



# Food safety and risk perception: a look inside consumer mind

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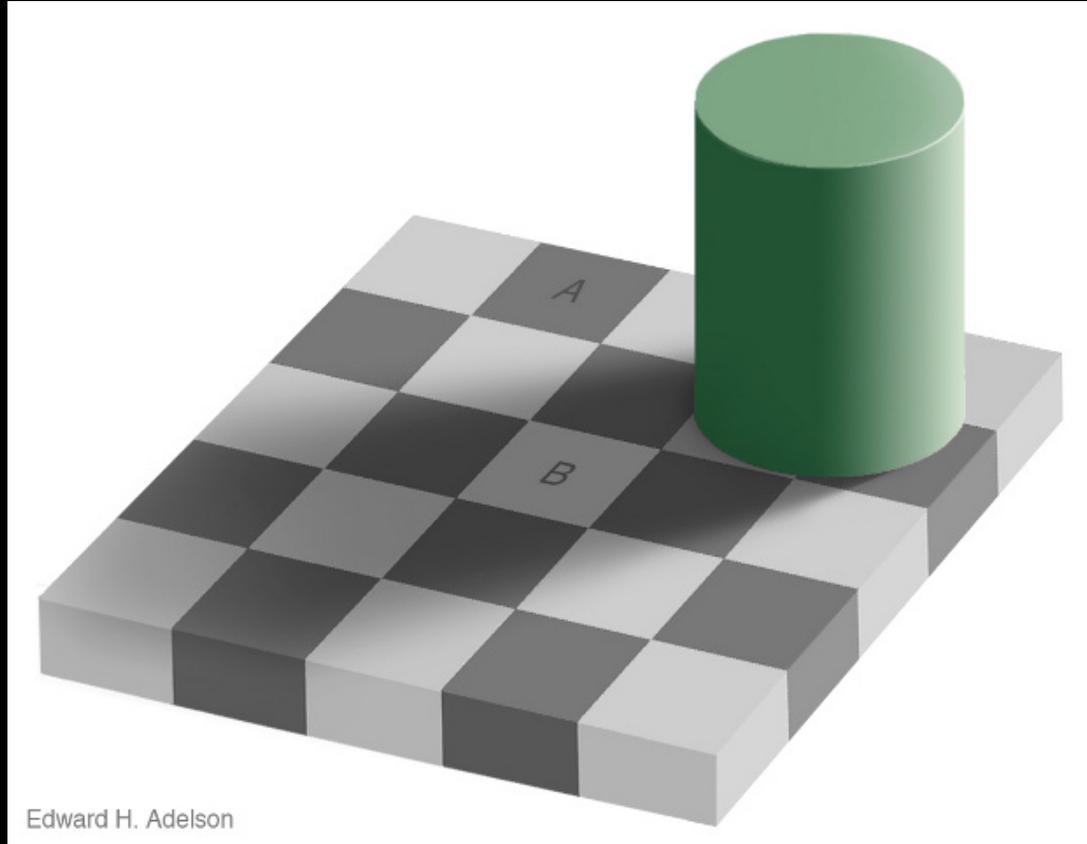
# AIM

## Risk Perception Gap



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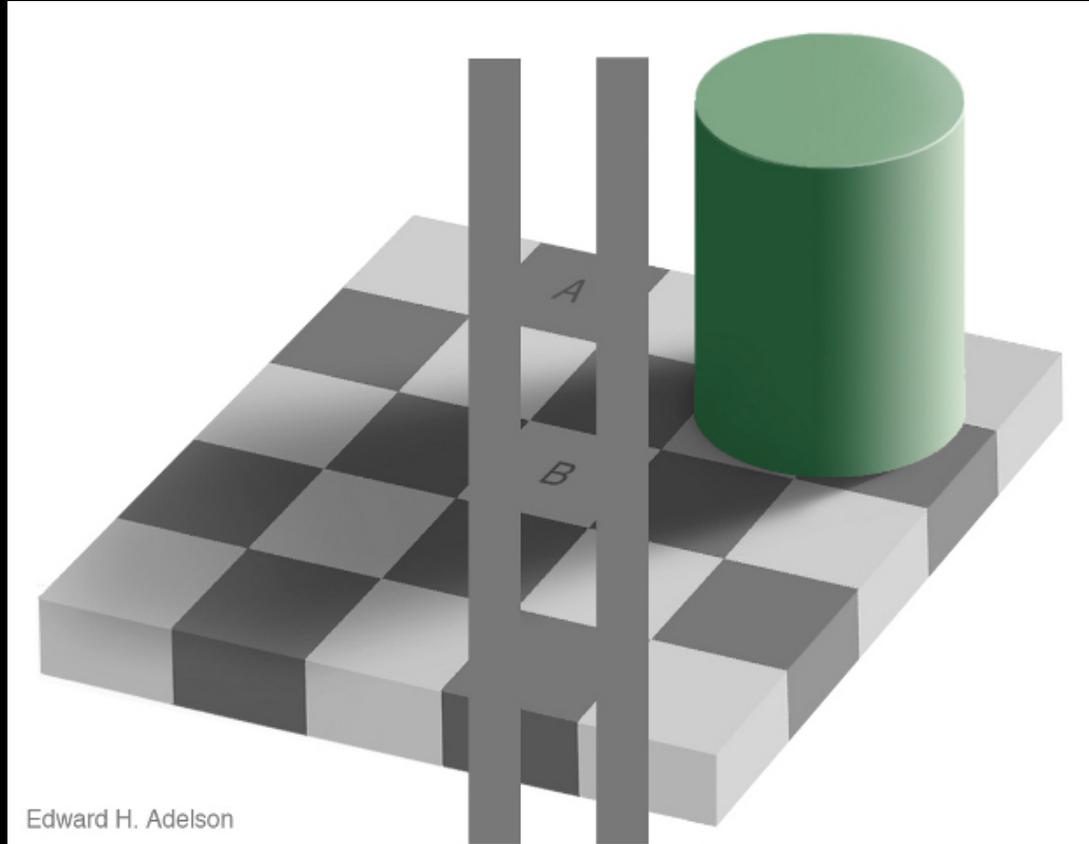


Edward H. Adelson



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# Risk Perception Gap....

That is to say

In terms of safety, do you prefer  
to travel by car, by plane or...?



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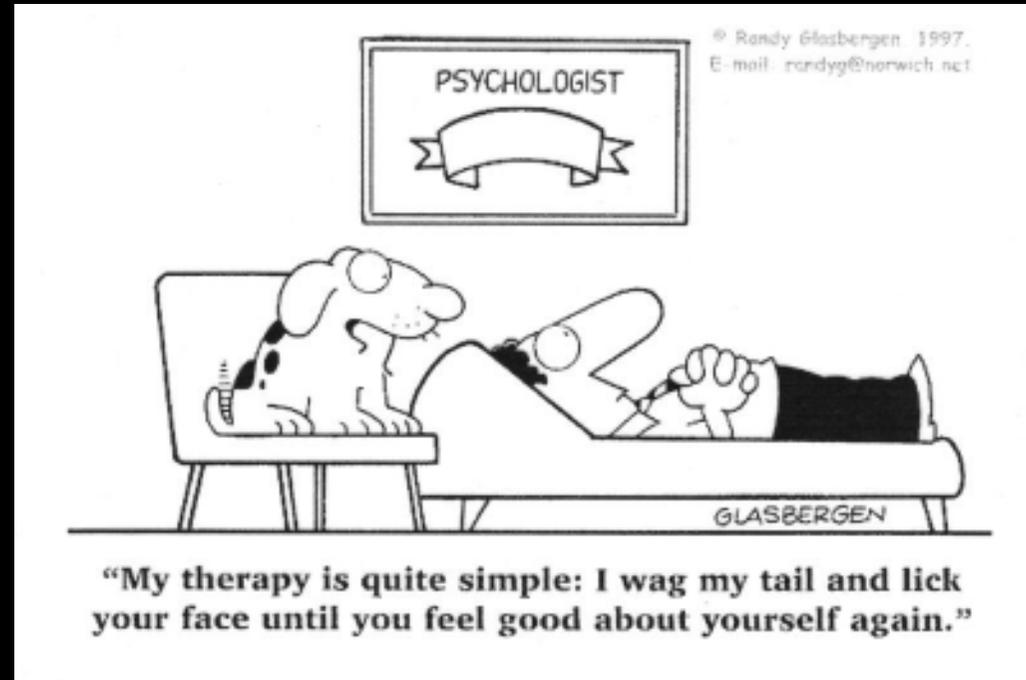
# Main Aims

- Premise: Psychology as a behaviour science
- From Rationale Choice Theory to Bounded Rationality Theory
  - Prospect Theory
  - Sandman's model
- Risk Perception: Heuristics and Biases
  - Slovic's model





# Premise: Psychologists as behaviour experts



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# Rationale Choice Theory

What an agent does on any given occasion is completely determined by her beliefs and desires/values

The orthodox normative decision theory, expected utility (EU) theory, essentially says that, in situations of uncertainty, one should prefer the option with greatest expected desirability or value (Savage )



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# Rationale Choice Theory



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# Rationale Choice Theory



**Decision making does not occur in a vacuum, but rather it involves social agents and it calls for a circular explanation (think about a food recall)**



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# Bounded Rationality Theory

Rationality is bounded because there are limits to our thinking capacity, available information, and time (Simon, 1982).

Bounded rationality is similar to the social-psychological concept that describes people as “cognitive misers” (Fiske & Taylor, 1991) and represents a fundamental idea about human psychology that underlies behavioral economics.

**A lot of times choices are based on heuristics and biases**

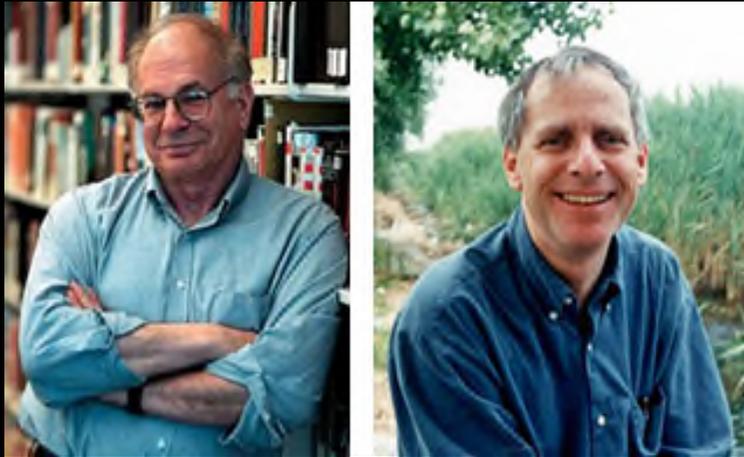


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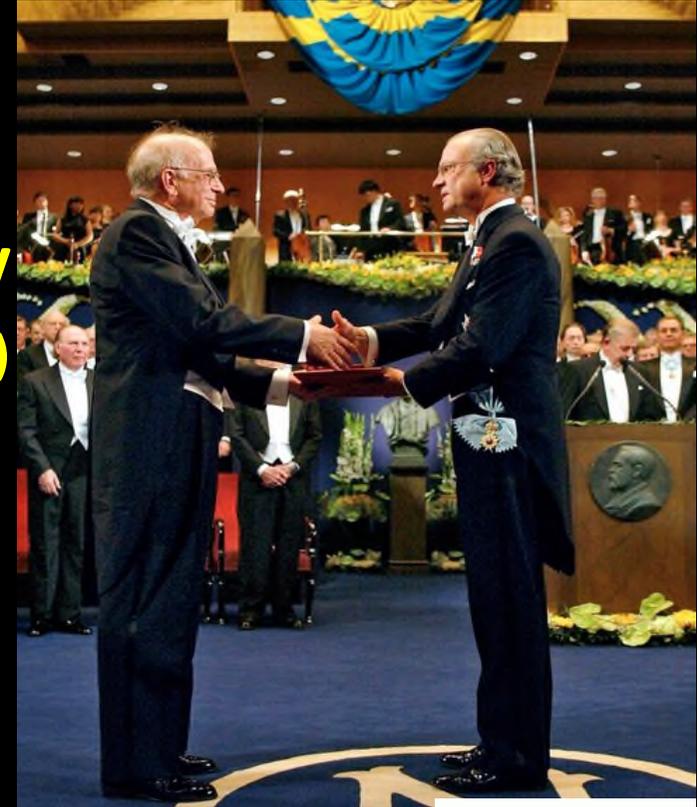




# Bounded Rationality Theory



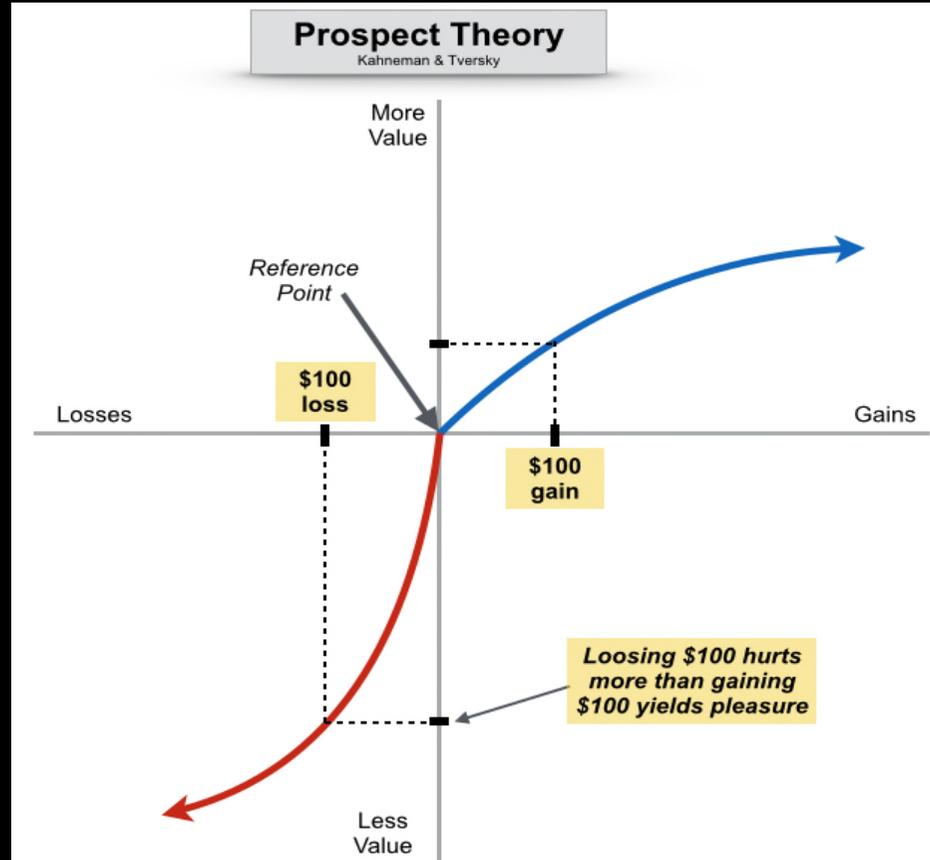
## Prospect Theory (Kahneman- Tversky)



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# Prospect Theory : Risk Perception



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# Risk Perception: Prospect Theory

According to the Prospect Theory before the real decision making there is a phase devoted to information management during which lay people «organize» the following moves.

In this sense, the way by which an info is provided and framed is essential, being able to impact on subjective interpretation.

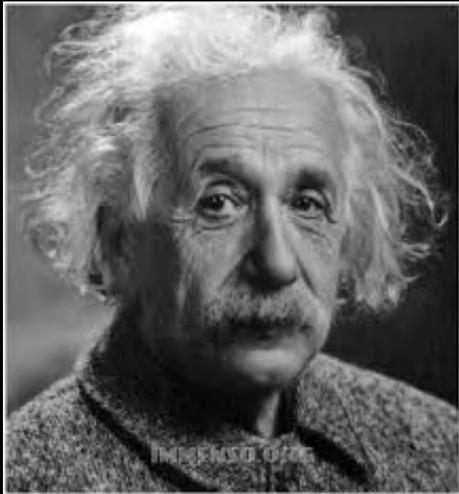


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# Risk Perception: what scientists and lay men think about

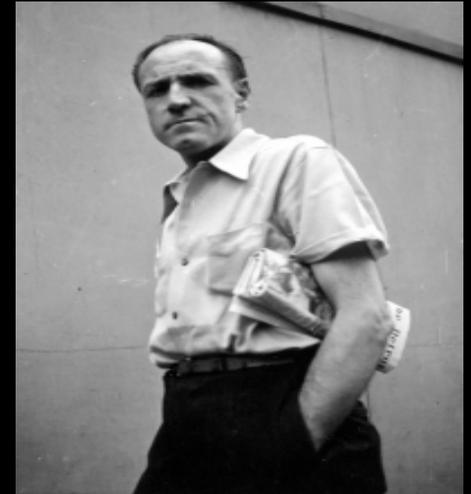


**Risk**

**=**

**Hazard + Outrage**

**(Sandman, 1997)**

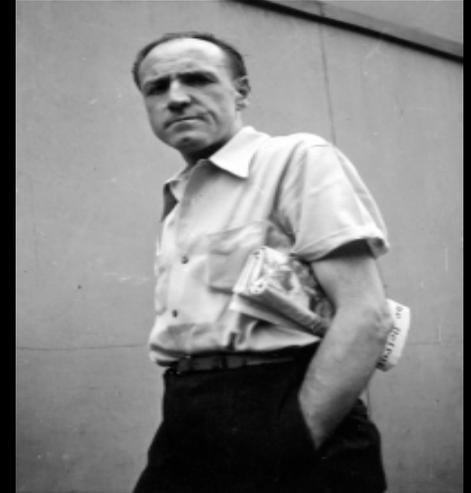
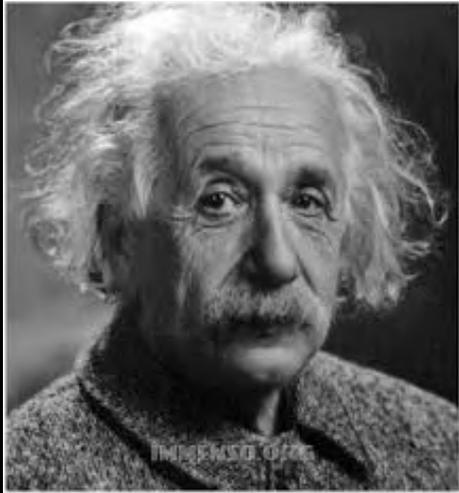


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# Risk Perception: what scientists and lay men think about



**Common people pay little attention to the hazard side of risks, while experts completely ignore the outrage side**

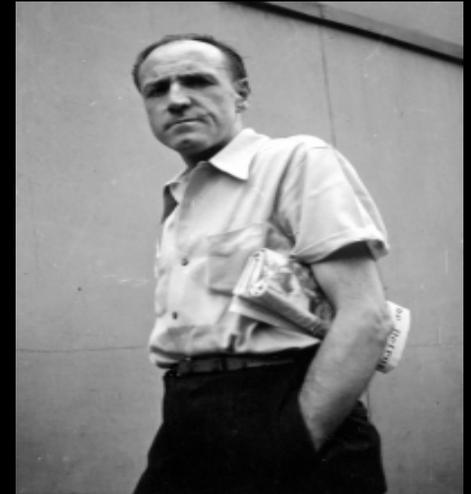
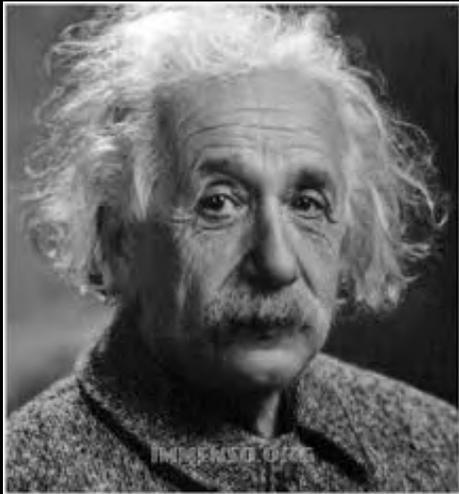


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# Risk Perception: what scientists and lay men think about



**On one hand there is the experiential paradigm (olistic and emotionale) and on the other one the analitic one (Zajonc, 1980)**

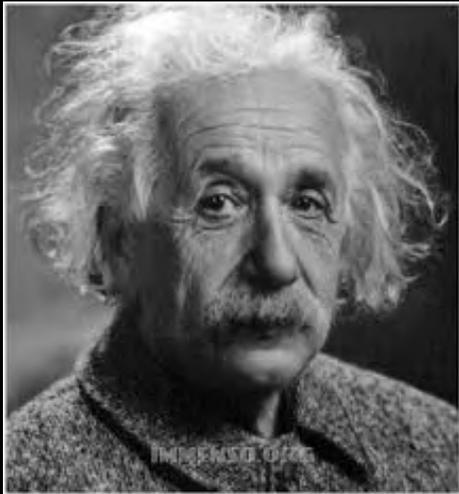


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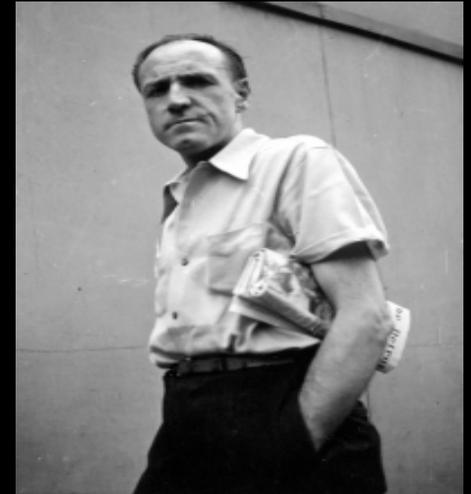




# Risk Perception: Prospect Theory



**2 parallel stairs  
(Sandman, 1987)**



**Smoking  
Diet**



**OGM  
Vaccines**



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# Risk Perception: how to mind the gap

**Think about smoking, where the main aim of risk communication is to augment the lay man's outrage**

<https://video.repubblica.it/mondo/usa-morta-di-cancro-terrie-testimonial-contro-il-fumo/140224/138759>



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# Risk Perception: how to mind the gap

**On the other hand, when outrage in lay man is great without a real scientific support, the main aim of risk communication is reassuring (of course not in a direct way)**



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# Bounded Rationality Theory

Availability Heuristic

Confirmation Bias

Framing Effect

Omission Bias

Anchoring



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# Heuristics and Biases

## Availability Heuristic

Istat annual report on death causes



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# Heuristics and Biases

Quien tiene la voluntad, gana la guerra (Mitsunari)

## EL MUNDO

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El presidente del Gobierno dice que puede perfectamente lo que tiene que hacer el país: mejorar la financiación de España / Pág. 30 y 4 (columna 1)

**El entorno de Garzón maniobró para intentar aplazar el juicio de las escuchas**

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### El testaferrero de Urdangarin

El duque de Palma y su socio contrataron a un panameño como 'hombre de paja' en Bélgica

**ESTERNA ARGENTINA**  
CÓRDOBA, 12 de enero. El juez federal Juan José Urdangarin, quien fue nombrado en su momento por el presidente Carlos Menem para ser el testaferrero del duque de Palma, se encuentra en Bélgica. El juez argentino fue contratado por el duque de Palma para que actuara como intermediario entre el duque y un panameño que actuó como 'hombre de paja' en Bélgica. El juez argentino fue contratado por el duque de Palma para que actuara como intermediario entre el duque y un panameño que actuó como 'hombre de paja' en Bélgica.

LA DOMENICA CULT

La vigilia di Giorgio "In Platano" in edicola con Repubblica

Speak now! For Work in edicola con Repubblica

La settimana Martin Amis "Trafico e i leggendari Loft" in edicola con Repubblica

## la Repubblica

la Repubblica

la Repubblica

### La crociera della morte, 41 dispersi

Due voci nella notte: "Venetia a salvare". Arrestato il capitano della Concordia. "Ha sbagliato, poi è fuggito"

**QUELLEVERITÀ SCOMODE ELECOMODEBUGIE**

**La evacuación fue un caos, fue el sálvese quien pueda'**

Detenido el capitán del crucero que naufragó en Italia / Hay tres muertos y 41 desaparecidos, entre ellos tres españoles

**BRUNO DE LUCA / ROMA**

Una evacuación en salvas salvas: el caos de la Concordia. El capitano, el sálvese quien pueda.

**BRUNO DE LUCA / ROMA**

Una evacuación en salvas salvas: el caos de la Concordia. El capitano, el sálvese quien pueda.

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Una evacuación en salvas salvas: el caos de la Concordia. El capitano, el sálvese quien pueda.



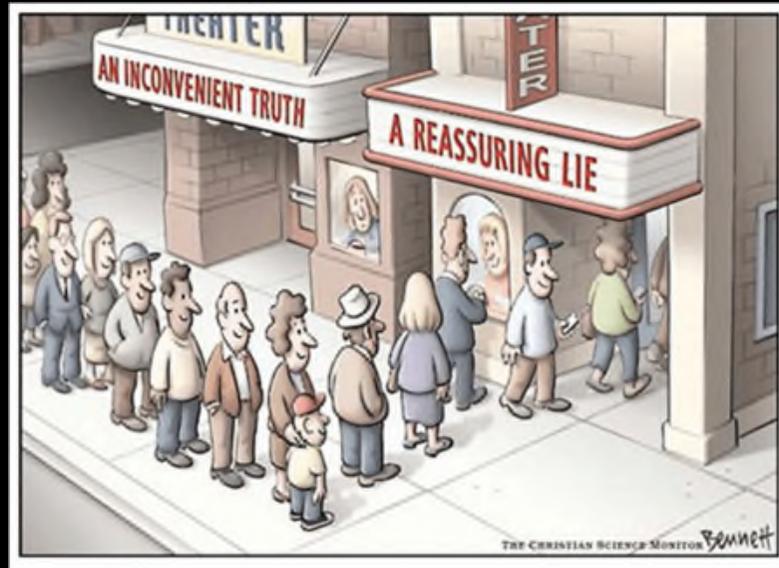
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# Heuristics and Biases

## Confirmation Bias

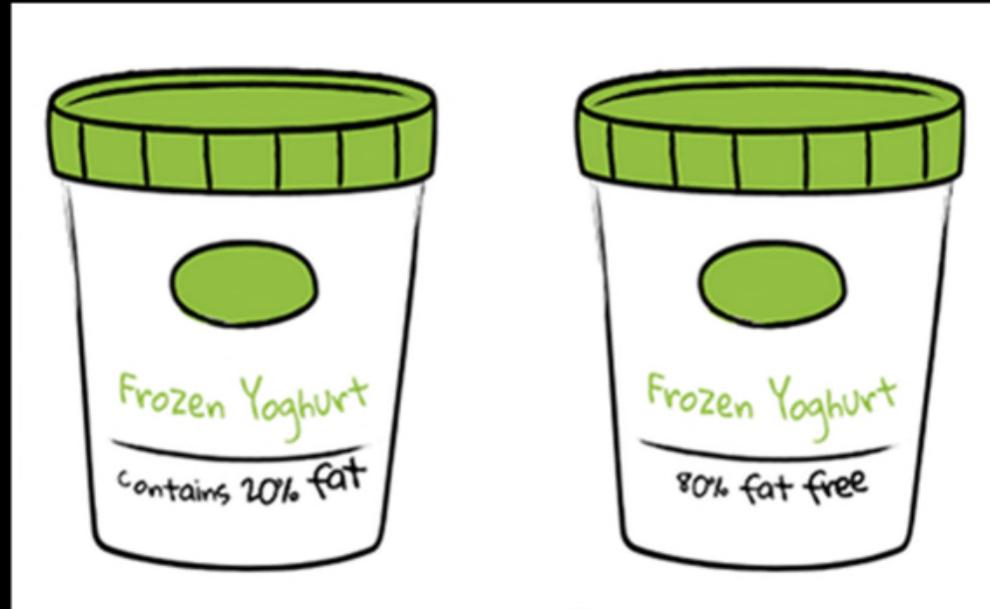


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# Heuristics and Biases: Framing Effect



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# Heuristics and Biases: Framing Effect



«Recent work by cognitive psychologists on the framing of decision problems indicates that the characterization of outcomes in terms of the probability of survival rather than the probability of death can have a substantial effect on people's preferences»

(McNeil, Paulker, Sox e Tversky, 1982)

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# Heuristics and Biases: Framing Effect

Smoking when praying



Is different from

Praying when smoking



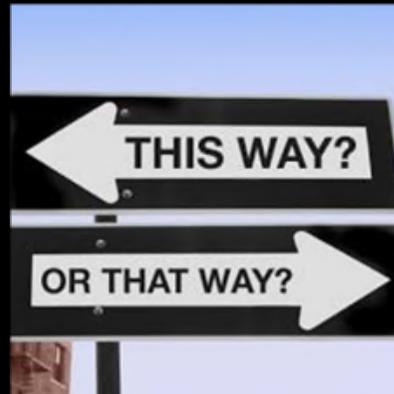
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# Omission bias

**A very interesting category of decision is related to the choice of deciding vs doing nothing**



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# Omission bias

It is the tendency to judge harmful actions as worse, or less moral than equally harmful omissions (inactions) (Ritov & Baron, 1990)

**Typical omission biases refer to....**



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# Omission bias

vaccines



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# Anchoring

**That is to say ...is the tallest tree in the world more or less than 200 mt?**



**....and what about the initial Ipad price??**

<https://www.youtube.com/watch?v=KN-5zmvjAo>



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# Anchoring

## Silver Medal Effect



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# Psychometric model of risk perception (Slovic and coll.)



Risk is defined in subjective terms (personal history, emotions, culture may play a role)

The challenge is understanding for different targets the trade-off





# Slovic's Matrix

Personal exposure;

Voluntary exposure;

Collective exposure;

Familiarity vs new risks;

Control;

Severe negative consequences;

Harmful to humans and/or to environment;

Precise scientific and personal knowledge;

Risky for future generations



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# Social amplification of risk (Kasperson, Renn, Slovic et al., 1988)

Mass Media

New Media

Active Minorities (es. novax)



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# Risk perception and communication: a matter of trust



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# OUTRAGE demo

<http://www.psandman.com/outrage.htm>



Cortini, M. «La percezione del rischio: il fulcro della comunicazione», Roma, Ministero della Salute, 28 febbraio 2018

