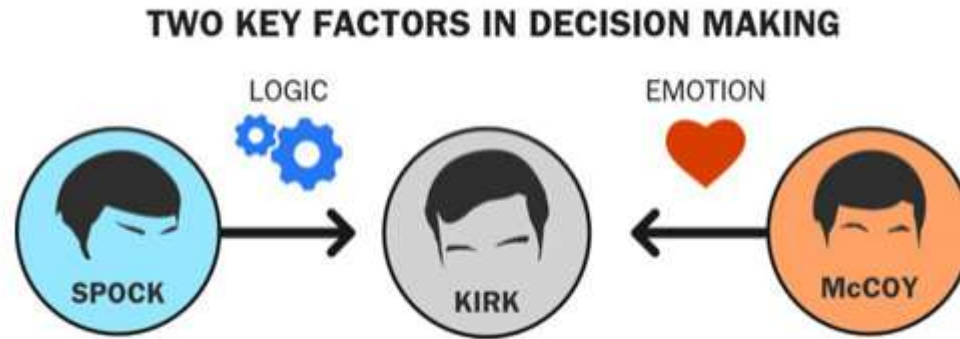


# Data story telling – Psychology

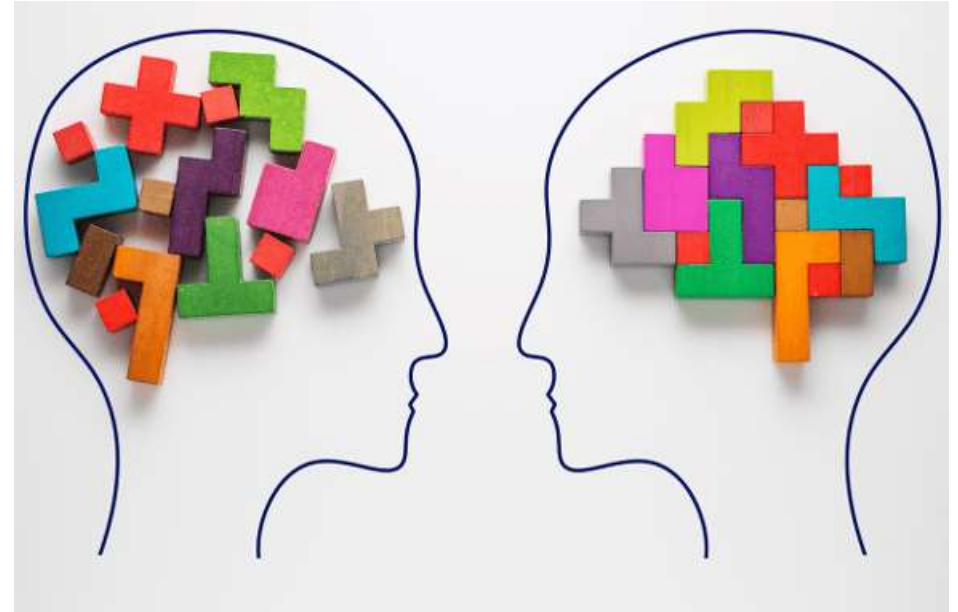
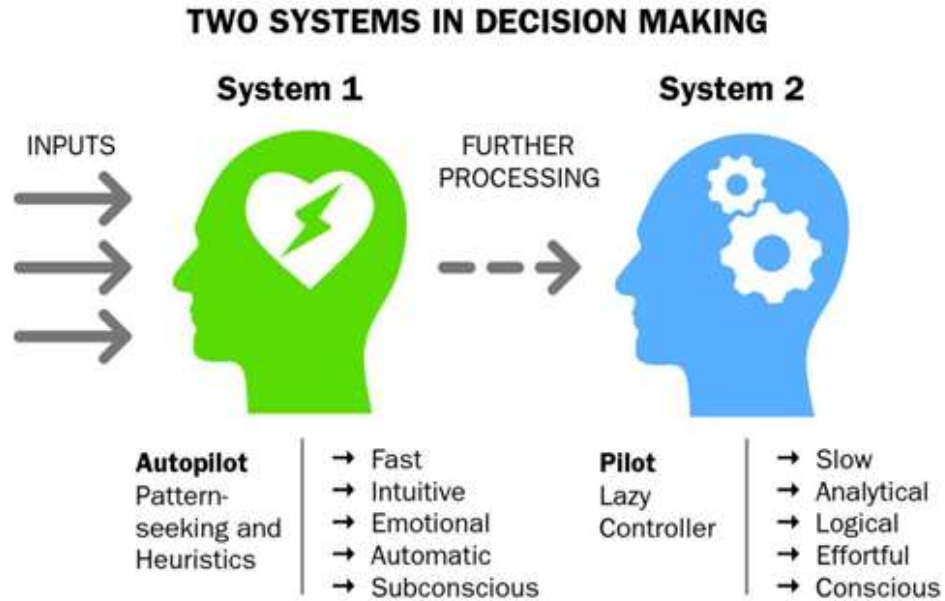
Stories not only give us a much-needed practice on figuring out what makes people tick, they give us insight into how we tick.

## **Most Decisions Are Not Based on Logic**



“I continue to be fascinated by the fact that feelings are not just the shady side of reason, but that they help us to reach decisions as well”

# Human mind is comprised of two cognitive subsystems



With System 1 serving as our intuition, we often underestimate its influence over our decision making.

**“A bat and a ball cost \$1.10  
in total. The bat costs \$1.00  
more than the ball. How much  
does the ball cost?”**

# *Bat and Ball cost 1.10*

Let  $X$  be the value of ball.

Bat costs 1\$ more than ball.

Cost of bat + cost of ball = \$1.10



$X + \$1$

“A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost?”

$$(X + 1) + X = 1.10$$

$$2X + 1 = 1.10$$

$$2X = 1.10 - 1$$

$$2X = 0.10$$

$$X = 0.05$$

One of the unique talents of the System 1 is its ability to weave scattered fragments of information into stories to help give them meaning. To illustrate how quickly your mind can generate narrative with only a limited amount of information,

1. For sale: Baby shoes, never worn.
2. Our bedroom. Two voices. I knock.
3. Paramedics finished her text, “. . . love you.”

Each of these short phrases is an example of a “six-word story.”

System 1 attempts to connect everything together into tidy, plausible narratives.



Incorrect or missing information will not impede our brain's attempts at jumping to conclusions and seeking to assemble coherent narratives.





## **How We React to Facts**

There are no facts, only  
interpretations.

Lets see an example for how we respond differently to data depending on whether we agree or disagree with what's being shared

When our bathroom scale delivers bad news, we hop off and then on again, just to make sure we didn't misread the display or put too much pressure on one foot. When our scale delivers good news, we smile and head for the shower. By uncritically accepting evidence when it pleases us, and insisting on more when it doesn't, we subtly tip the scales in our favor. (Gilbert 2006)

## How We React to Stories

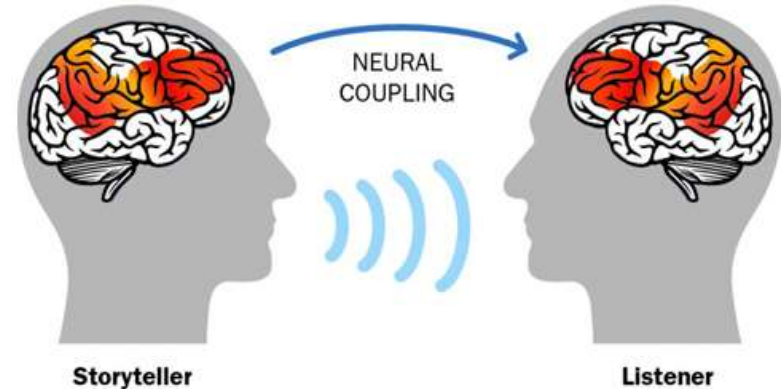
The human mind is a story processor, not a logic processor

### COMMUNICATION FORMATS AND BRAIN ACTIVATION



Facts will only activate the Broca's and Wernicke's areas that are associated with language processing. However, a story can light up multiple sensory-related areas of the brain.

### NEURAL COUPLING SYNCHRONIZES THE LISTENER WITH THE STORYTELLER

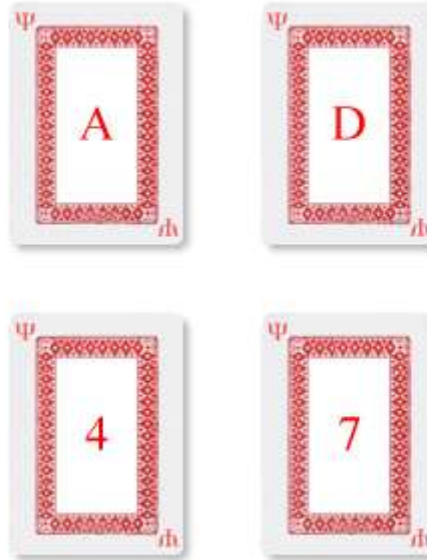


when we share stories with others, neural coupling occurs in which the listener's brain activity mirrors that of the storyteller's. Storytelling enables us to connect with an audience and transmit ideas to them more effectively.

Stories can also help an audience make sense of logic that may be difficult to follow or comprehend.

### The Famous Four Card Task

Suppose each card has a number on one side and a letter on the other. Which of these cards are worth turning over if you want to know whether the statement below is false?



**"If a card has a vowel on one side,  
then it has an even number on the other side."**