

The University of Poitiers presents

LABTOONS

A THOUGHT BUBBLE EXPERIMENT

A comic
adventure
through our
37 research
laboratories!


1431
Université
de Poitiers

Inside the
laboratory

CeRCA

Center for Cognition and Learning Research

Founded: 2008

Size: 120 people

Based in: Poitiers campus
(MSHS), Site des Tanneurs
(Tours)

et site des Tanneurs (Tours)

Research co-supervision:

University of Poitiers,
University of Tours, CNRS



Identity card n° UMR CNRS 7295

THE INNER WORKINGS OF HUMAN COGNITION

“Our goal: to pierce the veils of human cognition.”

How exactly do we interact with our environment, and with each other? How do we learn to read and write? What can we do to go beyond our limits? These are all questions that our lab is attempting to answer!

Our main goal is to understand how a person's behavior evolves over the course of his or her life, from childhood into old age. We are interested in the functioning of **memory** and in written language acquisition and use, motor control, social interactions, and **cognitive self-regulation functions** such as concentration and "self-control", i.e., the ability to see a task through despite its difficulty and the desire to stop!

To do this, we evaluate individuals from different age bands, some presenting pathologies and some not, and study their reactions in a given situation. In the course of our observations, we make **behavioral evaluations** of varying degrees of

sophistication—monitoring reaction times, for instance, and tracking eye movement. We also measure **physiological parameters**, like heart rate and brain activity.

Our work frequently has applications in other domains. In education, for example, we study how a reader searches for specific information in a text, and we examine how this capacity can be taught. In health, we work with patients presenting with symptoms of neurological and psychological issues to improve diagnoses and care. We have shown, for example, that by practicing "mindfulness" (being attuned to one's emotions and physical feelings in the moment), people suffering from social anxiety can improve their negative self-image. Lastly, some of our research aims to improve the use of robots in the industrial sector. 📌



80 years

The **age gap** between our youngest and oldest study participants.

100 billion

The number of **neurons** in an adult human's brain.

15 kg

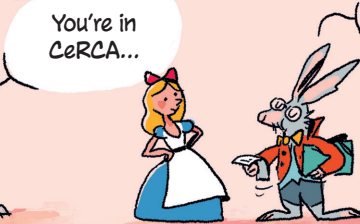
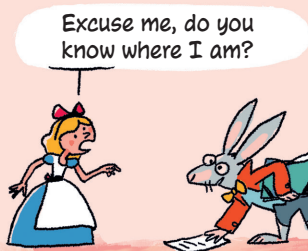
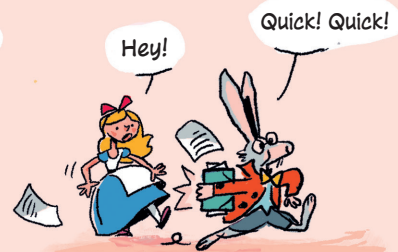
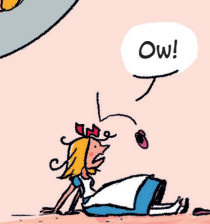
The **weight** of the suit we give our younger participants to wear so they experience life in an older person's body.



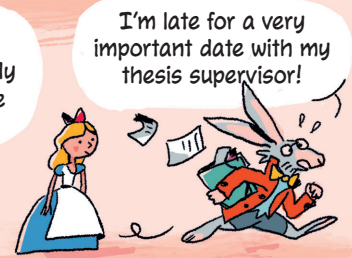
Did you know?

- **Stimulating activity**, if practiced throughout the course of one's life, can slow memory aging.
- Taking notes on a laptop during university lectures **does not help** students to remember them any better.
- An **artificial intelligence**, by analyzing clues that are imperceptible to humans, is capable of unveiling hidden thoughts.
- **When they fail at a task**, people who are prone to feelings of guilt tend to avoid looking at the part of a screen where their face is reflected.
- In **right-handed people**, the left hand adapts more quickly to visual disturbances than the right!

ALICE IN CERCA-LAND



A research center where scientists study the mysteries of the human mind.



Wow, a maze!
And all these colors!

Hello, Alice!
Welcome to CeRCA.

You see these doors?
Behind each one, a
researcher is working
on a different question.

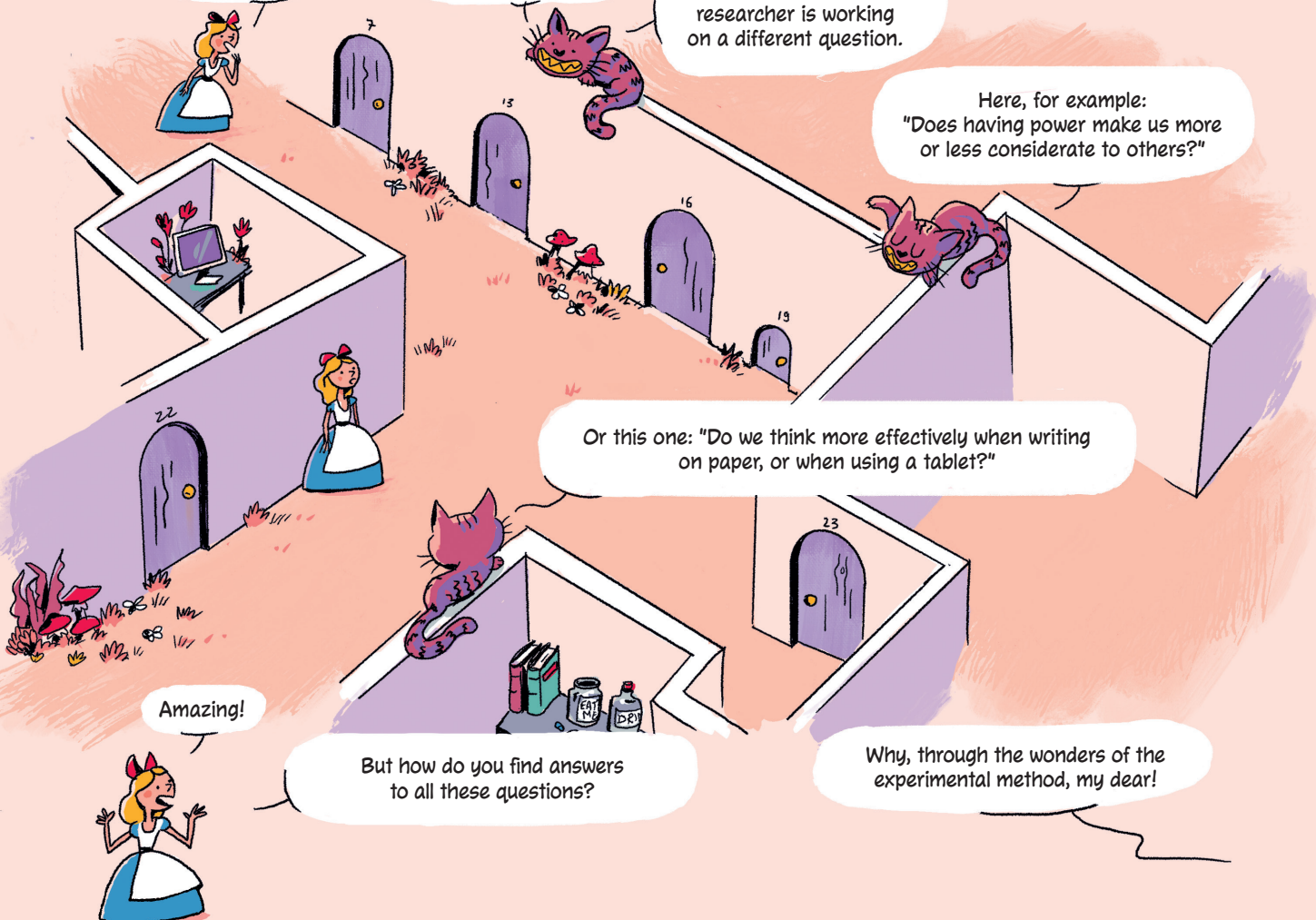
Here, for example:
"Does having power make us more
or less considerate to others?"

Or this one: "Do we think more effectively when writing
on paper, or when using a tablet?"

Amazing!

But how do you find answers
to all these questions?

Why, through the wonders of the
experimental method, my dear!



Greetings,
your majesty!

Hello, Alice.

I noticed that when I beheaded
my subjects, they couldn't perform
their tasks as effectively.

So I've opted for a more scientific
approach. Now I'm interested in
social psychology.

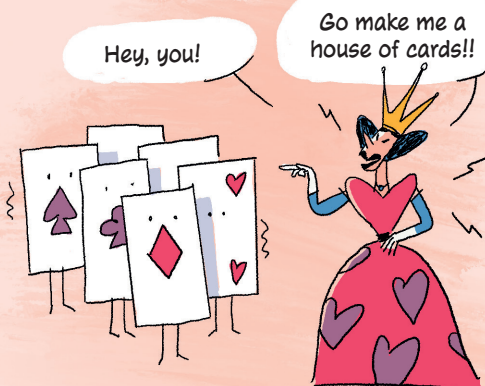
Psychology isn't
just about patients
pouring their hearts
out on couches!

The experimental method allows us
to test a wide range of hypotheses.

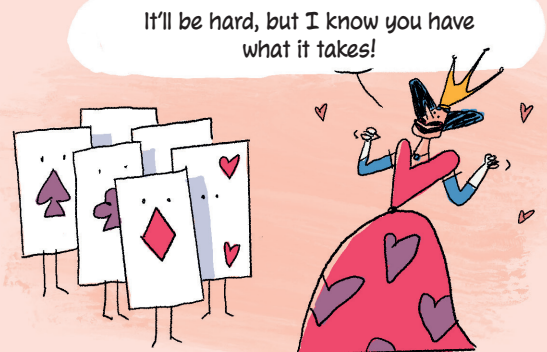
We change a single variable each time to see how it
influences results. It's like when my chef adds a specific
spice to my meals to see how it changes the flavor.

For instance, we can measure the impact of various teaching methods on academic success.

A We form a first group, whom we ask to carry out
a difficult task without motivating them.



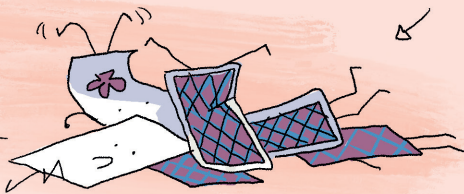
B While a similar group is asked to complete
the same task, except this time they receive
lots of encouragement.



Then we compare
the results.

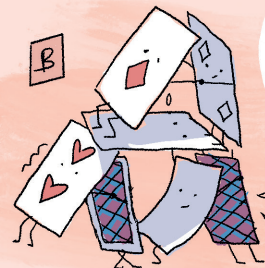
A

We're
never going to
manage!



B

This is hard,
but mistakes are
all part of the
process!



Fascinating! There's so
much to discover here.

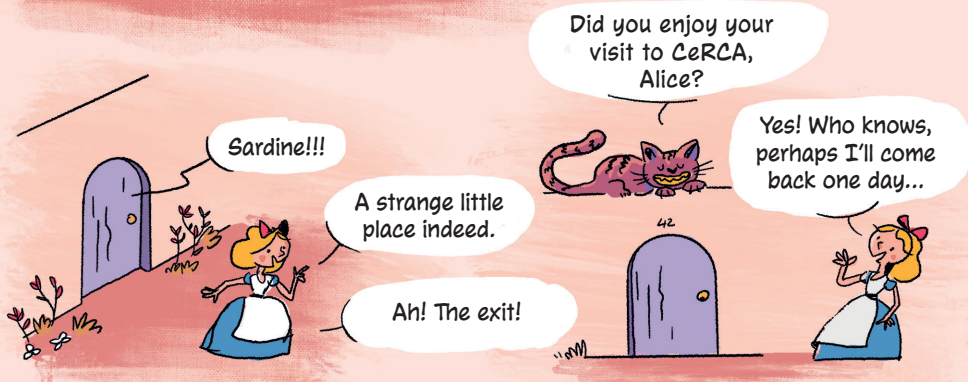
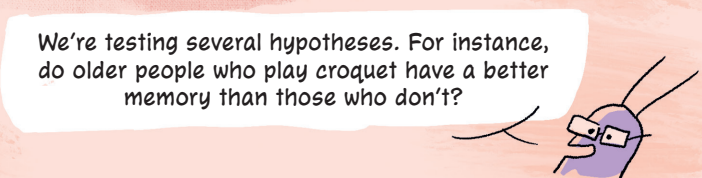
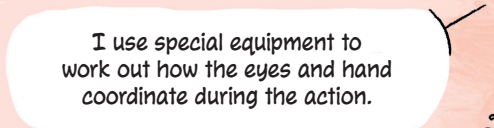
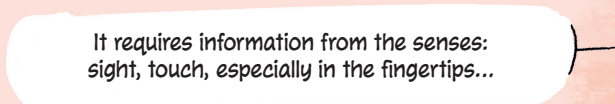
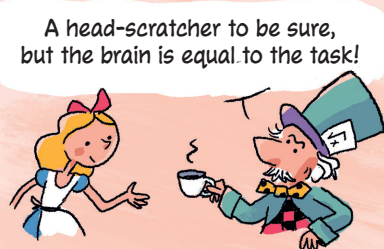
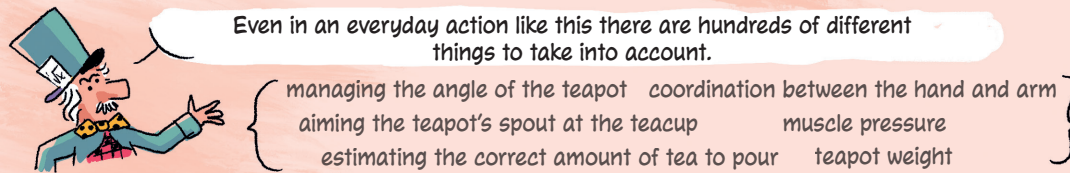
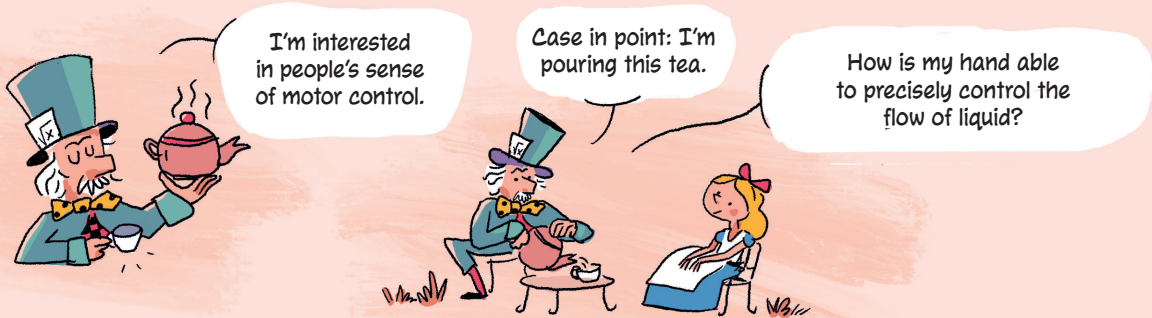


Hello, Alice.
Would you like
some tea?



At CeRCA,
we analyze how
the brain thinks,
understands,
and learns.







Scan this QR code
to read more comics about our 37
laboratories!

UNDER THE
INITIATIVE OF:



AS PART OF:



IN PARTNERSHIP WITH:



Cover and jacket

Juliane Goustard

Cover graphics, design and concept

Studio Piccolina

Comic authors

Maxime Jeune, Naïs Coq, Giorgia Marras, Jim Jourdane, Céline Penot, Tristoon,
Nicolas Gazeau, Olivier Crépin, Camille Van Belle, Anne Bernardi

with the scientific collaboration of the laboratories of the University of Poitiers

French adaptation

Studio Makma

Translation: Matthew Redman

Lettering: Lorine Roy, Sarah Grassart, Nathalie Spampinato

Project coordinator

Grace Akrong, service Sciences et société,
Direction de la recherche et de l'innovation de l'université de Poitiers

Editor

Nathalie Brousse

Proofreader

Sandrine Harbonnier

© 2024, University of Poitiers

ISBN : 978-2-37076-162-0