



ascento

ELEVATING PEOPLE  
& ORGANIZATIONS



**Your brain on track! Experimenting the link between  
Cognition and Safety**

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# WELCOME



**Frédérique JOUARE**  
**Senior Consultant**



**Tshika MFUNI**  
**Senior Consultant**

A brass compass with its lid open, resting on a map. The compass is positioned in the lower-left corner of the slide, with its lid flipped to the left. The map shows a grid of latitude and longitude lines. The background of the slide is a light blue gradient.

# Presentation

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CogniReact is a unique concept encouraging your co-workers to switch from automatic behaviors to analytical processes. It focuses on increasing attention and vigilance in employees.

CogniReact is based on neuroergonomics and stimulates the gradual transformation of our behavior towards a more optimal, and conscious, functioning of the brain.

1. Digital games and test to measure your level of alertness, perception and reaction time.
2. Fun training(s) to understand and master your reflexes and automatic behavior pathways in order to prevent accidents and workplace errors.

# Introduction

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We're still often wondering, why do people with experience continue to make mistakes in the workplace?

Despite professional training, the right equipment and extensive procedures...

What if it's all about cognitive bias? What if, more precisely it is about automatic behaviors or attention span?

What if we learn to move away from unconscious actions to conscious action?

How about learning to understand which control buttons lead to behavior?

What about discovering the link between brain functionality and behavior patterns?





## Your brain is playing tricks on you!

Discover in a fun way exactly how to avoid these traps with CogniReact.

Learn how to implement safety precautions to avoid cognitive bias and reduce the risk of errors and accidents at work.

Adopt safe behaviors when faced with risky situations.

# Changer les comportements

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Voluntary behaviours= Know- Want-Power= **WANT**

When the act is deliberate, in all conscience= **FAULT**

➤ Management

➤ Ask for our Management  
Training

Unintentional behaviours = When our brain does not produce  
the expected, unconsciousness = **ERROR**

➤ Individual

➤ **CogniReact**

Try out our tests and see how fast you  
respond to stimuli





# Test 1: observation speed

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## Measure

- Visual memory
- Visual observation ability
- Attention
- Global overview and overview
- Observation speed



# Test 2: Responsiveness to different stimuli

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## Measure

Reactive performance and resistance

Respond quickly to various auditory and visual stimuli

Measures responsiveness in complex situations

Measures stress resistance



## Profil

Échantillon de référence représentatif



# Exercise 1

## Perception

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# Observe





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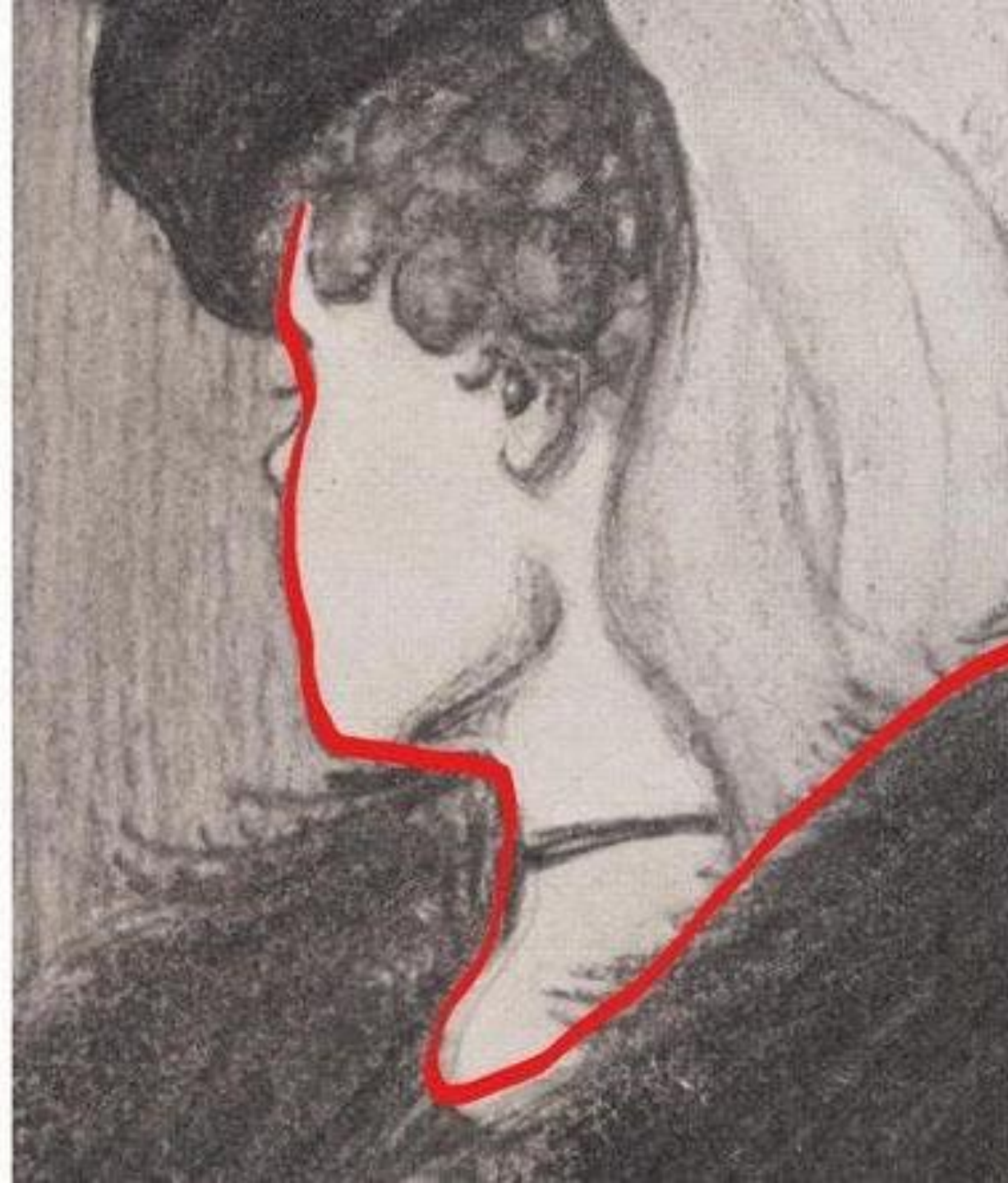
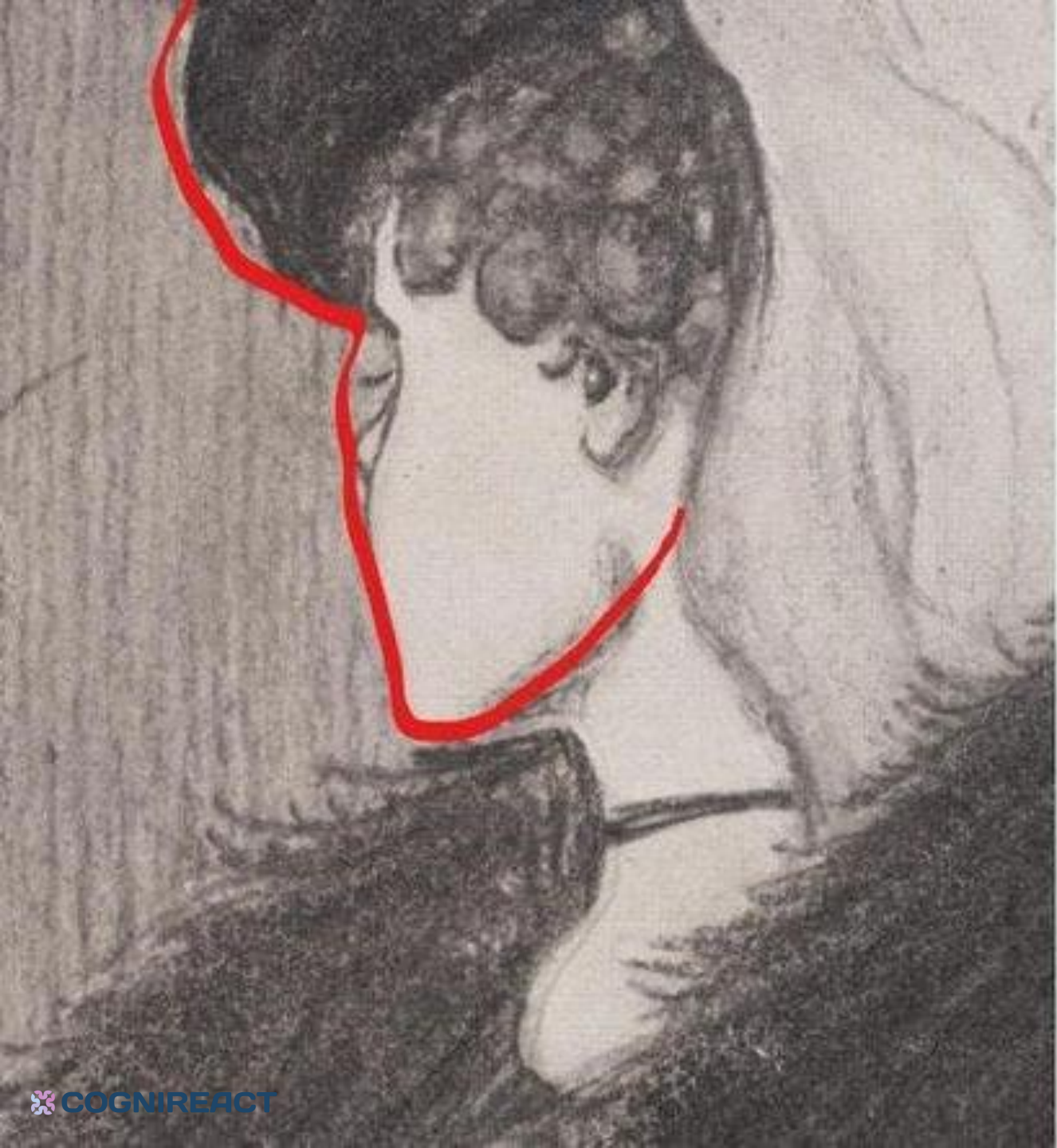


# Making mistakes is the norm

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-  Who see nothing?
-  Who see a young woman
-  Who see an old lady
-  Who see both







# Exercise 2

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# Exercise 3

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OOOPS!





# What's the difference between an error and a fault?

# Difference between errors and fault

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- Errors are unconscious
- Fault, violations are conscious and voluntary



# Is it an error or a fault?

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# Recap

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**What unconscious  
errors have you  
already made today?**



# Exercise 4

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# Exercise 5: The Crash



# The crash: instructions

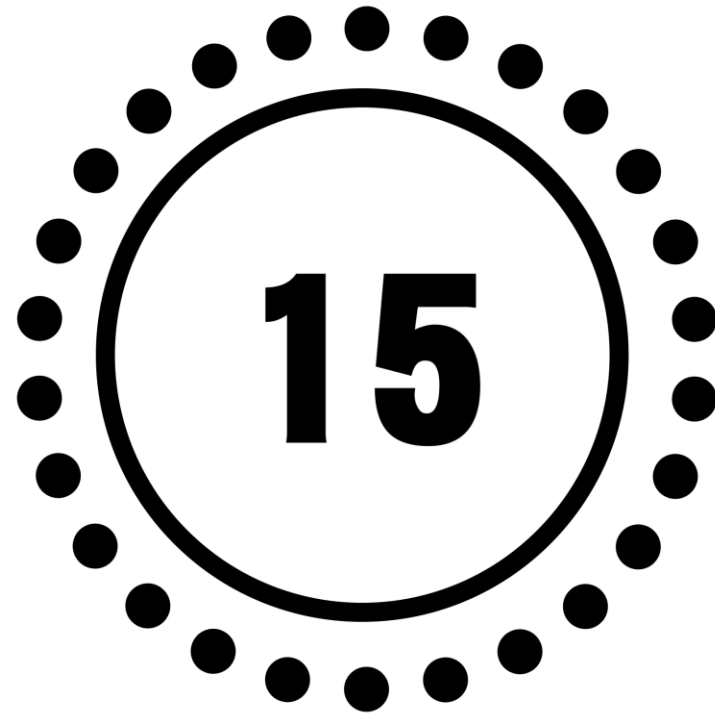
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1. This memory exercise is called 'The Crash'.
2. Take a sheet of paper and a pen.
3. I set my timer to 15 seconds.
4. You will see a rectangle with letters, characters and a sentence written in it.
5. You have 15 seconds to remember as much information as possible.
6. At the end of the 15 seconds, the slide disappears, and you have 1 minute to draw on your paper as well as possible what you have just seen.
7. Here we go.



# Clock

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# The Crash

TPI #####@@@@@@@@€€€€€€+++ ■ ▲

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**He witnessed a  
collusion between a  
a diver and the  
passenger.**

KX \_\_\_\_\_ \$\$

FBI !! \_\_\_\_\_ 911

# Debriefing

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Your brain has chosen for:

- Little mental preparation
- Focus on new information
- Playing on certainty
- An interpretation based on "believing what you see"





## Tool: Sensory triangulation

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The information is present, visible, very clear and... is not perceived because the reader reads what he/she thinks it says and not what it actually says.

Handle: the sensory triangulation  
(sight, sound, touch)



# Tool: Pre-job briefing

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You prepare, just before the start of the activity, by asking yourself the following questions:

- What is the expected result?
- What are the risks, even the most serious?
- What is my role and the roles of the others?
- What tools can we use?
- What situations are likely to lead to errors?

We use a checklist for this.



# Count the number of passes

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# Detective: who killed Lord Smithe?

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# What is attention?

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- **Uninterrupted attention:** The ability to keep attention focused on a stimulus for extended periods of time.
- **Selective attention:** The ability to keep attention focused on a specific stimulus or activity in the presence of other distracting stimuli.
- **Alternating attention:** The ability to alternately focus attention on two or more stimuli.
- **Shared attention:** The ability to focus attention on different stimuli simultaneously.

# Mathieu the paratrooper

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Mathieu, a 35-year-old experienced skydiver (he has jumped more than 800 times), must film the instructor and his student during their jump. Filming is not routine, but jumping is.

Mathieu the paratrooper jumps in front of the pair, equipped with a heavy camera. He then films the instructor's jump with his student, who are in tandem.

The paratrooper dies.

What happened?

Why?



# Tools

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- In cases where the error could be fatal, we call in a second person to cross-check
  - 4-eyes principle
- Validation of the action through gestures

 Shared vigilance

# The e-mail

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Leo has written an email intended for one of his most important clients. He rereads the email, checks the numbers and attachment, and sends the email.

Three days later, he opens the email again and rereads it. He realizes annoyed that he forgot to write down a word.

What made him forget this word?



# Typoglycemia?

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According to a research at Cambridge University, it doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be at the right place. The rest can be a total mess and you can still read it without problem. This is because the human mind does not read every letter by itself, but the word as a whole.

The pocile will arrest you because you misread the first word.

It is pyschological, because you have always misread the the second word in this sentence.

What makes me laugh is that you didn't notice a redundancy of 'the' in the previous sentence.

How about learning to take the time to read messeges properly? Because you've just read something other than "message".

In any case, I am off for a cholocate, otherwise you will think you have read chocolate.





Blue

Green

Yellow

Brown

Gray

Pink

Black

White

Red

Purple

Beige

Orange

# Maintenance work



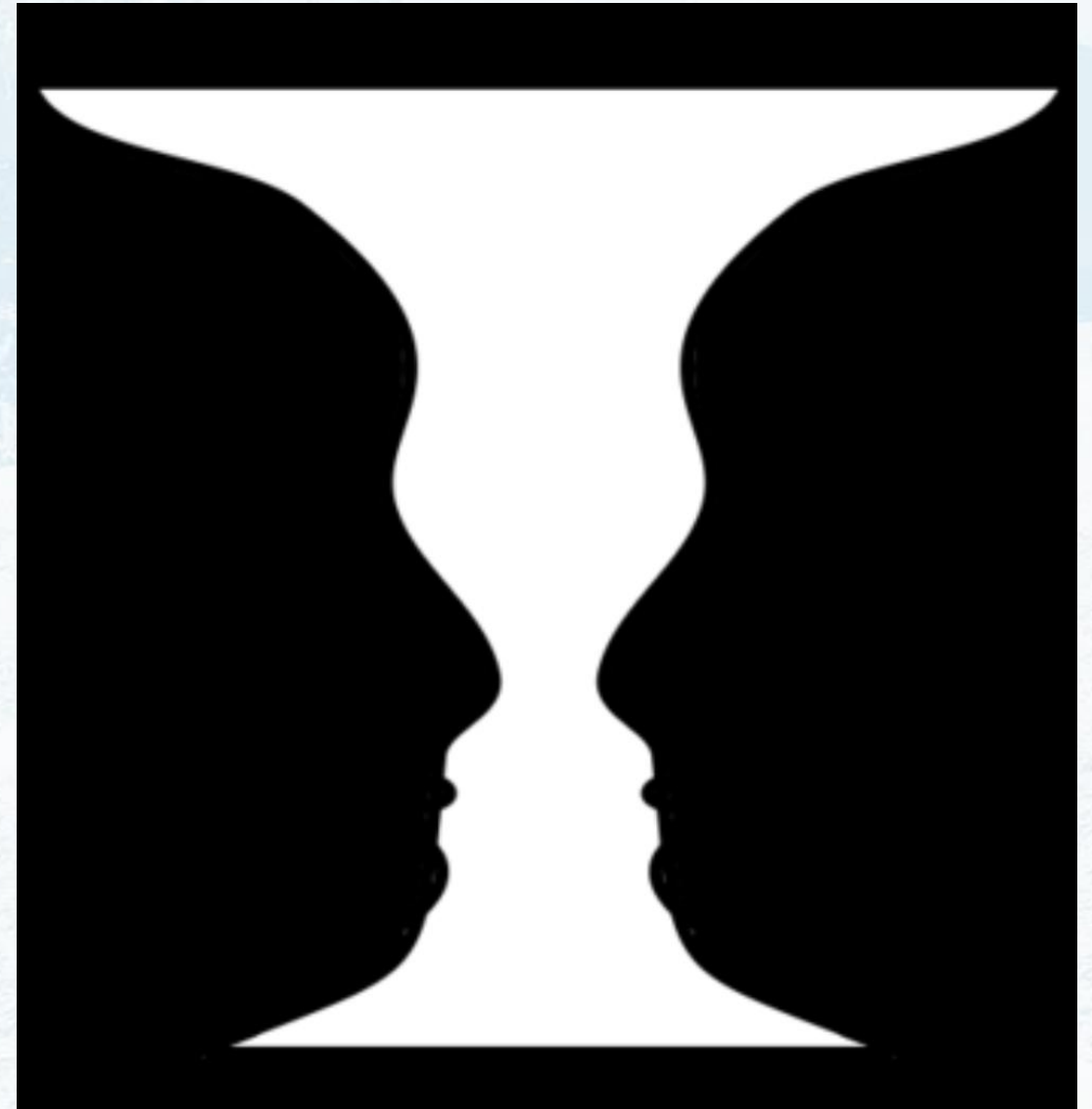
Christian goes to an installation. He has to cut a pipe on a circuit that has been ventilated beforehand. He knows exactly where to do the job. Building A has been undergoing maintenance for 2 months. The work has been planned for a long time. He has all the necessary work permits. He arrives at the work site. He prepares his tools and puts on his personal protective equipment. When he starts to cut the pipe, a jet of pressurised hot water shoots out. Fortunately, his eyes are protected by his equipment.

What happened?  
Why?

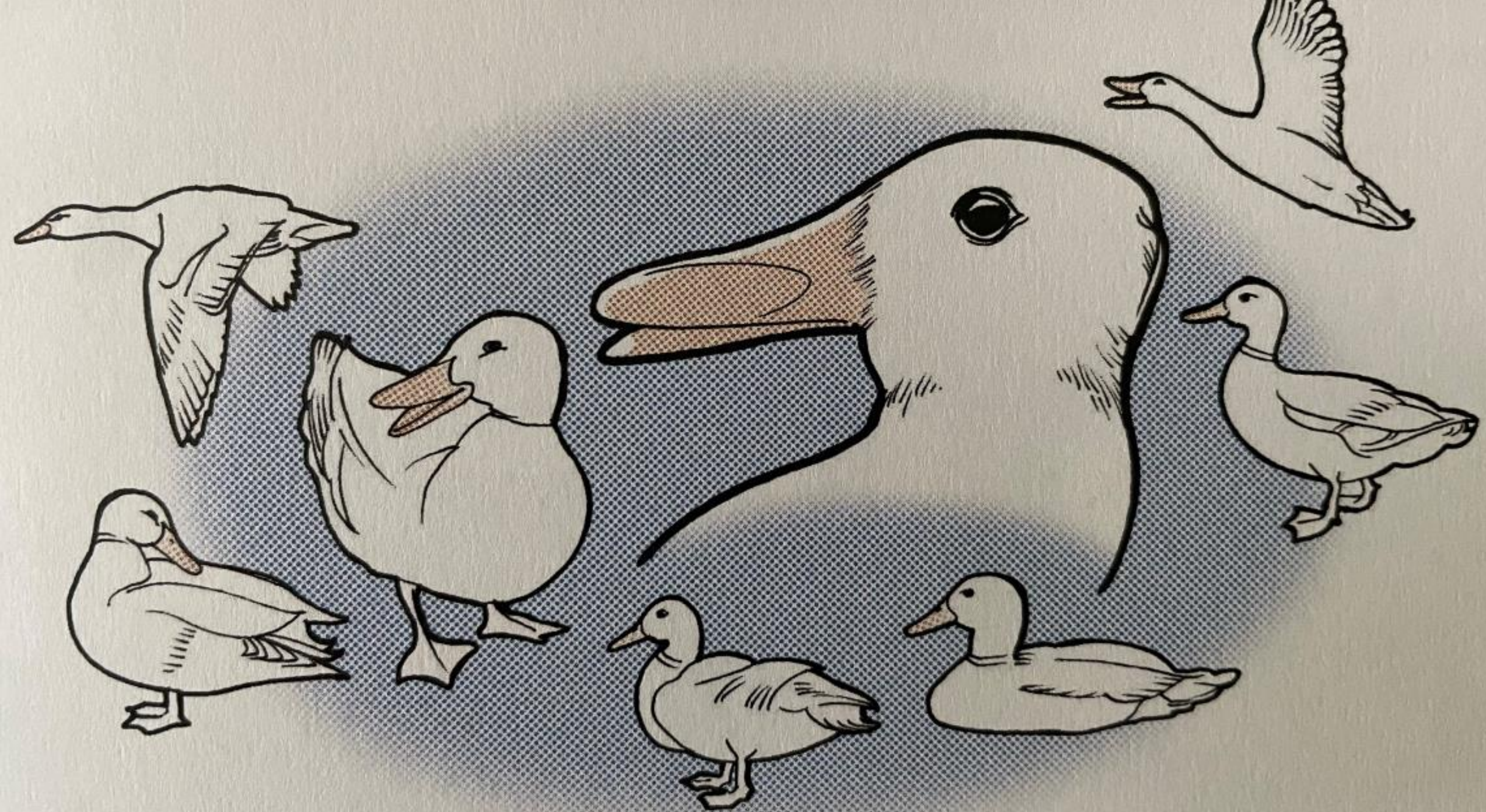


# Importance of context/environment

- Why is context important to my work?
- Per 3: consider the risks of misinterpretation/context











# Tools

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1. Sensory triangulation
2. Pre-Job briefing – Visualization
  - What is the expected result?
  - What are the risks, even the worst case?
  - Which handles are used?
  - What are the error-prone situations?
3. Limit incentives
4. Repeat commands literally



# Exercise 6

## Memory

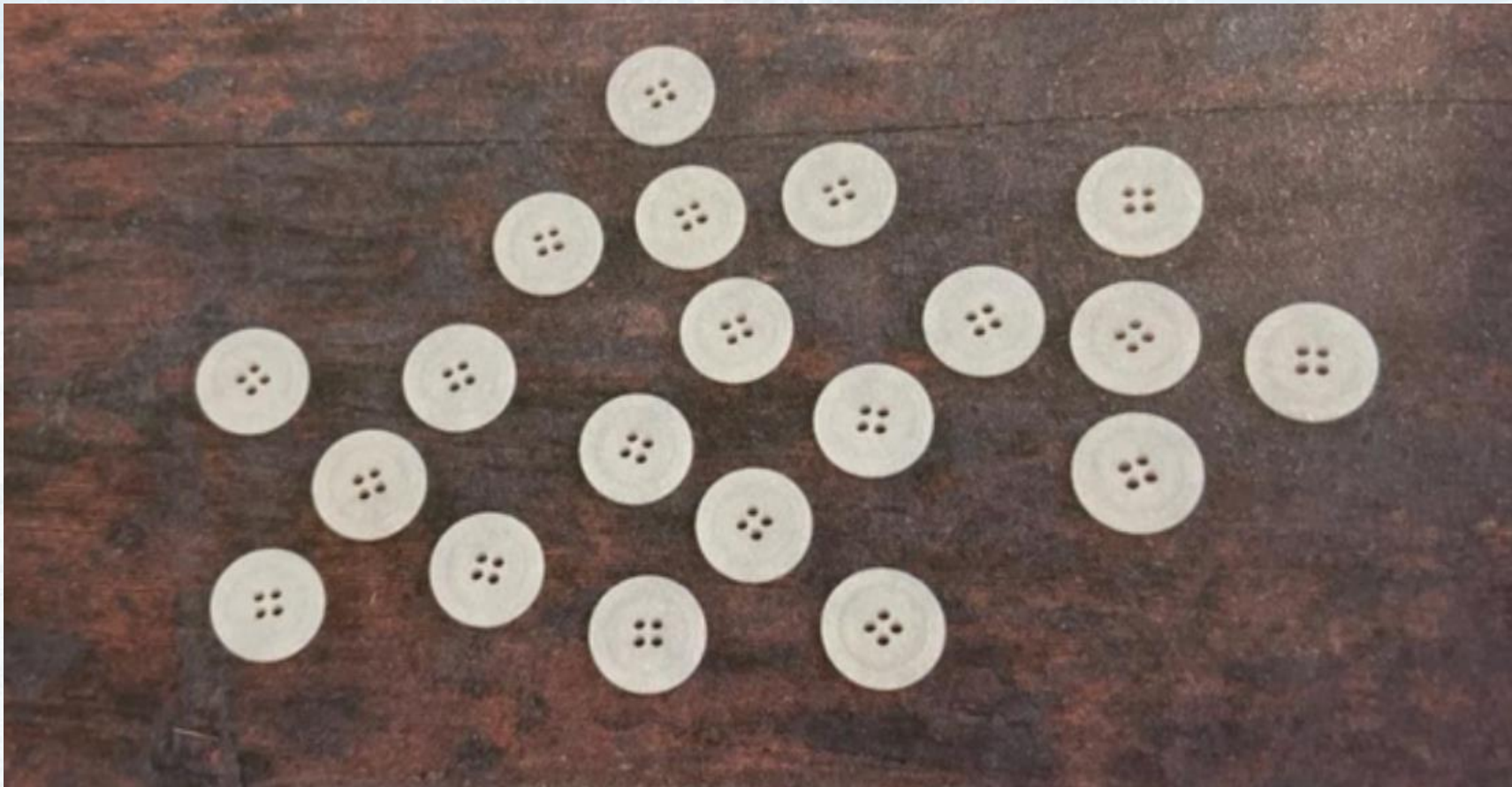
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# Memory

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Give yourself 3 seconds to recognize the number of nodes.

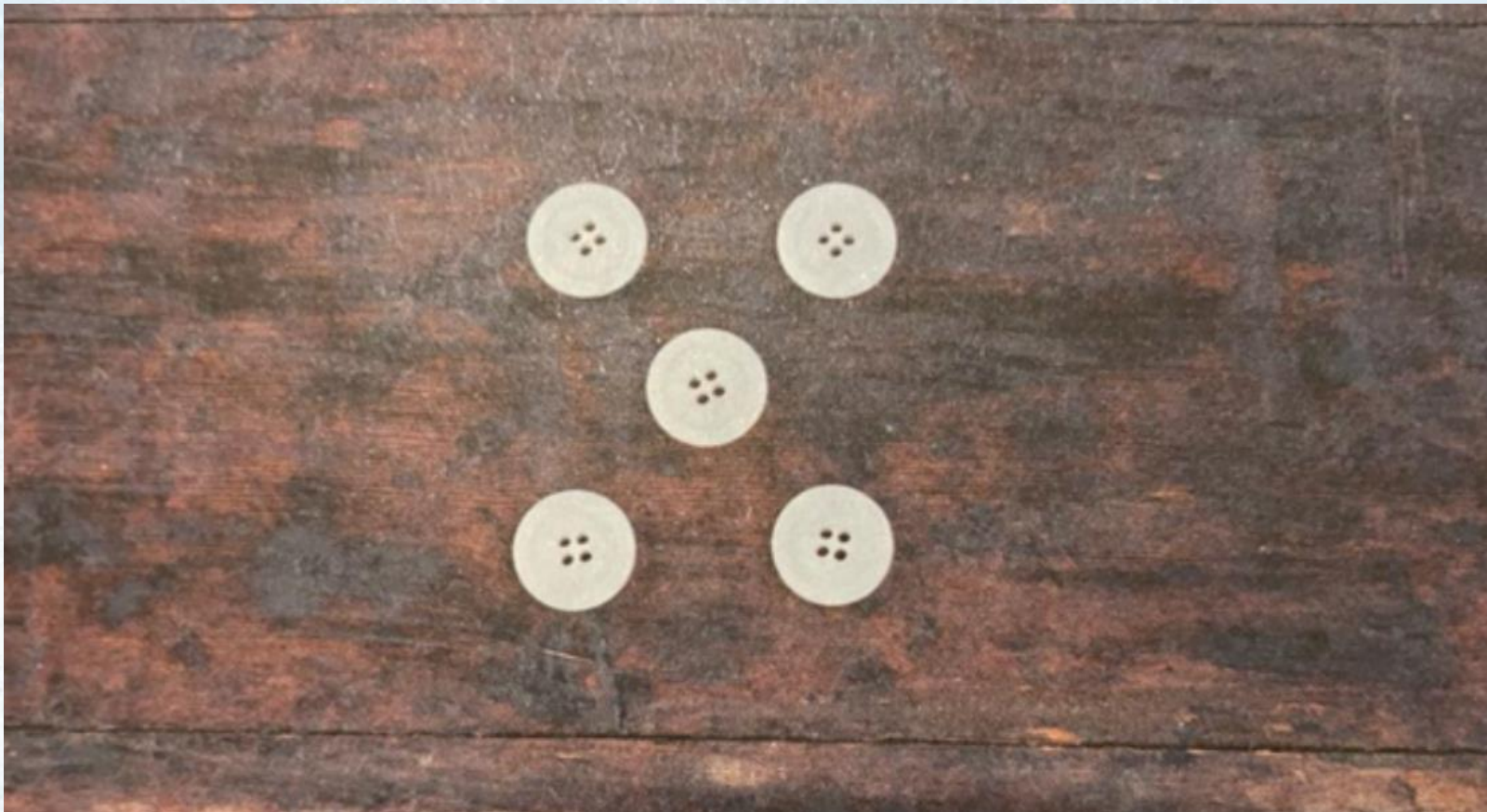




# Memory

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What if you made a design for them?



# Memory

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Give yourself 20 seconds to memorize the specific sequence of numbers below.

602474282930311252365366



# Memory

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Difficult? Still, you can easily memorize this with a simple trick.

60 24 7 4 28 29 30 31 12 52 365 366

60 minutes

24 hours a day

7 days

4 weeks

28, 29, 30 or 31 days

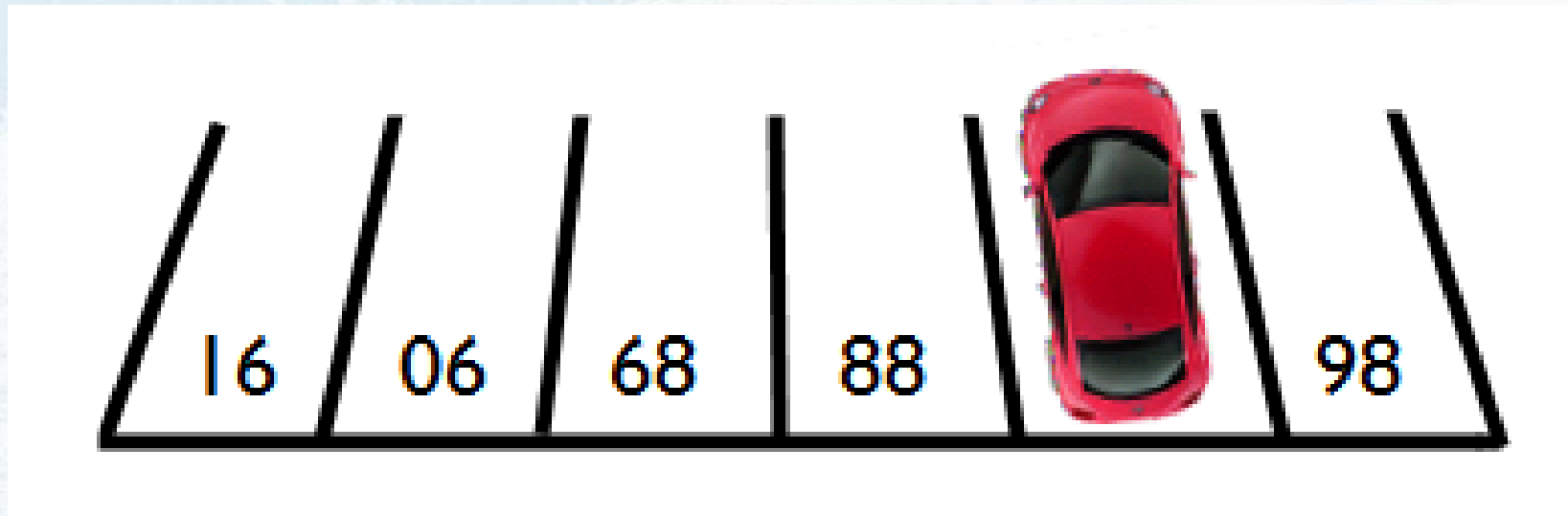
12 months

52 weeks

365 or 366 days

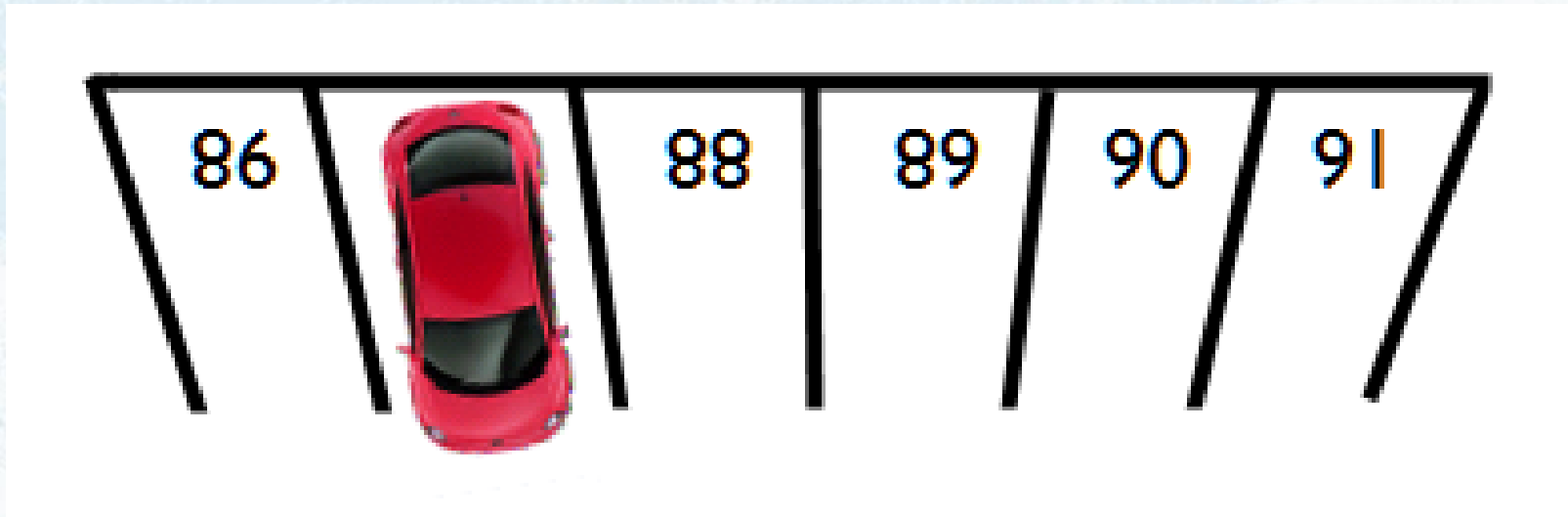
# Thinking Out of the box- cerveau conscient

What is the number of the parking space where this car is parked?





# Thinking Out of the box- cerveau conscient



# Retrospect

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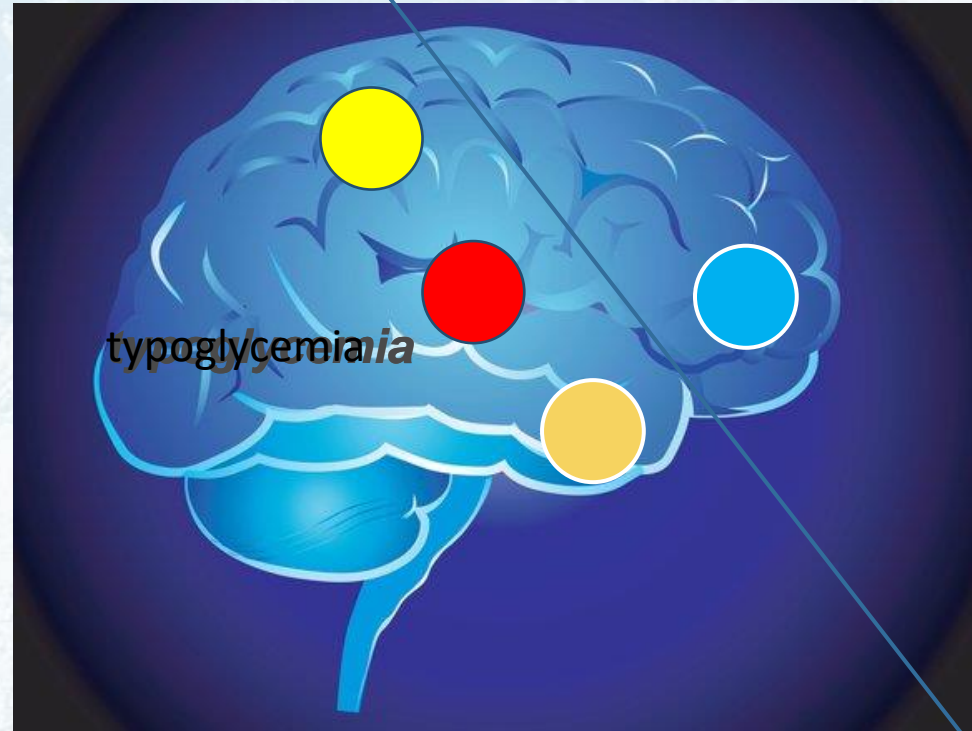
1. What do you remember from this morning?
2. Name one thing that has stuck with you
3. What can you apply in your job?



# The human brain

## Autopilot<

- Comfort zone
- Learned patterns
- Fast
- Here & now
- Efficient and economical
- Stronger than the conscious
- Overvaluation
- It's usually up to



## > The conscious

- Prefrontal cortex
- Smart but slow
- One thing at a time
- Past, present, future
- Creative
- From conscious to automated
- Consumes a lot of energy

## Instinctive

Survival - Coexistence - Reproduction  
Flight - Fighting - Stiffening



# Permanently stimulate the brain

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- Model
- Conditioning
- Economic learning (trial & error)



A mountain climber in a snowy, high-altitude environment. The climber is wearing a white jacket, dark pants, and a helmet, and is holding a rope. The background shows a vast, snow-covered mountain range under a clear sky.

# Thanks for your attention!

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