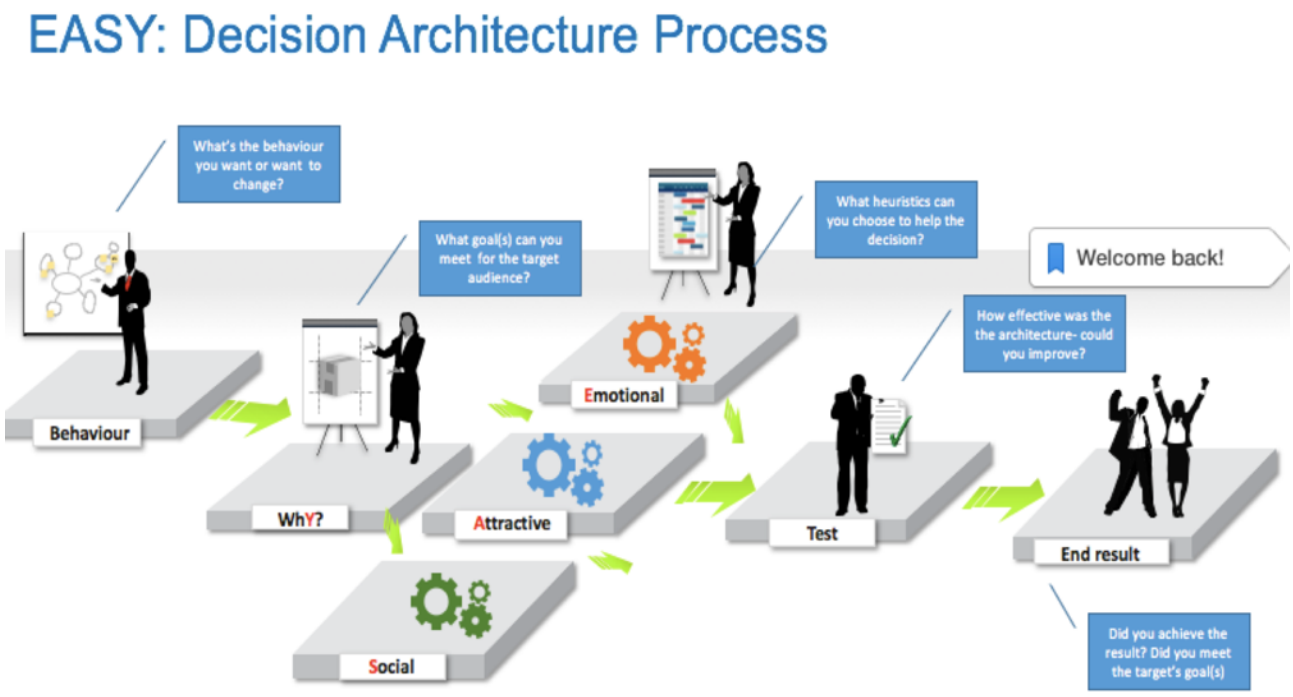
Note there are many other heuristics including loss aversion, confirmation bias, substitution, representativeness, etc. Some scientists estimate there may be as many as 150 of these. Our forthcoming book will explore many of these in more detail.

Decision architecture: make it EASY

Of course you can't simply use these heuristics in any order or all together. You therefore need a *decision architecture* - a way of organising the journey from the behaviour you don't want to the behaviour you do.

We like to think of this using this basic structure as following an **EASY** process. Begin with a behaviour you want to change. Then think wh**Y** the subject might want to change. Make sure that whatever heuristics you choose to use they are **E**motional not rational, **A**ttractive to the subject, and **S**ocial, making them feel 'normal.'

Remember though that this is a science and so you need to *test* whether it works and then adjust until you get the end result you want.



Case Study: Helping people donate money to charity through their wills

Legacy Giving (leaving money to charity through your will) is something that charities are keen to encourage. But, as in the organ donation example above, there's a disconnect — in this case between people's intentions to give money in their wills and them doing so. 35% of people surveyed in a Government poll indicated they wanted to leave money to charity, but only 7% of wills contained a charity bequest.

The UK Government's Behavioural Insights Team worked with a company, Co-Op Legal Services to see whether certain messages would work more effectively than others in promoting legacies.

In the experiment customers were offered a free will writing service by the Co-Op. When they rang to book an appointment, they were randomly assigned to an agent, to write their will with them over the phone. Agents were grouped into three teams who were asked to use different approaches with their callers.

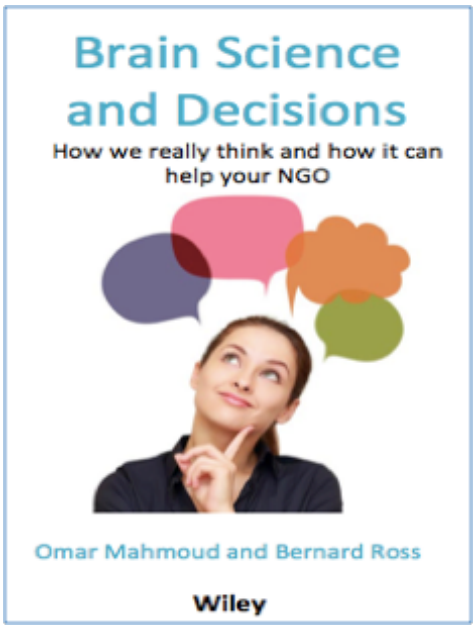
In the first group, customers were offered the service and it was left to them to suggest leaving a charity legacy. ('Baseline' group.) In the second group callers were asked: "Would you like to leave any money to charity in your will?" (This was the 'Plain Ask' Group) In the third group, they were asked: "Many of our customers like to leave money to charity in their will. Are there any causes you're passionate about? (This was the 'Social Norm' group)

These questions were included in a standard script for agents to use. In the 'Baseline' group, 4.9% of customers opted to leave a charity legacy. In the 'Plain Ask' group, 10.8% chose to leave a charity legacy. Under the third option, 15.4% chose to donate — a 200% increase compared with the Baseline. The way in which a question is asked is really important to promoting the desired action.[3]

[3] Overall, there were 1,000 individuals in each of the treatment groups. In total, the Social Norm group alone raised a total of £990,000, which represents an increase of £825,000 above the baseline. The Plain Ask and Social Norm groups collectively raised almost £1milllion above the baseline.

Interested in these ideas — and keen to add your own?

As mentioned earlier we are currently writing a book on how insights in the fields of neuroscience, evolutional psychology and Behavioural Economics might help charities and NGOs achieve their social and fundraising goals.



We're keen to hear from others who:

- have insights or ideas to contribute in the field of social change or fundraising
- have a case study that might add value

Contact us at b.ross@managementcentre.co.uk

Recommended reading

While Kahneman is the undoubted leader in this field a number of others have contributed to expanding the understanding of the science. We'd like to acknowledge our debt to them and encourage you to read their books too.

Daniel Kahneman. **Thinking, Fast and Slow**

Dan Ariely. **Predictable Irrational: The hidden forces that shape our decisions**

Phil Barden. **Decoded**

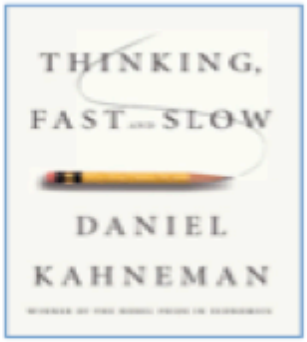
Richard H. Thaler and Cass R. Sunstein. **Nudge: Improving decisions about health, wealth, and happiness**

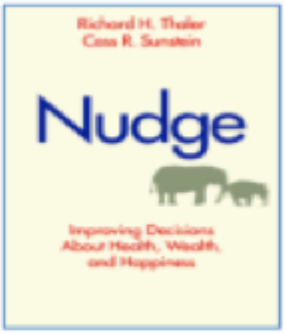
Stuart Sutherland. **Irrationality: The enemy within**

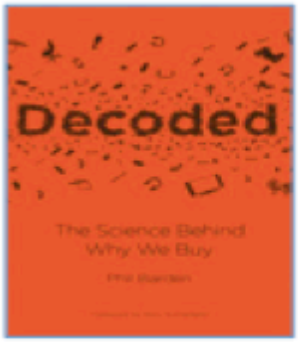
Brafman Ori: **Sway: The irresistible pull of irrational behavior**

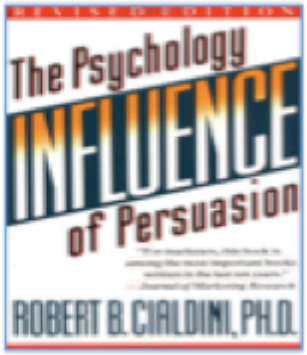
Steve Martin, Noah Goldstein, and Robert Cialdini. **The small big: small changes that spark big influence.**

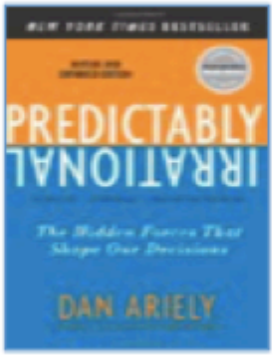
Rolf Dobelli. **The art of thinking clearly**

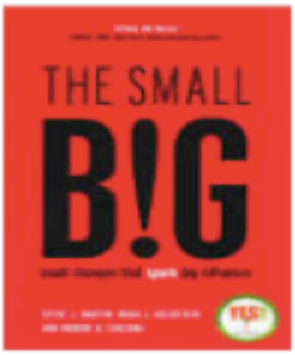












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Quiz Solutions and Explanations

Question 1: The knee-jerk reaction is to select answer C; we expect things to follow a proven pattern regardless of size. But size matters. A small sample size (i.e. the small hospital) will often contain extreme proportions, while a large sample size (i.e. the large hospital) will more likely reflect real-world distributions. The heuristic shown here can be used to understand some forms of prejudice — if you haven't been exposed to a large number of people from a certain group, you're more likely to have incorrect assumptions about them. When you do not account for the size of a sample, Kahneman and his colleague Amos Tversky say, you have used the "representativeness heuristic."

Question 2: If you answered anything but A (the correct response being precisely 30 percent), you have fallen victim to the representativeness heuristic *again*, despite having just read about it. When Kahneman and Tversky performed this experiment, they found that a large percentage of participants overestimated the likelihood that Jack was an engineer, even though mathematically, there was only a 30-in-100 chance of that being true. This proclivity for attaching ourselves to rich details, especially ones that we believe are typical of a certain kind of person (i.e. all engineers must spend every weekend doing math puzzles), is yet another shortcoming of our decision making processes.

Question 3a and 3b: Regardless of how you answered, it is likely that your answer to question a) is positively correlated to your answer to question b) — that is, you rated your happiness higher if you had more dates/more dinner parties and lower if you had fewer dates/dinners. However, when the order of these questions was reversed, as was done by two German researchers, people's happiness became untethered from their dating/dining life.

This experiment demonstrates the brain's deferral to System 1, the faster and easier of the two processes. When faced with an objective question (in this case, How many dates/dinner parties did you have/attend last month?), followed by a subjective one (How happy are you these days?), people often simply carry over their answer for the first to the second. This heuristic is called substitution.

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Question 4: If you answered no, as most people do, consider the following question:

Imagine that you decide to see a play and you will pay €10 for the admission price of one ticket at the door. As you enter the theatre, you discover that you have lost a €10 note. Would you still pay €10 for a ticket to the play?

If you answered yes to this analogous scenario (as both result in the net loss of €10), it's likely you fell victim to what Kahneman and Tversky call the "framing effect": being swayed by the way in which questions are worded rather than responding just to their substance. When Kahneman and Tversky performed this experiment in 1981, they found that 46% of participants would pay for another ticket, while 88% of participants would purchase the ticket in the analogous example mentioned above. The framing effect is also used to explain the influence of positive and negative information on our decisions — for example, why consumers prefer to buy minced beef labeled 80% lean rather than 20% fat.

Question 5: The results of this simple problem set, for which most participants answer A and then B, were used to develop the thesis that would make Kahneman and Tversky famous: prospect theory. In a 1979 paper, they documented a peculiar behavioural tendency: when people faced a gain, they became risk averse; when they faced a loss, they became risk seeking. As a result of their discovery, Kahneman and Tversky debunked Bernoulli's utility theory, a cornerstone of economic thought since the 18th Century. (Bernoulli first proposed that a person's willingness to gamble a certain amount of money was a product of how that amount related to his overall wealth — that is, €1 million means more to a millionaire than it does to a billionaire.)