COGNITIVE BIASES OF ARBITRATORS

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Introduction

Arbitrators are human beings and therefore fallible. This is why arbitrators, like any other human, are prone to cognitive biases. A cognitive bias is the fact of being prey to unconscious psychological influences.

The dozens of biases identified in the field of psychology is far beyond what I can discuss during a keynote speech of only 30 minutes. This is why I will focus on the five, probably most significant, biases for arbitrators, namely the anchoring bias, the framing bias, the overconfidence bias, the confirmation bias and the hindsight bias.

For each of these biases, I will also suggest ways for arbitrators to overcome them or at least lessen their influence on the decision-making process. Instead of boring you with the results of statistical surveys and studies, I would rather like to do some practical exercises with you in order to illustrate the various biases.

This talk is only addressed to arbitrators who would like to improve the quality of their awards. For those arbitrators in this room who only care about whether their award will be set aside or not by a State court, my speech is absolutely useless. They could already start their well-deserved lunch break. Indeed, errors of facts and law are, in most legal systems, not sufficient for the setting aside of an award.

So, let us have a brief look at what modern psychology tells us about the functioning of our brains. The human brain has both an intuitive and a deliberative component. This fact has been known for a long time and is now scientifically proven by neuroscience.

Nobel Prize-winning Kahnemann popularized the functioning of our brain in

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his book of 2011 "Thinking, fast and slow"[2]. Kahnemann distinguishes two systems or two modes in the functioning of our brain:

- System 1 is our fast, automatic, high capacity, low effort, and intuitive mode; and
- System 2 is our slow, deliberate, limited capacity and high-effort mode.

System 1 is for instance active when one drives a car. System 2 is active when one makes a calculation. According to Kahnemann, human decision-making operates with System 1 and System 2 in parallel: System 1 makes intuitive judgments, which are sometimes modified by System 2's deliberative process.

Recent research has shown that –as with all human beings– the intuitive reactions of System 1 play a significant role in the legal decision-making of arbitrators and judges[3].

Let us play a little game invented by Frederick to illustrate this[4]. Please answer as quickly as possible the following question: "A coffee and a croissant cost € 1.10 in total. The coffee costs € 1.00 more than the croissant. How much does the croissant cost?" Do not try to solve it but listen to your intuition.

The intuitive response is 10 cents. But this response is mathematically incorrect. If the coffee costs € 1 more than 10 cents (i.e., € 1.10) and the croissant is 10 cents, the total cost is € 1.20, which is wrong, because the total should be € 1.10. The correct answer is 5 cents, with a coffee costing € 1.05 and a croissant costing 5 cents.

Experiments indicate that international arbitrators provide predominantly intuitive responses. This excessive reliance on intuition likely makes you and me susceptible to poor decision-making.

Admittedly, this and other games are not a test of *legal* reasoning. But scholars have identified reliable links between the performance of arbitrators at such questions and the quality of their *legal* decisions. Although intuition is a necessary part of good judgment, we should always double-check it with deliberation, if

2. *Kahnemann Daniel*, Thinking, fast and slow, XXX 2013.

3. *Sussman Edna*, Chapter 3: Biases and Heuristics in Arbitrator Decision-Making: Reflections on How to Counteract or Play to Them, in: Tony Cole (ed.), The Roles of Psychology in International Arbitration, Kluwer 2017 ; *Franck Susan D./van Aaken Anne/Freda James/Guthrie Chris/Rachlinski Jeffrey J.*, Inside the Arbitrator's Mind, Emory Law Journal pp. 1117-1177, (2017) ; *Helm Rebecca K./Wistrich Andrew J./Rachlinski Jeffrey J.*, Are Arbitrators Human?, Journal of Empirical Legal Studies, pp. 666-692, (2016).

4. *Frederick Shane*, Cognitive Reflection and Decision Making, 19 Journal of Economic Perspectives, No. 4, Fall 2005, pp. 25-42, p. 35.

possible. Unchecked intuition leaves arbitrators vulnerable to cognitive biases. Let us now turn to the first cognitive bias, the anchoring bias.

Anchoring bias

The anchoring bias is a form of intuitive decision-making involving numerical estimates, for instance in the quantification of damages. Let us also illustrate this bias with a game taken from Kahnemann and Tversky[5]. I will show you a wheel of fortune on the screen, which I will spin to generate a random number between 0 and 100. I will then ask you to estimate the percentage of African States in the United Nations. Before you make your estimate, please ask yourself whether your estimate is higher or lower than the number shown on the wheel of fortune. Please then estimate your number by moving upwards or downwards from the number on the wheel of fortune. Let us split the room into two groups. You are group A and you are group B. You should have on your desk a sheet with the letter of your group on the top. Would the members of group A mind closing their eyes for a few seconds? I now will spin the wheel of fortune for you ("fortune wheel" stops at 10) Please estimate the percentage of African countries in the United Nations by moving upwards or downwards from this number. Write this number on your sheet. The members of group A can now open their eyes. I will again spin the wheel of fortune for you ("fortune wheel" stops at 65). Please also estimate the percentage of African countries in the United Nations by moving upwards or downwards from this number. Write this number on your sheet.

Normally, the responses are biased towards the initial value provided by the wheel of fortune, even though that number has absolutely nothing to do with the representation of African States in the United Nations. The original research led to the following results:

- For subjects for which the wheel of fortune indicated 10 (this is our Group B), the median estimates of the percentage of African countries in the United Nations were 25;
- For subjects for which the wheel of fortune indicated 65 (this is our Group A), the median estimates were 45.

When people make estimates, they tend to rely upon an initial value that is readily available. This value "anchors" subsequent numerical estimations, even when the initial figure is irrelevant or even an intentional distractor. People can of course adjust from initial anchors with deliberation, but they often fail to adjust

5. *Tversky Amos/Kahnemann Daniel,* Judgment Under Uncertainty: Heuristics and Biases, 185 Science, pp. 1124-1131, p. 1128 (1974).

sufficiently. Thus, anchors, reasonable and completely unreasonable ones, often have a disproportionate impact on final estimates.

Recent research of international arbitrators showed that they are equally influenced by relevant and irrelevant anchors[6]. Research on advocacy in international arbitration also confirms the importance of anchoring in areas outside of numerical estimates. If counsel provides the arbitrators with an effective narrative creating a meaningful and motivational context, such context then creates an anchor point, or theme, for the advocate to use during the hearing.

Framing bias

Framing the same problem in different ways may also yield different decisions. To illustrate this bias, I will show you a short video, of a car accident. *On the answer sheet, we ask the question to group A by using the verb "smashed", to group B by using the verb "contacted".* Now that you have seen the video please carefully read the question on your sheet and answer the question (*Question on the sheet: "How fast was the grey car when it contacted/smashed into the red car?"*). On the answer sheet we asked the same question, by using however different verbs: On the sheet for Group A, we used the verb "contact"; On the sheet for group B, we used the verb "smashed".

In the real study, the responses varied depending on the verb used, i.e., 40.5 mph for "smashed" and only 31.8 mph for "contacted"[7].

This study provides evidence that changing a single word in a question can significantly and systematically influence a person's perception and memory of an event they had seen only minutes earlier. In the framework of arbitral decision-making, the same bias has been shown with price adjustment and fairness assessments. So, words and sequence matter. The words chosen to present facts can make a significant difference in how a case is decided.

Overconfidence bias

In general, people are overconfident in their qualities and capabilities. In order to illustrate this bias, I must ask you a politically very incorrect question: "Who is married in this room?" Ok, now what is your best estimate of the likelihood that you will get divorced one day? Please write your estimate on your sheet.

Who among the married persons in this room indicated that they are likely to divorce? Well, according to the Hellenic statistical authority, the divorce rate for Greece was at almost 20% in 2017. This means that statistically, 20% of you are unfortunately far too optimistic. Please do not tell your spouse when you get home tonight...!

The overconfidence bias is the mother of all biases, as it reinforces and nurtures the other biases. To explore whether overconfidence affects arbitrators, Franck and her team developed the following test[8].

Please answer the following question: "If someone had to rank all the arbitrators in this room according to their skill at rendering unbiased and impartial decisions, what would your personal rate be? Please evaluate on your sheet whether, compared to all the other arbitrators in this room, you fall in the highest, second highest, second lowest or lowest quartile for this skill.

In the actual study, 85% of the arbitrators ranked themselves better than the median arbitrator in the room with respect to their skill at rendering unbiased and impartial decisions.

Of course, all this overconfident self-assessment is contrary to any statistical logic. Thus, people make judgments about themselves and their abilities with an overconfidence bias. Why is this so? People generate supporting reasons for their decisions much more readily than contradicting ones. They thereby inappropriately inflate their confidence. With regard to the arbitral arena, arbitrators might selectively consider supporting reasons for their decisions rather than contradicting ones. They thus fail to identify influences due to the overconfidence bias in their own decision-making process.

Confirmation bias

The next bias – the confirmation bias – is close to the overconfidence bias. Indeed, people frequently do not test their first beliefs thoroughly. They instead seek out only information consistent with what they already believe. The confirmation bias predisposes people not merely to interpret evidence in a self-fulfilling manner, but to seek out evidence supporting only one side of a polarized issue. Part of the reason for this bias is that it is far easier to rely on intuition, Kahneman's System 1. However, intuition will seek out, remember and emphasize only consistent information, whilst ignoring, forgetting, or reinterpreting inconsistent information.

6. *Franck Susan D./van Aaken Anne/Freda James/Guthrie Chris/Rachlinski Jeffrey,* Inside the Arbitrator's Mind, Emory Law Journal (2017), pp. 1144-1148.

7. *Loftus F. Elizabeth/Palmer John C.,* Reconstruction of automobile destruction: An example of the interaction between language and memory, 13 Journal of Verbal Learning and Verbal Behaviour, pp. 585-589 (1974).

8. *Franck Susan D./van Aaken Anne/Freda James/Guthrie Chris/Rachlinksi Jeffrey J.,* Inside the Arbitrator's Mind, Emory Law Journal p. 1117, pp. 1166-1168 (2017).

To determine whether arbitrators are also susceptible to the confirmation bias, researchers asked arbitrators to imagine the following[9]: You have to resolve a dispute in which a woman is alleging gender discrimination in the employment context. The Claimant employee alleges the following: "Male managers never promote female employees to the position of software engineer". The employer withholds the personnel files of four employees with qualifications similar to the Claimant's who had indeed been promoted to the position of software engineer. These four personnel files can be described as follows:

- A: The personnel file of an employee whose gender is unknown, who was recently promoted by a male supervisor to the position of software engineer;
- B: The personnel file of an employee whose gender is unknown, who was recently promoted by a female supervisor to the position of software engineer;
- C: The personal file of a male employee, who was recently promoted to the position of software engineer by a supervisor whose gender is unknown; and
- D: The personnel file of a female employee, who was recently promoted to the position of software engineer by a supervisor whose gender is unknown.

Please identify the file or files that must be examined to determine the Claimant's allegation is likely to be false. Please do not select any more files than are necessary. What is the correct answer according to you? The correct answer is that files A and D should be examined: File A should be examined because it would falsify the hypothesis if the employee was female; File D should be examined because it would falsify the hypothesis if the supervisor was male. Files B and C do not need to be examined because they cannot apply to a situation involving a female employee and at the same time a male manager.

In the real study, only 19% of the arbitrators responded correctly. Most of the arbitrators insisted on too many files. The researchers concluded that arbitrators were not frequently subject to the confirmation bias in the traditional sense (failing to choose D and unnecessarily choosing C). However, arbitrators showed a tendency to insist on more evidence than actually needed, which might cause unnecessary costs and delay.

This confirmation bias has been confirmed in a survey conducted by Sussman[10]. According to her survey, arbitrators conclude the initial stage of the

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9. *Helm Rebecca K./Wistrich Andrew J./Rachlinski Jeffrey J.*, Are Arbitrators Human?, Journal of Empirical Legal Studies, p. 666, pp. 683-686 (2016).

10. *Sussman Edna*, Arbitrator Decision-Making: Unconscious Psychological Influences and What You Can Do About Them, 24 American Review of International Arbitration p. 487, pp. 501

decision-making process –i.e., after only receiving the prehearing submissions– with a single dominant story in mind. They will then make every effort to fit their perceptions of the facts of the case into the story they have formed. Therefore, they will rarely change their opinions about what happened. They might, however, occasionally change their minds about how the facts of the case should be legally classified.

Hindsight bias

The "hindsight bias" is the phenomenon that reporting a past event triggers an unjustified increase in its perceived *ex ante* predictability. Consequently, reporting an outcome's occurrence increases its (unconsciously) perceived probability of occurrence. Hindsight bias occurs because we update our beliefs about the state of the world when we learn of some outcome. We then use these updated beliefs to generate estimates about prior events.

For example, when we learn that Olympiacos has beaten Bayern Munich, we identify reasons why this occurred and believe the victory was more predictable than it actually was. In the arbitral context, arbitrators regularly have to assess the *ex-ante* likelihood of an event occurring with the *ex-post* knowledge of what actually happened.

To demonstrate the hindsight bias in judicial decision-making, judges were asked to assess the reasonableness of conduct in foresight and in hindsight[11]. Liability was to be upheld if at the time of the alleged unlawful conduct it were found that there was a more than 10% likelihood of a flood. All of the judges received the same set of facts, but half of the judges were told that no precaution was taken and that later a flood costing $ 1 million occurred. The other half of the judges, the control group, were told that no precaution was taken, but were not told about the flood.

24% of the control group found negligence and that the company should have taken precautions. Of the judges who were told about the flood, 57% found negligence and that precautions should have been taken. This study demonstrates the human unconscious tendency to overestimate the predictability of past events based on later events.

(2013).

11. *Kamin Kim A./Rachlinski Jeffrey*, Ex Post ≠ Ex Ante: Determining Liability in Hindsight, 19 Law and Human Behavior, pp. 89-104 (1995).

De-Biasing Mechanisms

So, what can we as arbitrators do against these various cognitive biases?

The simple awareness of the psychological influence that a well-crafted presentation can have should already enable the arbitrator to render decisions that are more objective. I, of course, hope that my keynote speech today contributes towards heightening your awareness of these cognitive biases. However, psychological studies conclude that simply understanding the need to avoid biases is not sufficient to cure the problem. The mere desire to overcome one's mental contaminants is not enough. Even if people know that they have biases, they do not believe that those biases affect their judgment ("bias blind spot").

Unfortunately, the psychological research on de-biasing techniques is far less advanced than the research that identifies biases. However, the following suggestions might help arbitrators engage their brain's deliberative abilities (Kahneman's System 2) and thereby reduce the distorting influence of unconscious biases.

"Consider the opposite" is probably the most powerful de-biasing mechanism in arbitral proceedings. As you consider your decision and as you write your award consider the opposite side, truly assuming each to be correct. This strategy requires arbitrators to consider possibilities at odds with their beliefs and perceptions of the moment. They have to ask themselves why their initial judgment might be wrong, what important pieces of evidence point in the opposite direction and why they are not reliable or credible.

Checklists might assist the arbitrators as they create a mental schema promoting careful deliberative analysis by disrupting the automatic intuitive conclusion:

- One checklist could have columns for each party where the arbitrators list the facts that favour that party.
- Another checklist could list the legal claims and the prerequisites for each claim, looking at them from each side's perspective.

Consider contrary evidence! The aim is to redirect attention towards contrary evidence that would not have been considered otherwise. It might also be helpful to identify any significant evidence that would be unreliable and that may have influenced the arbitrators and then consider the outcome without that evidence. Inversely, arbitrators should consider what evidence they would have needed in order to reach the opposite conclusion, and whether in fact such evidence was presented. The arbitrators should also ask themselves what the losing party would think that they had overlooked in their analysis. They could also consider, if another

tribunal were to conclude the opposite way, how would it formulate its award and where and how would it differ. However, even though this remedy seems simple to apply, such strategies need to be made explicit, as people are in general unlikely to consider evidence and outcomes which do not naturally occur to them, unless they are asked to do so.

Such de-biasing mechanisms take time. This is why arbitrators should not take too many cases, even as co-arbitrators. Arbitrators should make sure that they leave enough time to deliberate and to think through all of the issues, both factual and legal. They should leave time to sleep on the award so that they can think about it and then go back and review it with fresh eyes, because time pressure exacerbates all cognitive biases.

Another fruitful de-biasing mechanism is to use groups instead of individuals as decision-makers. In fact, if run effectively, groups generate their own "consider the opposite" process. Group decision-makers might be better equipped to combat some of the more pernicious cognitive biases. The presence of colleagues enriches the deliberative spectrum of each arbitrator which leads to deliberations that are necessarily more refined and exacting. Hence, chairpersons as well as co-arbitrators should consult the other members of the arbitral tribunal and review all aspects of the facts and the law with them. Whenever necessary, each arbitrator should elicit the independent thinking of each member of the tribunal. Groups can also remember more facts than individuals and in deliberating with one another can share remembered information leading to a more accurate decision. Three arbitrators provide the group with a more complete perspective out of which a better-quality decision can be made. Even though the secretary of the arbitral tribunal does not participate in the deliberations as such, the chairperson could also instruct the secretary to play the devil's advocate and systematically take the opposite position in order to challenge the chairperson's conviction.

However, the benefit of entrusting several arbitrators with the decision-making only outweighs the additional costs and time if they effectively engage in a deliberative process. This presupposes that each arbitrator sufficiently masters the file in order to be in a position to discuss various possible outcomes on an equal footing. If an arbitrator is not sufficiently prepared for a discussion with his or her fellow members of the arbitral tribunal, such arbitrator will merely be in a position to vaguely verify whether the proposals or drafts prepared by the others make sense, so that cognitive biases cannot be efficiently corrected. To the contrary, passive co-arbitrators can even further polarise and therefore reinforce cognitive biases.

Conclusions

I hope that I have been able to heighten your awareness of your cognitive biases. The de-biasing mechanisms I mentioned might indeed lead to decisions that are more accurate. However, there is obviously a potential trade-off between accuracy, on the one hand, and speed and costs, on the other hand. As arbitrators learn more about the cognitive biases that affect their thinking, (informal) best practices to foster a more engaged deliberative process is likely to improve the quality of decision-making.

But perhaps the more or less distant future will render our awareness of cognitive biases completely superfluous. Perhaps human arbitrators will soon be replaced by algorithms deciding without being prone to any cognitive blinders... But this might be an interesting topic of a future edition of this conference.