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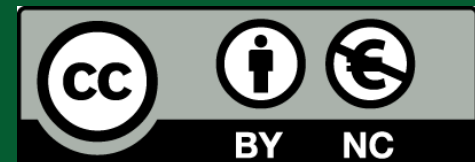


recognise
Legal Reasoning
& Cognitive Science

Materials from Recognise Video-Lectures

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Cognitive Biases in Adjudication

An Introduction for Law Students

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Cognitive Biases

Our thought and decision-making often take courses that deviate from standards of rationality. Sometimes these deviations are not random, but follows regular patterns, that lead to systematic, predictable mistakes.

These systematic mistakes (and sometimes also the mechanisms responsible for them) are called ‘**(cognitive) biases.**’

‘**Heuristics**’ are cognitive shortcuts, simplified ways for reaching a conclusion or decision. Although they deviate from standards of rational thought and decision-making, they allow us to reach, on a significant percentage of occasions, a *good enough* conclusion or decision. The use of heuristics, however, is also likely to lead us to biases, systematic mistakes.

What do psychological inquiries add to common sense knowledge about cognitive biases?

(1) *How often?*

They inform us about the *frequency* of cognitive biases, both in everyday reasoning and decision-making, and in reasoning and decision-making in particular contexts (e.g. adjudication).

(2) *How many?*

They discover kinds of cognitive biases unknown to common sense

(3) *When?*

They uncover both the factors which contribute to bringing about relevant biases or mistakes, and the factors which contribute to preventing their insurgency

Plan of the Seminar

(1) The Hungry Judge Effect

Danziger S., Levav J., Avnaim-Pesso L., 'Extraneous Factors in Judicial Decisions', *Proceedings of the National Academic of Sciences of the USA*, 108, 17, 2011, 6889-6892.

(2) Anchoring effect

Guthrie C., Rachlinski J.J., Wistrich A.J., *Inside the Judicial Mind*, 'Cornell Law Review', 86, 2001, 778-830.

Englich B., Mussweiler Th., Strack F., 'The Last Word in Court. A Hidden Disadvantage for the Defense', *Law and Human Behavior*, 29, 6, 2005, 705-722.

The Hungry Judges (Danziger et al 2011)

Starting point: A common caricature of the views of American Legal Realism: justice is *what the judge ate for breakfast*

(see e.g. Kozinski A., 'What I Ate for Breakfast and Other Mysteries of Judicial Decisions', *Loyola of Los Angeles Law Review*, 26, 1993, 993-999. On the attribution of this maxim to legal realism, see Priel D., 'Law is What the Judge Had for Breakfast. A Brief History of an Unpalatable Idea', *Buffalo Law Review*, 68, 3, 2020, 899-930)

Data: 1112 judicial rulings by 8 judges presiding over 2 parole boards. Working days were divided in three sessions, separated by two meal breaks, a late morning snack and lunch.

Results: The likelihood of a favorable ruling is about 0,65 (65%) at the beginning of each session, it declines to nearly 0 during the session, and spikes again to about 0,65 (65%) after a meal break.

The Hungry Judges (Danziger et al 2011)

Main conclusion: ‘although our data do not allow us to test directly whether justice is what the judge had for breakfast, they do suggest that judicial decisions can be influenced by whether the judge took a break to eat.’

Hypothesis about the responsible mechanisms: Acceptance of parole (a change in the *status quo*) requires a greater cognitive effort than rejection (maintenance of the *status quo*). During working sessions judges’ cognitive resources get depleted, leading them to adopt the less demanding decision, reject parole. Meal breaks restore judges’ cognitive resources, enabling them to make more demanding decisions again.

Two factors: (a) ‘ego depletion’; (b) a *status quo* heuristic.

For the concept of ‘ego-depletion’ and the resource model of control, see Baumeister R., Bratslavsky E., Muraven M., Tice D.M., ‘Ego Depletion: Is the Active Self a Limited Resource?’, *Journal of Personality and Social Psychology*, 74, 5, 1998, 1252-1265.

A Few Comments on the Study on the Hungry Judges

- 1) An issue that should be part of standard legal education: the *organization* of judicial labor
- 2) Unconscious factors and 'rationalization' of one's own decision making processes

See e.g. Nisbett R.E., Wilson T.D., 'Telling More Than We Can Know: Verbal Reports on Mental Processes', *Psychological Review*, 84, 3, 1977, 231-259.

- 3) How conclusive the study is?

Some Critical Voices

(a) On the role of the temporal position:

Wienshal-Margell K., Shapard J., 'Overlooked Factors in the Analysis of Parole Decisions', *Proceedings of the National Academic of Sciences of the USA*, 108, 18, 2011, E833.

(See however Danziger S., Levav J., Avnaim-Pesso L., 'Reply to Weinshall-Margel and Shapard: Extraneous factors in judicial decisions persist', *Proceedings of the National Academic of Sciences of the USA*, 108, 18, 2011, E834.)

(b) On the magnitude of the effect:

Glöckner A., 'The irrational hungry judge effect revisited: Simulations reveal that the magnitude of the effect is overestimated', *Judgment and Decision Making*, 11, 6, 2016, 601-610.

(c) On the hypothesized mechanism:

Against the role of the status quo, see: Daljord Ø., Urminsky O., Ureta J.-M., 'The Status Quo Theory of Depletion Does not Explain the Israeli Parole Decisions', working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3448164

For recent criticisms of the resource model of control, see Inzlicht M., Berkman E., 'Six questions for the resource model of control (and some answers)', *Social and Personality Psychology Compass*, 9, 10, 2015, 511-524.

‘Heuristics and biases’

The ‘**Heuristics and biases’ research program** was launched by Tversky and Kahneman in the mid 1970s

(Tversky A., Kahneman D., ‘Judgment Under Uncertainty: Heuristics and Biases’, *Science*, New Series, 185, 4157, 1974, 1124-1131.)

Basic idea: In many situations, in order to maximize the likelihood of an optimal solution, one should perform a series of costly cognitive operations. Instead, we often resort, unconsciously, to simplified procedures, *heuristics*, that – although useful under conditions of time constraints, limited information and limited cognitive resources –, make us prone to systematic mistakes, or *biases*.

An example: Base Rate Neglect

Consider the following story:

'Steve is very shy and withdrawn, invariably helpful but with little interest in people or in the world of reality. A meek and tidy soul, he has a need for order and structure, and a passion for detail'

In answering the question whether Steve is more likely to be a librarian or a farmer, most people rely on the degree to which he is representative of, or similar to, the stereotypes of librarians and farmers (so called 'representativeness heuristic'). They neglect, however, equally relevant statistic information such as the 'base rate', the ratio of farmers to librarians in the general male population – in most countries, there are much more farmers than librarians.

From Kahneman D., *Thinking, Fast and Slow*, Penguin, 2011 (the experiment was introduced in Tversky&Kahneman 1974)

For a heated discussion about Tversky and Kahneman's biases, I refer you to Gigerenzer G., 'How to Make Cognitive Illusions Disappear: Beyond 'Heuristics and Biases'', *European Review of Social Psychology*, 2, 1991, 83-115, and to the subsequent reply, Kahneman D., Tversky A., 'On the Reality of Cognitive Illusions', *Psychological Review*, 103, 3, 582-591.

Anchoring

Tversy and Kahneman describe anchoring as the procedure consisting in making estimates 'by starting from an initial value that is adjusted to yield the final answer'. The initial value may be suggested by information that is, and we know to be, irrelevant to the problem's solution.

A Demonstration of the Anchoring Effect

Proposed problem:

What is the percentage of African States among United Nations members?

Group exposed to the irrelevant number 10 (low anchor condition):
average estimate **25%**

Group exposed to the irrelevant number 65 (high anchor condition):
average estimate **45%**

(from Tversky & Kahneman 1974)

Anchoring in Adjudication (I)

from Guthrie&Rachlinski&Wistrich 2001

Task: Judges are asked to imagine of presiding over a personal injury lawsuit in a federal court based on diversity jurisdiction (diversity jurisdiction only concerns cases whose value is above 75000 \$). They should determine the amount of compensation due to the plaintiff in the case below.

Case: The defendant is a big transport company. One of its trucks, due to a brake failure following a lack of maintenance, did not stop at the red light and run over the plaintiff, who was seriously damaged: a few months hospitalization, temporary loss of the use of his legs, and the loss of his high incomes as an electrician. The plaintiff claimed damages, for no specified amount. (The damages are, in any case, clearly much higher than 75000 \$.)

Groups: Judges are divided in two groups, No Anchor and Anchor.

Judges in the No Anchor condition were simply told the case and asked to estimate the compensation.

Judges in the Anchor condition were told that the defendant had moved for dismissal of the case, arguing that it did not meet the required minimum of 75000 \$. The motion for dismissal was clearly meritless, but it was expected to act as an anchor.

Expected results: the average estimates of the judges in the Anchor condition should be lower, due to the anchoring effect.

Anchoring in Adjudication (I)

(from Guthrie&Rachlinski&Wistrich 2001)

Results:

Awarded compensation on average:

No Anchor: \$ 1,249,000

Anchor: \$ 889,000

Quartile results	1 st Quartile	2 nd Quartile	3 rd Quartile
No Anchor	\$ 500,000	\$ 1,000,000	\$ 1,925,000
Anchor	\$ 288,000	\$ 882,000	\$ 1,000,000

Here the estimates of the judges of each group are ordered from the lowest to the highest value, and the ordered sequence is divided in four sections (quartiles). So, if the judges in each group were 80, the first quartile would contain the 20 lowest estimates, and so on. Comparing the mean values of each quartile rather than the mean value of the entire group allows to prevent possible distorting effects of markedly high or low estimates.

Anchoring in Adjudication (II)

from English&Mussweiler&Strack 2005, first experiment

Subjects. 42 junior lawyers (few months work experience)

Task. Subjects were asked to play the role of the defense in a criminal case.

Groups. Defense attorneys were divided in two groups.

1. High Anchor Condition: high sentencing demand from the prosecution (34 months)
2. Low Anchor Condition: low sentencing demand from the prosecution (12 months)

Results (average values of the defense attorneys requests in the two groups):

1. High Anchor Condition: 16,77 months
2. Low Anchor Condition: 9,60 months

Conclusions. The prosecution demands significantly affected the defense attorneys' requests.

Anchoring in Adjudication (II)

from English&Mussweiler&Strack 2005, second experiment

Subjects. 42 experienced legal professionals (40 judges, 2 prosecutors)

Task. Subjects were asked to play the role of the judge in the criminal case of the previous experiment.

Groups. Judges were divided in two groups.

1. High Anchor Condition: they were confronted with the high sentencing demand from the prosecution (34 months) and the demand of one of the defense attorneys in the High Anchor Condition
2. Low Anchor Condition: they were confronted with the low sentencing demand from the prosecution (12 months) and the demand of one of the defense attorneys in the Low Anchor Condition

Results (mean values of the judges' decisions in the two groups):

1. High Anchor Condition: 27,64 months
2. Low Anchor Condition: 19,30 months

Conclusions. The prosecution demands significantly affected judges' decisions, both directly and mediated by the defense requests.

Anchoring in Adjudication (II)

from English&Mussweiler&Strack 2005, further considerations

May the influence of the prosecutors' demands be explained by the authority they have *qua* legal experts?

According to the authors, no.

Previous studies by the same authors have shown that the effect is present even when:

- judges are explicitly told that the prosecutor's demand had been worked out by a computer-science student, with no judicial expertise

(see English B., Mussweiler Th., 'Sentencing under Uncertainty: Anchoring Effects in the Courtroom', *Journal of Applied Social Psychology*, 31, 2001, 1535-1551)

- judges are told that the prosecutor's demand was determined by a random process, such as throwing dice

(see English B., Mussweiler Th., Strack F., 'Playing Dice with Criminal Sentences: The Influence of Irrelevant Anchors on Experts Judicial Decision Making', *Personality and Social Psychology Bulletin*, 32, 2, 2006, 188-200)

Anchoring in Adjudication (II)

from English&Mussweiler&Strack 2005, conclusive remarks

From the perspective of an argumentative account of criminal trial, having the last word is an advantage for the defense – it amounts to a right to the final reply.

A cognitive account focused on anchoring effects suggests instead that having the last word is a disadvantage for the defense, because both defense's requests and judges' decisions tend to be anchored to the prosecution's demands.

Summary of the lecture

- Biases and heuristics
- Study on the judges' meal breaks (ego depletion, *stautus quo*, organizational issues)
- Anchoring (anchoring effects on both judges and defense)

For reading suggestions, see the project's webpage:

<https://www.recognise.academy/education/literature/>

Thanks!!!!

