

Lecture 4: Starting with the mind

Common Biases and Heuristics in Decision-Making



Aalto-yliopisto
Aalto-universitetet
Aalto University

How do we make decisions?

Behavioral perspective



Aalto-yliopisto
Aalto-universitetet
Aalto University

Traditional perspective: economics and consumer decision-making

- Consumers have all necessary information
- With this information, consumers are able to make rational decisions, and choose the optimal alternative

- ✓ Consumers always have clear criteria, and alternatives (for example, products) are easy to compare
- ✓ Consumption choices are based on (own) utility maximation
- ✓ Consumers never consume too much or too little for their own good

The myth of *homo economicus* = the economic man

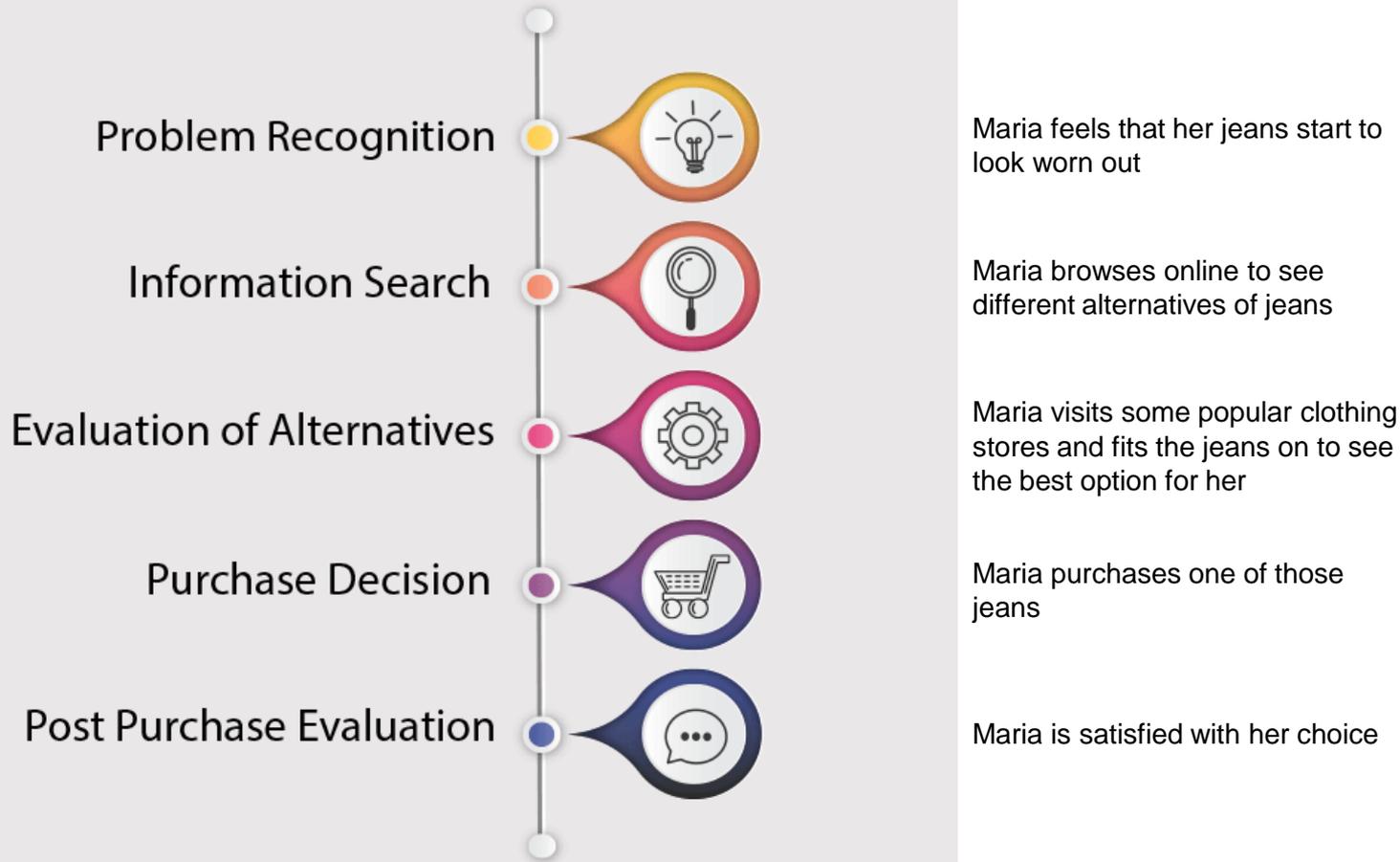
“ I pursue my rational objectives optimally”



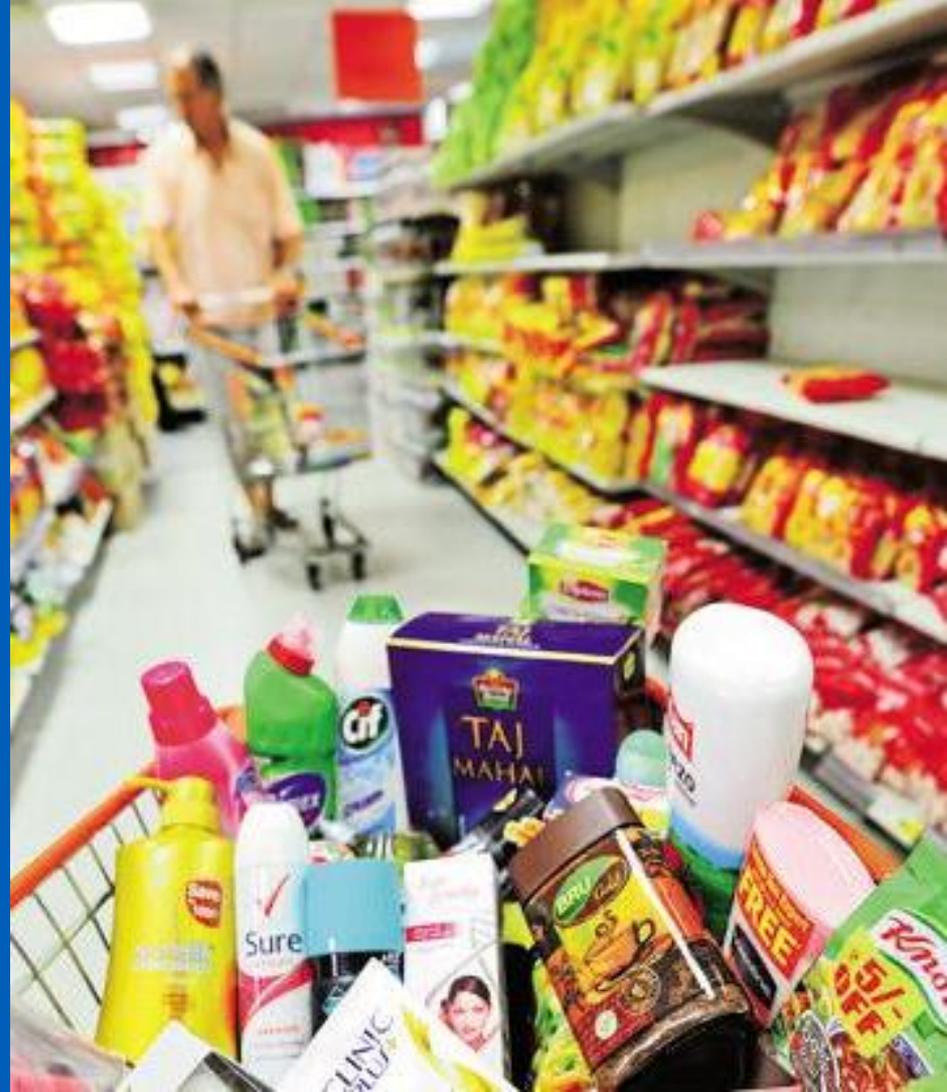
“ I make rational decisions”

“ I’m driven by self-interest and the maximization of my own utility”

Decision Making Process



But are we always (if ever) rational decision makers, driven by self-interest and constantly trying to optimize?

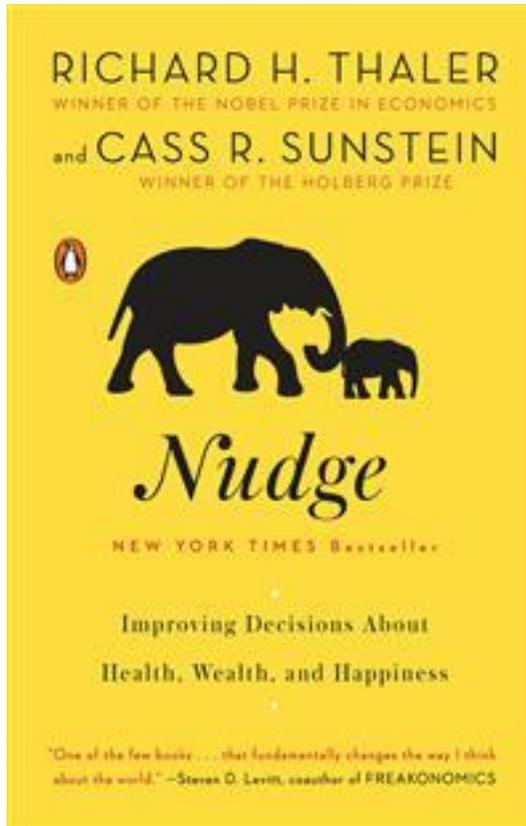
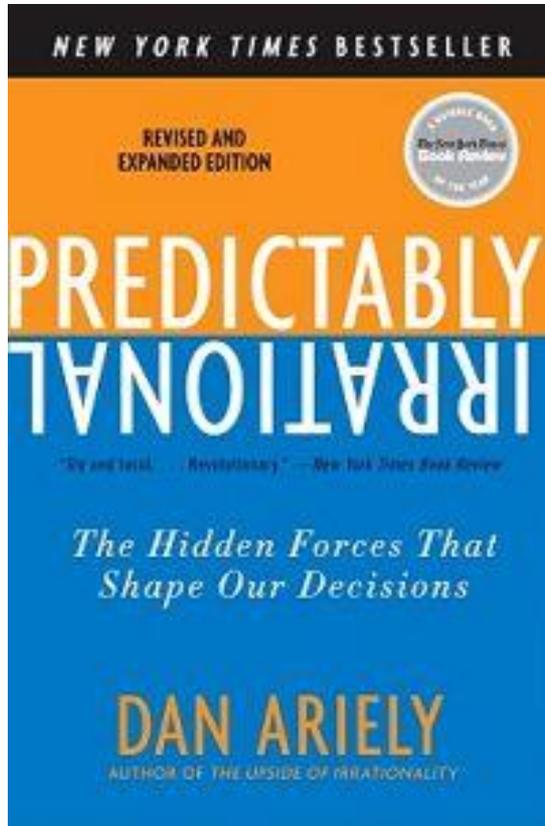


Starting with the mind

Common Biases and Heuristics in Decision-Making



Aalto-yliopisto
Aalto-universitetet
Aalto University



Not all decisions we make are based on rational mental calculations. Instead, we rely often on heuristics and rules-of-thumb, which enable us to make rapid decisions.

How we think – two cognitive systems

- Distinguishing between two kinds of thinking, one that is intuitive and automatic, and another that is reflective and rational.

<i>Automatic System</i>	<i>Reflective System</i>
Uncontrolled	Controlled
Effortless	Effortful
Associative	Deductive
Fast	Slow
Unconscious	Self-aware
Skilled	Rule-following

Automatic system

- Rapid and instinctive
- Does not involve what we usually associate with the word “thinking”
- Oldest parts of the brain active, “the parts we share with lizards”
- “Your gut feeling”
- The automatic system in use:
 - Ducking when a ball is thrown at you unexpectedly
 - Smiling when you see a cute puppy
 - Getting scared when your airplane hits turbulence
 - Getting an idea for your bachelor’s thesis topic out of the blue

Reflective system

- Deliberate and self-conscious
- Involves “thinking”
- “Your conscious thought”
- The reflective system in use:
 - Trying to calculate 411×37 in your head
 - Deciding which route to travel to home
 - Writing your bachelor’s thesis

Heuristics and Biases

“

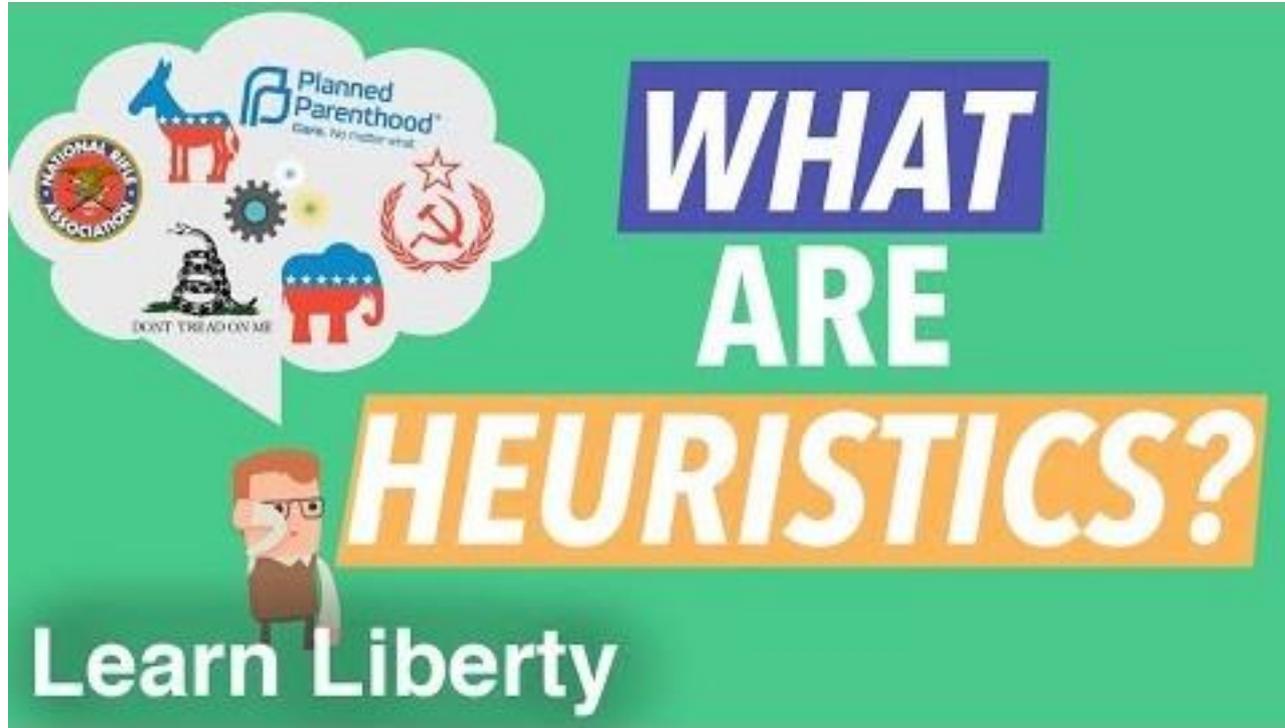
Most of us are busy, our lives are complicated, and **we can't spend all our time thinking and analyzing everything**. When we have to make judgments, such as guessing Angelina Jolie's age or the distance between Cleveland and Philadelphia, we use simple rules of thumb to help us. We use **rules of thumb** because most of the time they are quick and useful.”



Three heuristics

1. Anchoring
2. Availability
3. Representativeness

Quick introduction to heuristics:





Anchoring is a **cognitive bias** for an individual to **rely too heavily on an initial piece of information offered** (known as the "anchor") when making decisions



Availability heuristic is the **tendency to overestimate the likelihood of events with greater "availability" in memory**, which can be influenced by how recent the memories are or how unusual or emotionally charged they may be.



NOT CLEVER



CLEVER

Representativeness is the **tendency to estimate the likelihood of an event by comparing it to an existing schema** that already exists in our minds.

Why is everything relational?



Aalto-yliopisto
Aalto-universitetet
Aalto University

Which subscription option would you choose?

Economist.com	SUBSCRIPTIONS
OPINION	Welcome to The Economist Subscription Centre
WORLD	Pick the type of subscription you want to buy or renew.
BUSINESS	
FINANCE & ECONOMICS	<input type="checkbox"/> Economist.com subscription - US \$59.00
SCIENCE & TECHNOLOGY	One-year subscription to Economist.com. Includes online access to all articles from <i>The Economist</i> since 1997.
PEOPLE	
BOOKS & ARTS	<input type="checkbox"/> Print & web subscription - US \$125.00
MARKETS & DATA	One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997.
DIVERSIONS	

What about now?

Economist.com	SUBSCRIPTIONS
OPINION	Welcome to
WORLD	The Economist Subscription Centre
BUSINESS	Pick the type of subscription you want to buy or renew.
FINANCE & ECONOMICS	
SCIENCE & TECHNOLOGY	<input type="checkbox"/> Economist.com subscription - US \$59.00
PEOPLE	One-year subscription to Economist.com.
BOOKS & ARTS	Includes online access to all articles from <i>The Economist</i> since 1997.
MARKETS & DATA	
DIVERSIONS	<input type="checkbox"/> Print subscription - US \$125.00
	One-year subscription to the print edition of <i>The Economist</i> .
	<input type="checkbox"/> Print & web subscription - US \$125.00
	One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997.



Why is everything relative?

“Humans rarely choose things in absolute terms. We don't have an internal value meter that tells us how much things are worth. Rather, we focus on **the relative advantage of one thing over another, and estimate value accordingly.**”

IT MUST BE A DEAL!!

Economist.com	SUBSCRIPTIONS
OPINION	Welcome to The Economist Subscription Centre Pick the type of subscription you want to buy or renew. <input type="checkbox"/> Economist.com subscription - US \$59.00 One-year subscription to Economist.com. Includes online access to all articles from <i>The Economist</i> since 1997. <input type="checkbox"/> Print subscription - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> . <input type="checkbox"/> Print & web subscription - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997.
WORLD	
BUSINESS	
FINANCE & ECONOMICS	
SCIENCE & TECHNOLOGY	
PEOPLE	
BOOKS & ARTS	
MARKETS & DATA	
DIVERSIONS	

Most of the time we choose the “middle”

36-inch Panasonic for \$690

42-inch Toshiba for \$850

50-inch Philips for \$1,480

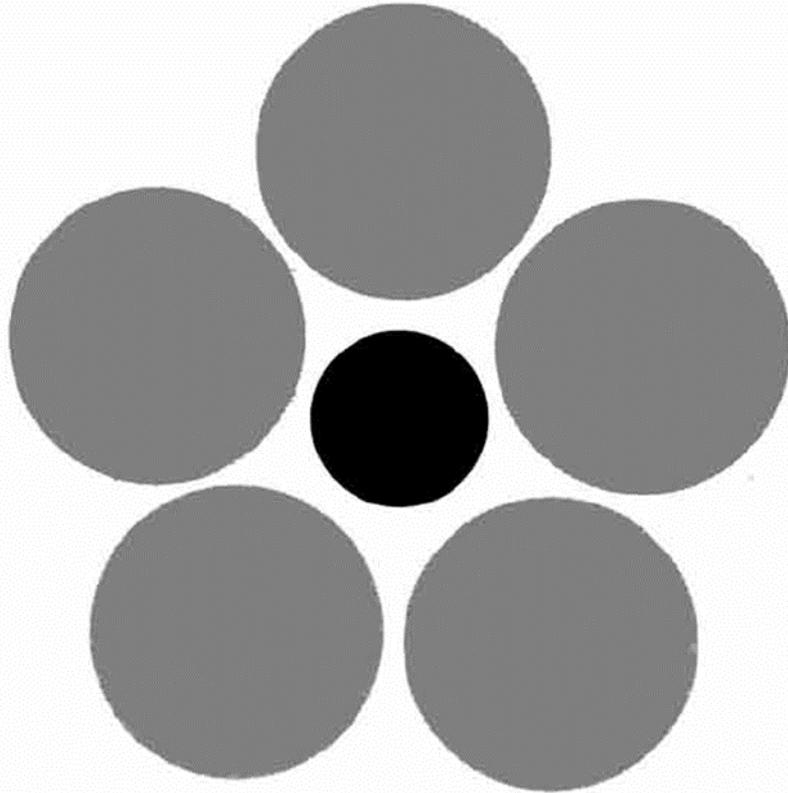
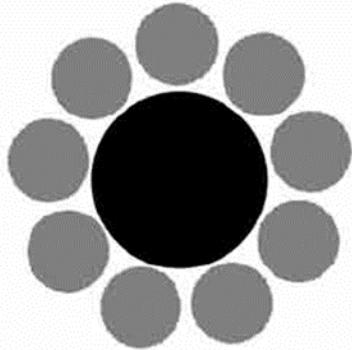
Most people don't know what they want unless they see it in context

- We don't know what kind of speaker system we like—until we hear a set of speakers that sounds better than the previous one.
- We don't know what kind of house we should live in—until we see a photo in social media of a perfect house our friend lives in.

“Everything is relative, and that's the point. Like an airplane pilot landing in the dark, we want runway lights on either side of us, guiding us to the place where we can touch down our wheels.”

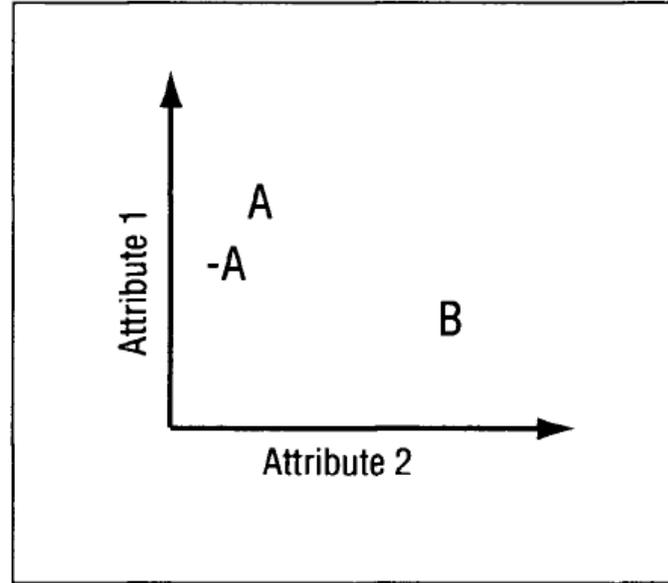
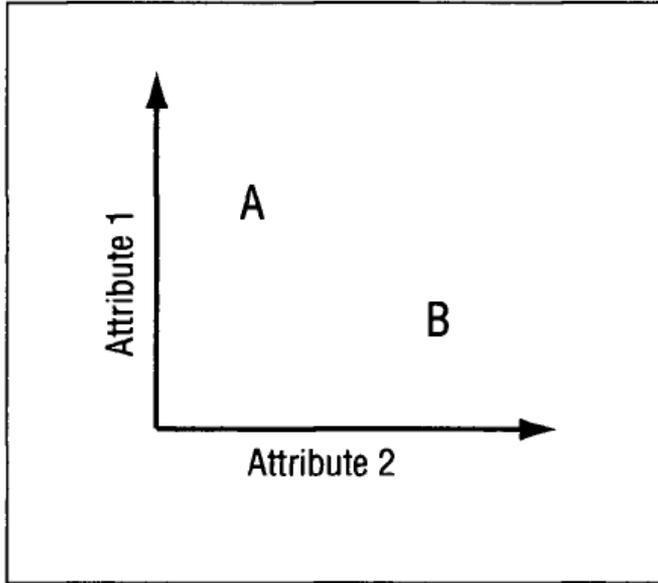
“

*We are always looking
at the things around us in
relation to others.”*



Aalto-yliopisto
Aalto-universitetet
Aalto University

“We not only tend to compare things with one another but also tend to focus on **comparing things that are easily comparable**—and avoid comparing things that cannot be compared easily.”



Imprinting an anchor, or, arbitrary coherence



Aalto-yliopisto
Aalto-universitetet
Aalto University

Arbitrary coherence

- Assael's pearl prices were initially "arbitrary"
- Once these prices were established in our minds they shape present prices and future prices
- This makes them "coherent"



Anchoring

Price tags by themselves are not necessarily anchors. **They become anchors when we contemplate buying a product or service at that particular price.** That's when the imprint is set.

From then on, we are willing to accept a range of prices—but always refer back to the original anchor. Thus the first anchor influences not only the immediate buying decision but many others that follow.



“Anchoring influences all kinds of purchases.... people who move to a new city generally remain anchored to the prices they paid for housing in their former city.”

Here's your venti-soy-whipped
frappa-lardy-lattechino!
That'll be \$7.15. Would you like
me to throw in an extra cup of
sugar for only \$1.95?



The Oatmeal

ABSOLUTELY! let's spike
that blood sugar all the
way to the moon!



<http://theoatmeal.com>

- We have an image of the acceptable price range for different categories
- "Expensive" is very relative

Downloading App:
HorseHunter Extreme!

Click OK to
confirm that you
want to buy this
app for 99 cents.

A \$7 specialty coffee is fine..



Whoa whoa whoa! 99 cents?!
Gosh, I dunno... that's a lot
of money! I should call my
accountant first, or at
least sleep on it before
making a decision.

...but \$0.99 for an app is hefty.

The Oatmeal

<http://theoatmeal.com>

Are we just being played?

“In the real world, anchoring comes from manufacturer's suggested retail prices (MSRPs), advertised prices, promotions, product introductions, etc.—all of which are supply-side variables.”



PRICE LEADER- SHIP AND ANCHORING

“Price leadership is when a firm that is the leader in its sector determines the price of goods or services. This approach can leave the leader's rivals with little choice but to follow its lead and match these prices if they are to hold onto their market share.”

Availability

We think what we know already.



Aalto-yliopisto
Aalto-universitetet
Aalto University

Availability heuristic

During decision-making **people give preference to information and events that are more recent, that were observed personally or were more memorable.** This is because memorable events tend to be more magnified and are likely to cause an emotional reaction.

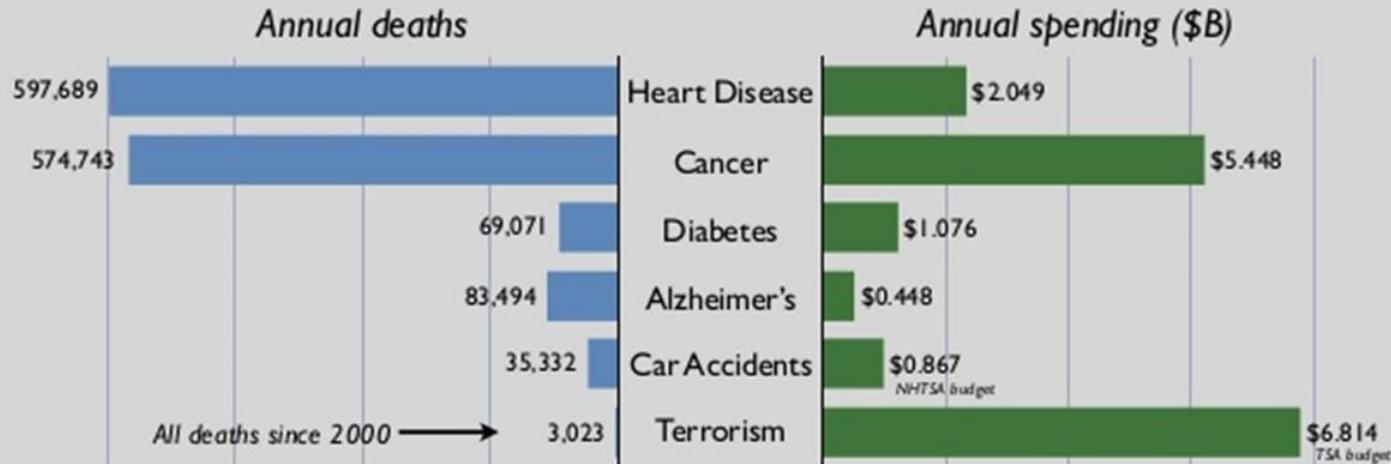
“If I can recall it, I’ll assume its probability is very high, OR that it is more important than it is”

What comes to mind quickly is deemed significant – sometimes incorrectly



The problem with availability heuristic is that sometimes it makes us jump to wrong conclusions and actions...

Availability heuristic Deaths vs. Dollars



... or we get **distorted answers** in our questionnaires:

Correlation between dating and happiness (in Nudge)

- a) How happy are you?
- b) How often are you dating?

No correlation
between
dating and
happiness

- a) How often are you dating?
- b) How happy are you?

Correlation
between
dating and
happiness

Representativeness and representation



Aalto-yliopisto
Aalto-universitetet
Aalto University

“Think of it as the similarity heuristic”

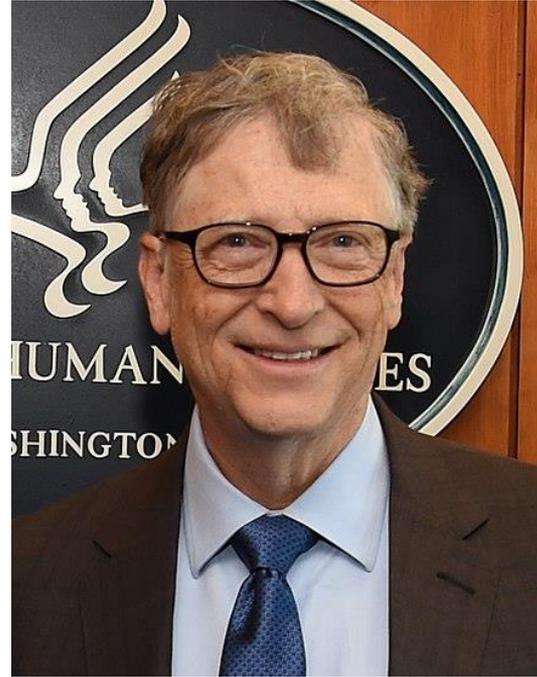
Representativeness

The third of the original three heuristics bears an unwieldy name: representativeness. Think of it as the similarity heuristic. The idea is that when asked to judge how likely it is that A belongs to category B, people (and especially their Automatic Systems) answer by asking themselves how similar A is to their image or stereotype of B (that is, how “representative” A is of B). Like the other two heuristics we have discussed, this one is used because it often works. We think a 6-foot-8-inch African-American man is more likely to be a professional basketball player than a 5-foot-6-inch Jewish guy because there are lots of tall black basketball players and not many short Jewish ones (at least not these days). Stereotypes are sometimes right!



But also this heuristic can cause false conclusions and lead to biases...

Who graduated from Harvard?



Other concepts



Aalto-yliopisto
Aalto-universitetet
Aalto University

Optimism and Overconfidence

90% of all drivers think they are above average behind the wheel. And nearly everyone (including some who are rarely seen smiling) thinks he has an above-average sense of humor.

“50% of marriages end in divorce? Well, that does not apply to us. We will stay together forever!”



“ 50% of marriages end in divorce? Well, that does not apply to us. We will stay together forever!”

Gains and Losses

People hate losses (and their Automatic Systems can get pretty emotional about them). Roughly speaking, **losing something makes you twice as miserable as gaining the same thing makes you happy**. In more technical language, people are **“loss averse.”**

“*Heads you win \$X, tails you lose \$100. How much does X have to be for you to take the bet?*”

Status Quo Bias

People have the tendency to stick with their current situation.

- Most students are always sitting on the same seats in class

This bias can easily be exploited by marketers.

- “free” month magazine subscriptions

Default mode

The combination of loss aversion with mindless choosing implies that if an option is designated as the “default,” it will attract a large market share.

Default options thus act as powerful nudges.

Jeans a default mode?

Thank you!



Aalto-yliopisto
Aalto-universitetet
Aalto University