Introduction to The Two Systems of Mind

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Selective Attention Test from Simons & Chabris (1999)
Observe the mind in the automatic mode

- Look at this woman’s face. What do you know about her?
Observe the mind in the automatic mode

- Her hair is black
Observe the mind in the automatic mode

- Her hair is black
- She is angry
Observe the mind in the automatic mode

* She is about to say some unkind words
Observe the mind in the automatic mode

- She is about to say some unkind words
- in a loud voice
Observe the mind in the automatic mode

- Her hair is black; she is angry, and is about to say some unkind words in a loud voice
Observe the mind in the automatic mode

- Her hair is black; she is angry, and is about to say some unkind words in a loud voice.
- Your reaction to this picture does not have the feeling of something you have done.
Observe the mind in the automatic mode

- Her hair is black; she is angry, and is about to say some unkind words in a loud voice.
- Your reaction to this picture does not have the feeling of something you have done.
- It just happens to you automatically.
Observe the mind in the automatic mode

- Her hair is black; she is angry, and is about to say some unkind words in a loud voice.
- Your reaction to this picture does not have the feeling of something you have done.
- It just happens to you automatically.
- This is an example of fast thinking.
Observe the mind in the slow mode

- Now please compute $17 \times 24$
Observe the mind in the slow mode

- Now please compute $17 \times 24$
- You may know the range of the answer
Observe the mind in the slow mode

- Now please compute $17 \times 24$
- You may know the range of the answer
- You may know 12,609 and 123 are wrong answers
Observe the mind in the slow mode

- Now please compute $17 \times 24$
- You may know the range of the answer
- You may know 12,609 and 123 are wrong answers
- Without spending some time, you would not know the answer is not 568
Observe the mind in the slow mode

- You first retrieve from the memory the cognitive program for multiplication, then you implement $17 \times 24$
Observe the mind in the slow mode

- You first retrieve from the memory the cognitive program for multiplication, then you implement $17 \times 24$
- You feel the burden of holding much material in memory
Observe the mind in the slow mode

- You first retrieve from the memory the cognitive program for multiplication, then you implement $17 \times 24$
- You feel the burden of holding much material in memory
- You need to keep track of where you are, and of where you are going
Observe the mind in the slow mode

- You first retrieve from the memory the cognitive program for multiplication, then you implement $17 \times 24$
- You feel the burden of holding much material in memory
- You need to keep track of where you are, and of where you are going
- You need to hold on to the intermediate result
Observe the mind in the slow mode

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- **This mental process is deliberate, effortful, and orderly**
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- You need to hold on to the intermediate result
- This mental process is deliberate, effortful, and orderly
- **This is a prototype of slow thinking**
Two Systems of The Mind

- System 1 works automatically, effortlessly, quickly, no sense of control
Two Systems of The Mind

- System 1 works automatically, effortlessly, quickly, no sense of control
- System 2 needs attention, effortful mental activities, follows rules, and works slow and lazy
Sample Functions of System 1

- Detect that one object is more distant than another
Sample Functions of System 1

- Detect that one objects is more distant than another
- Orient to the source of a sudden sound
Sample Functions of System 1

- Detect that one objects is more distant than another
- Orient to the source of a sudden sound
- Complete the phrase “bread and ...”
Sample Functions of System 2

- Brace for the starter gun in a race
Sample Functions of System 2

- Brace for the starter gun in a race
- Focus attention on the clowns in the circus
Sample Functions of System 2

- Brace for the starter gun in a race
- Focus attention on the clowns in the circus
- Focus on the voice of a particular person in a crowded and noisy room
System 1 or System 2?

- Make a “disgust face” when shown a horrible picture
System 1 or System 2?

- Make a “disgust face” when shown a horrible picture
- System 1
System 1 or System 2?

- Look for a woman with white hair
System 1 or System 2?

- Look for a woman with white hair
- System 2
Answer to $2 + 2 = ?$

- System 1
System 1 or System 2?

- Answer to $2 + 2 = ?$
- System 1
System 1 or System 2?

- Drive a car on an empty road
System 1 or System 2?

- Drive a car on an empty road
  - System 1
System 1 or System 2?

- Park in a narrow space
System 1 or System 2?

- Park in a narrow space
- System 2
System 1 or System 2?

- Maintain a faster walking speed than is natural for you
System 1 or System 2?

- Maintain a faster walking speed than is natural for you
- System 2
System 1 or System 2?

- Understand simple sentences
System 1 or System 2?

- Understand simple sentences
- System 1
System 1 or System 2?

- Tell someone your telephone number
System 1 or System 2?

- Tell someone your telephone number
- System 2
System 1 vs. System 2

- System 1 is the hero, generates surprisingly complex patterns of ideas.
System 1 vs. System 2

- System 1 is the hero, generates surprisingly complex patterns of ideas
- Only the slower System 2 can construct thoughts in a meaningful steps.
System 1 vs. System 2

- System 1 is the hero, generates surprisingly complex patterns of ideas.
- Only the slower System 2 can construct thoughts in a meaningful steps.
- System 2 has the ability to change the way System 1 works, by programming automatic functions of attention and memory.
You are driving on a narrow empty road very fast, and talking with your partner.
You are driving on a narrow empty road very fast, and talking with your partner.

Suddenly, a slow tractor is in front of you. And you want to overtake this tractor.
You are driving on a narrow empty road very fast, and talking with your partner.

Suddenly, a slow tractor is in front of you. And you want to overtake this tractor.

You will stop singing, and become deaf temporarily and will not hear what your partner says.
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Check your Quiz Result

Selective Attention Test

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from Simons & Chabris (1999)
“We can be blind to the obvious, and we are also blind to our blindness” – Daniel Kahneman