

Mindset que nos permite viver em incerteza extrema e mudança constante?

Paula Marques
Porto, 21 de fevereiro de 2024





2º Princípio da
Termodinâmica



1ª Lei de
Newton



Mundo Líquido

Zygmunt Bauman

A close-up photograph of a brick wall. The bricks are light-colored and arranged in a standard running bond pattern. The lighting is a gradient, being brightest on the left and gradually darkening towards the right. The text "aparentemente sólido" is overlaid on the right side of the image.

“aparentemente”
sólido



Território Conhecido



Território Desconhecido



Viver no Desconhecido

“ Os currículos do futuro terão de refletir competências que preparem os alunos para um futuro desconhecido. É isso que os torna futuristas ”.

UNESCO, 2019, Future Competences and the Future of Curriculum: A Global Reference for Curriculum Transformation

Strategy

Your Strategy Should Be a Hypothesis You Constantly Adjust

by Amy C. Edmondson and Paul J. Verdin

November 09, 2017



Jonathan Knowles/Getty Images



Strategy as Learning

Amy Edmnonson, Paul Verdin, 2017



Plano



Hipóteses



Conhecimento



Aprendizagem

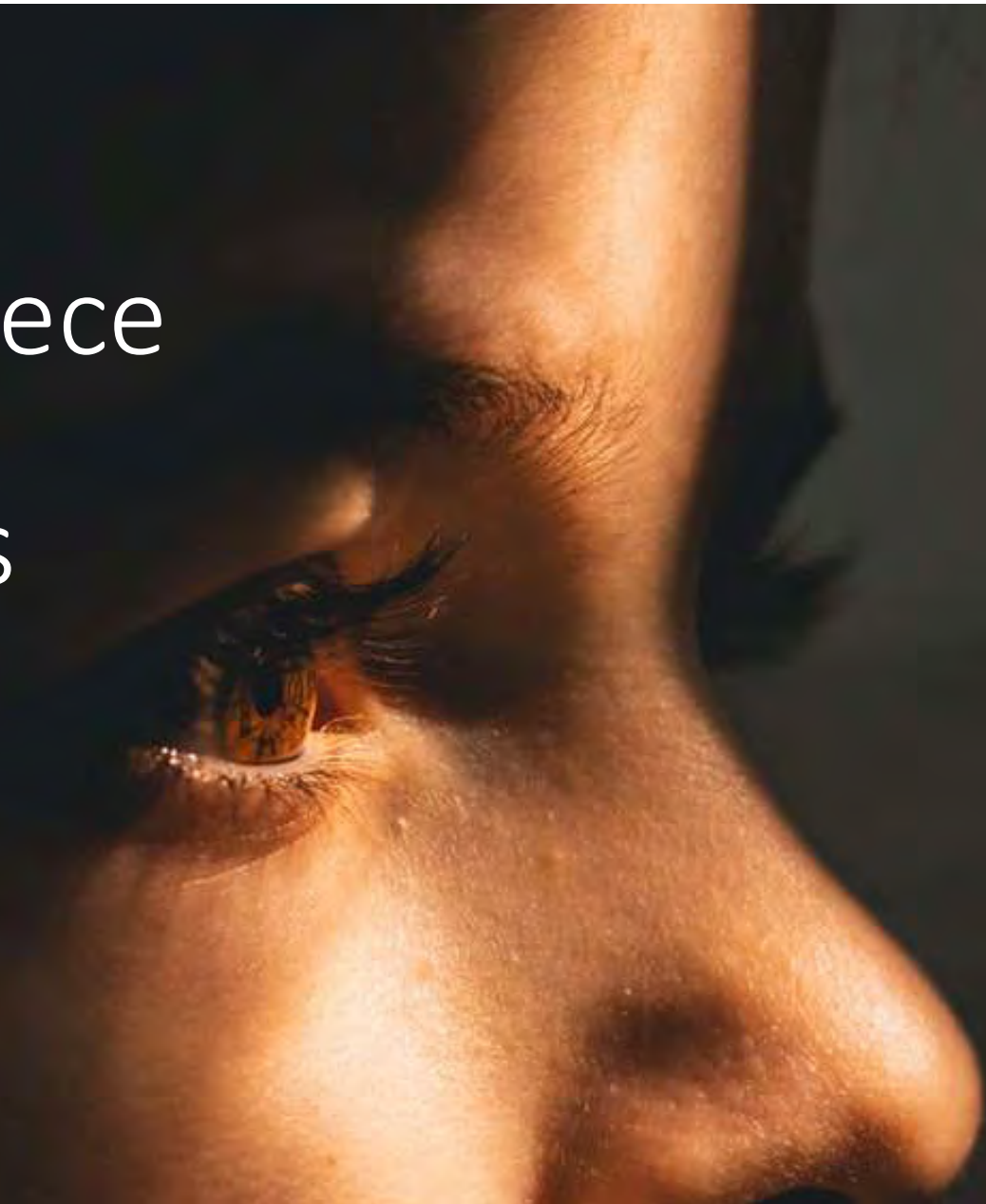


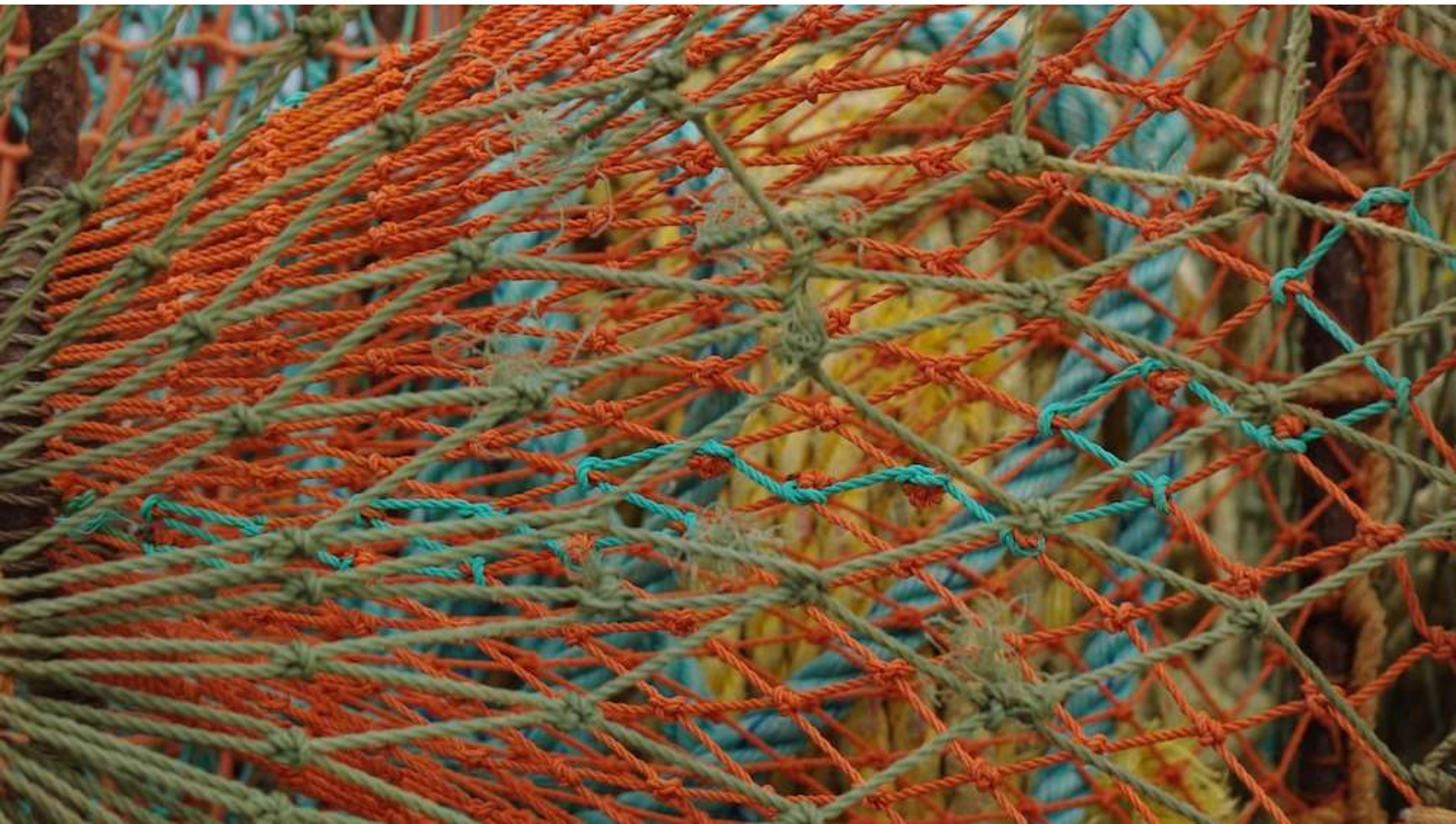
Escalar a Eficiência



Escalar a Aprendizagem

O que acontece
quando
aprendemos
algo novo?



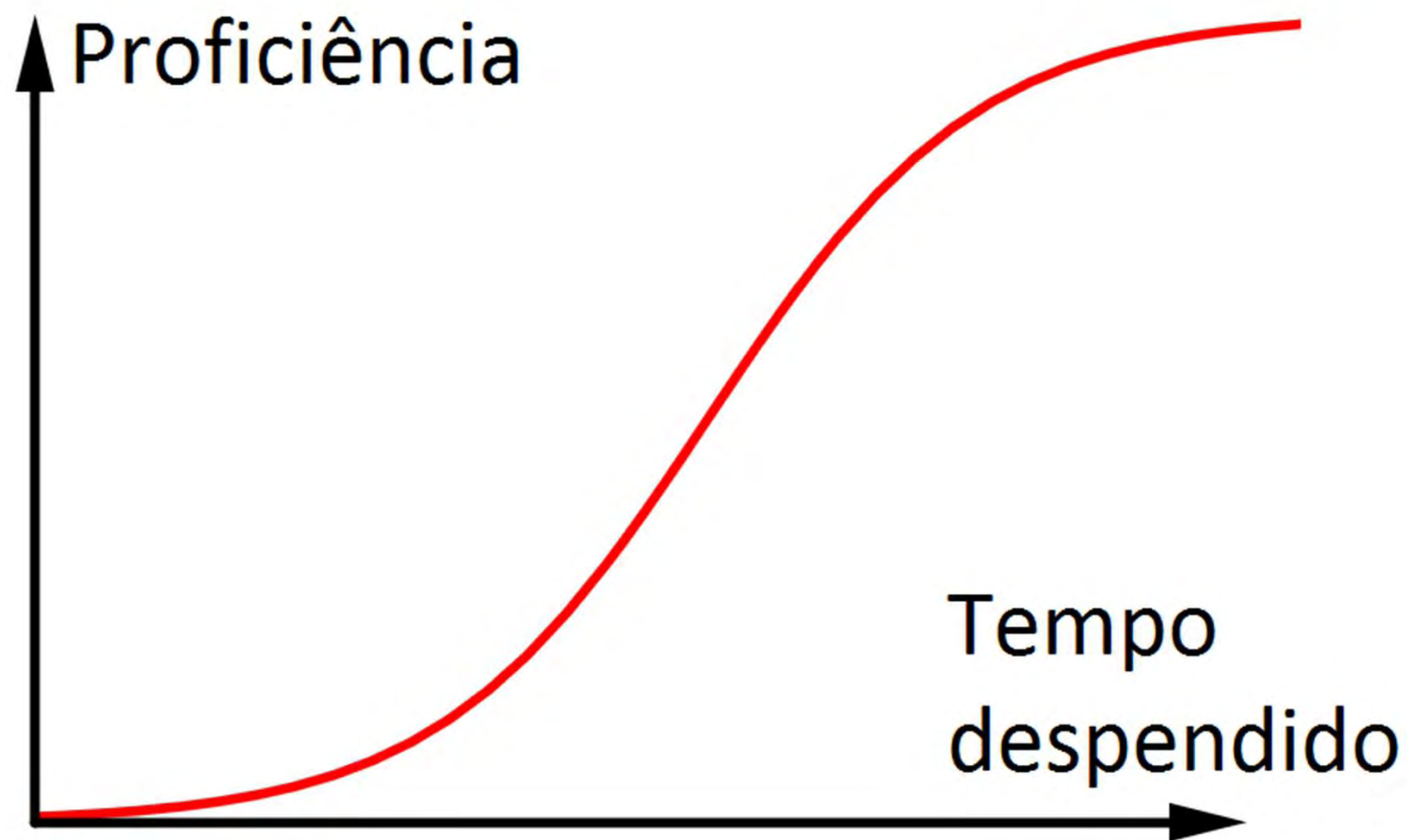








Como é que
aprendemos?





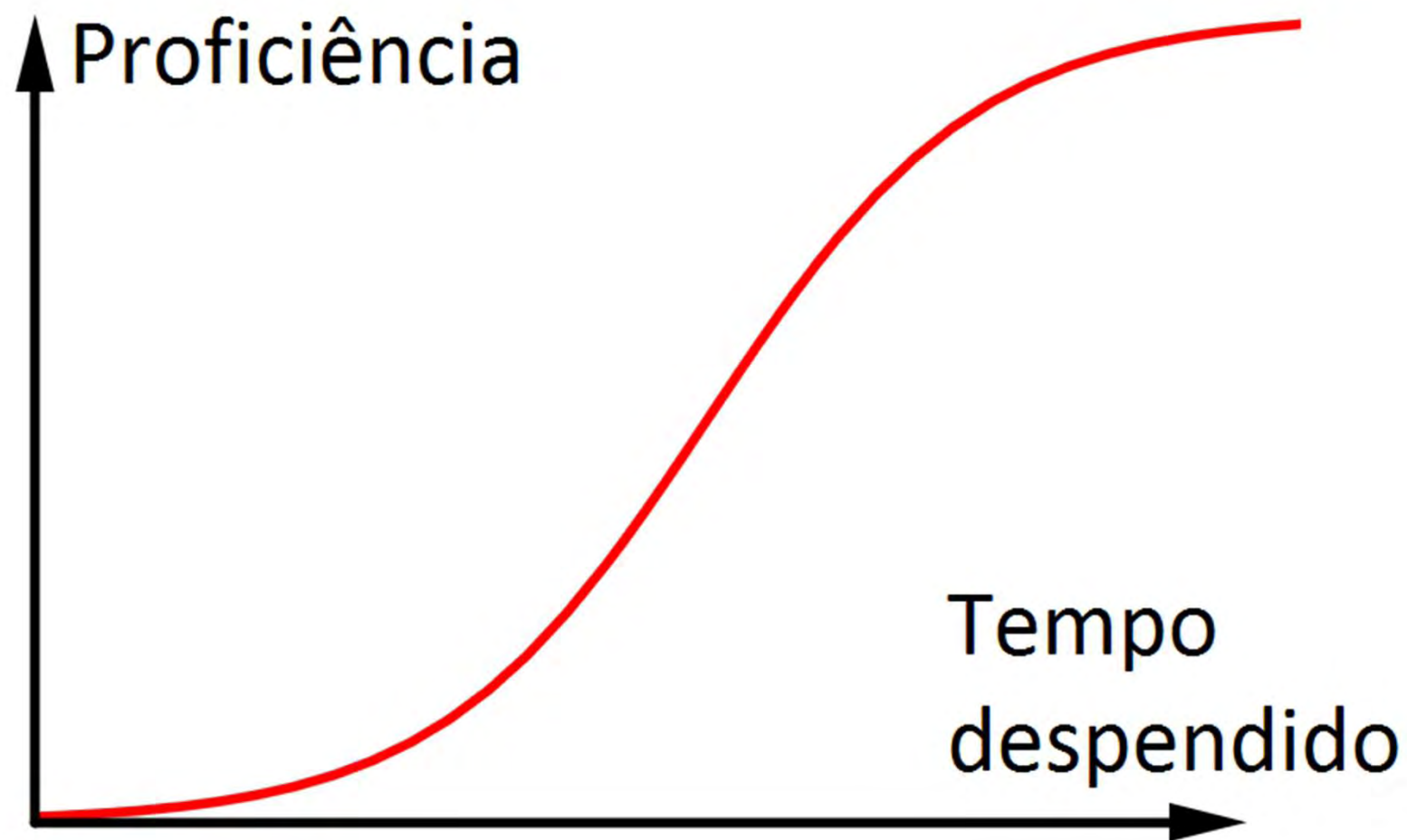
Charles Handy

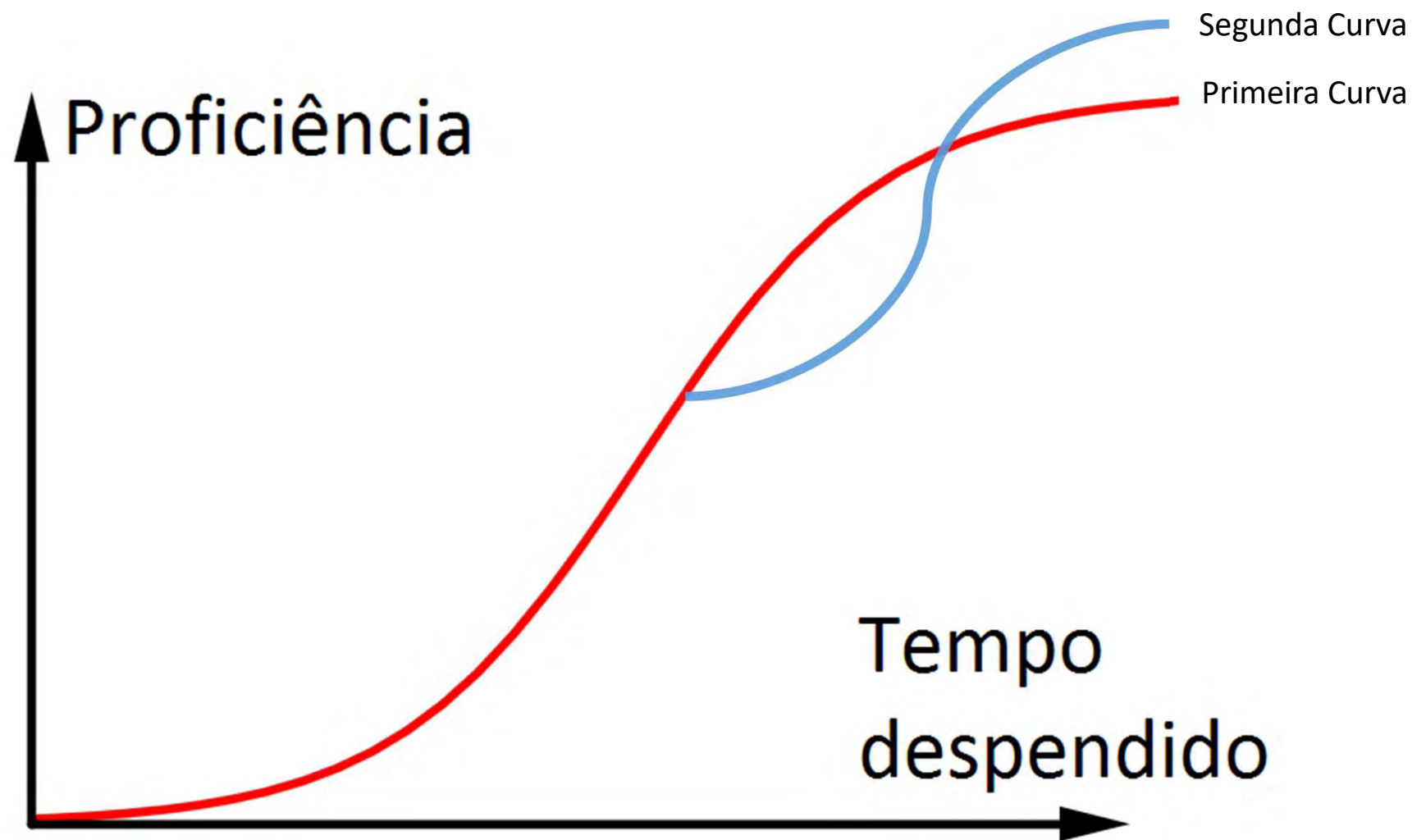
Bestselling author
of *The Empty Raincoat*

Charles
Handy

THE
SECOND
CURVE

Thoughts On
Reinventing Society





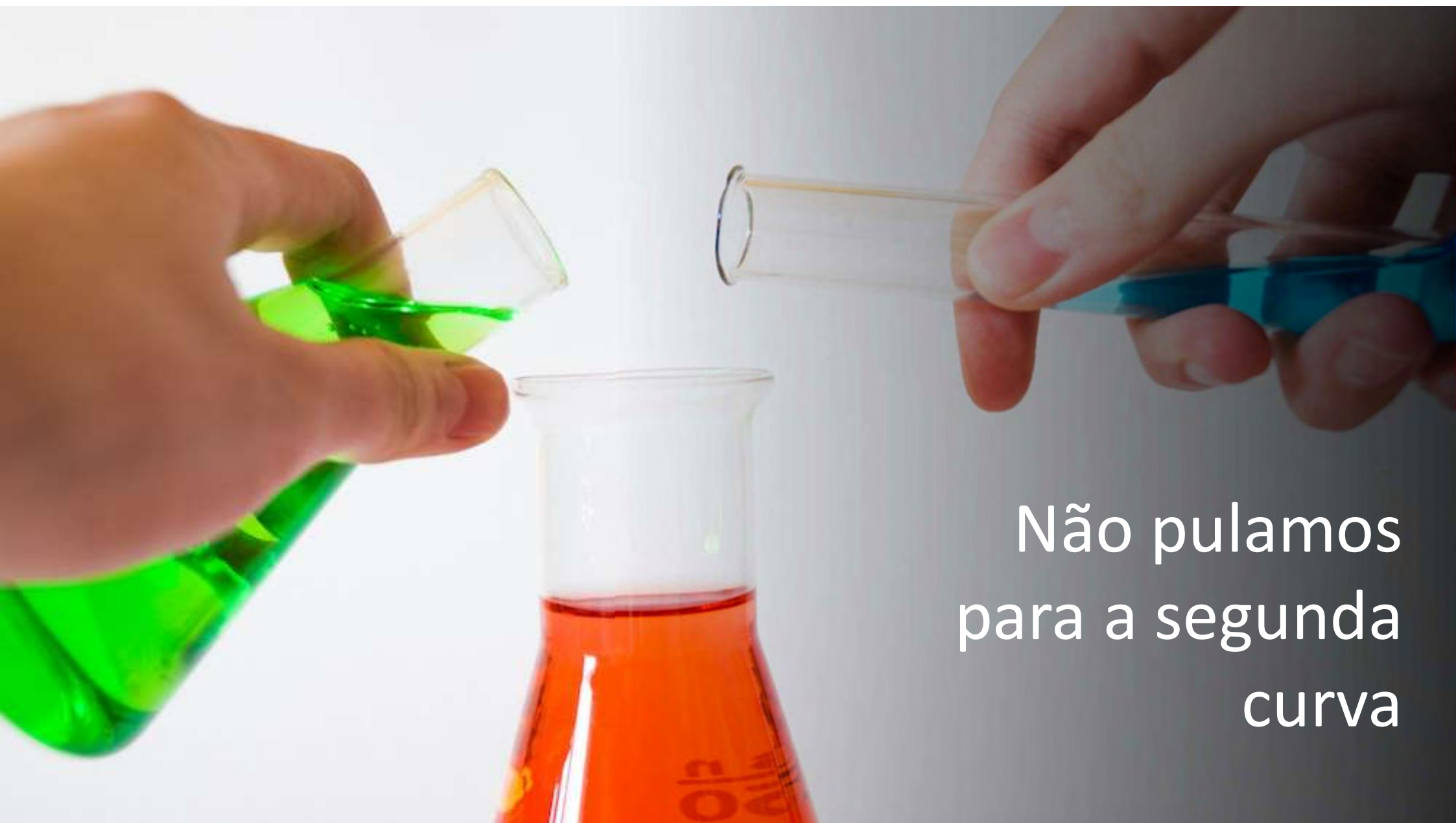


Lado negro...

Cognitive Entrenchment

A close-up photograph of a dark-colored car's rear wheel and fender, completely bogged down in thick, reddish-brown mud. The tire is partially submerged, and the surrounding ground is a chaotic mess of mud and water. The scene is brightly lit, casting shadows on the mud.

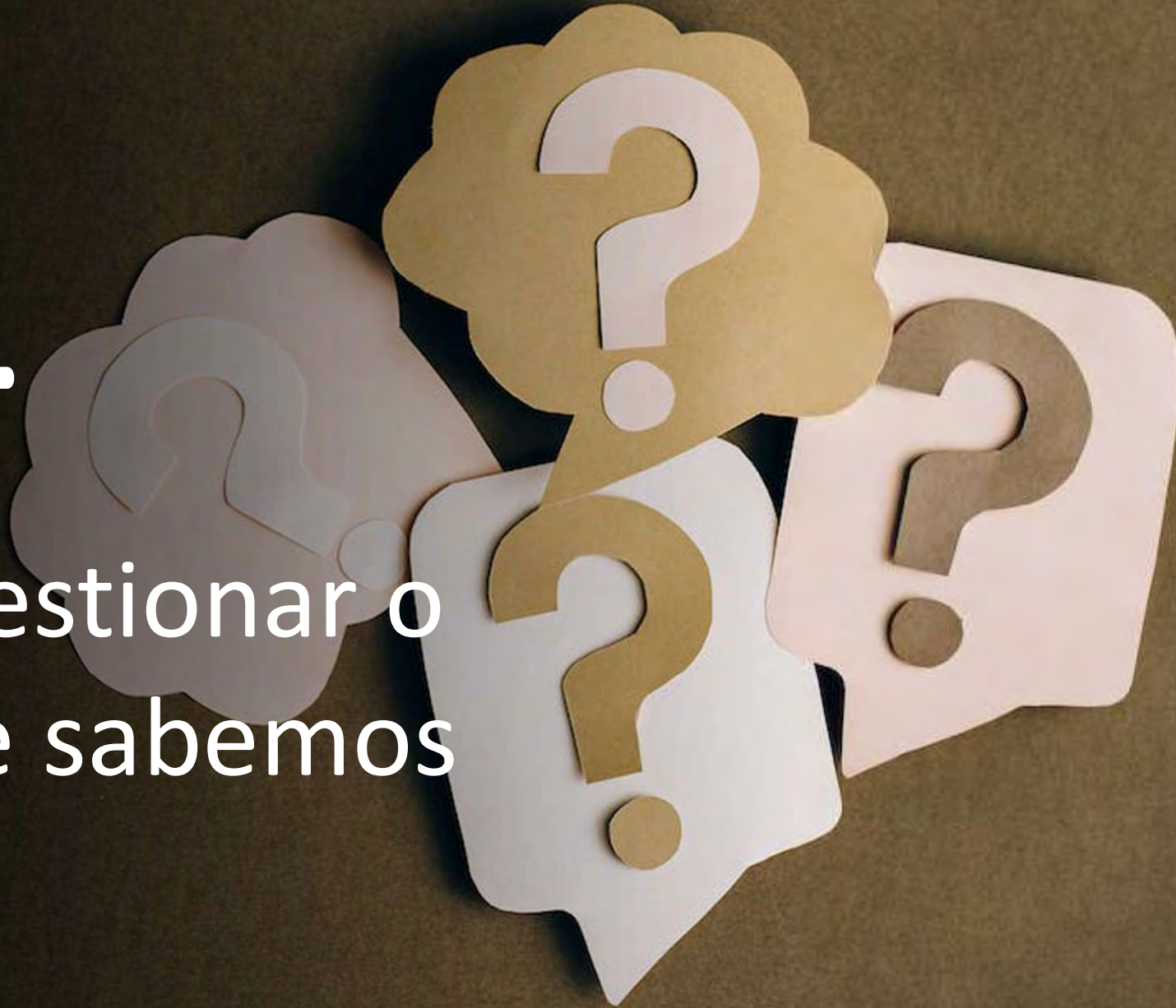
Ficamos
atolados no
nosso
pensamento



Não pulamos
para a segunda
curva

1

Questionar o
que sabemos



A close-up photograph of a wooden surface, possibly a ceiling or a large wooden plate, featuring a central dark circular hole. Several thin, dark lines radiate from the hole towards the edges of the frame. The wood grain is visible, and there are some yellowish-brown stains or marks around the central hole. The background is a light blue, slightly textured surface.

2

Foco

O que é a
atenção?





Os seres
humanos são
biologicamente
distráídos...



Ferramentas
mais
poderosas...

Please
Unsubscribe,
Thanks!

"Simultaneously hilarious
and deadly serious. . . An
extraordinary book."
—OLIVER BURKEMAN,
bestselling author of
Four Thousand Weeks

How to Take
Back Our Time,
Attention,
and Purpose in
a Relentless
World

Julio Vincent
Gambuto

STOLEN FOCUS

Why You Can't
Pay Attention—
and How to Think
Deeply Again

JOHANN HARI

NEW YORK TIMES BESTSELLING AUTHOR OF
CHASING THE SCREAM AND LOST CONNECTIONS

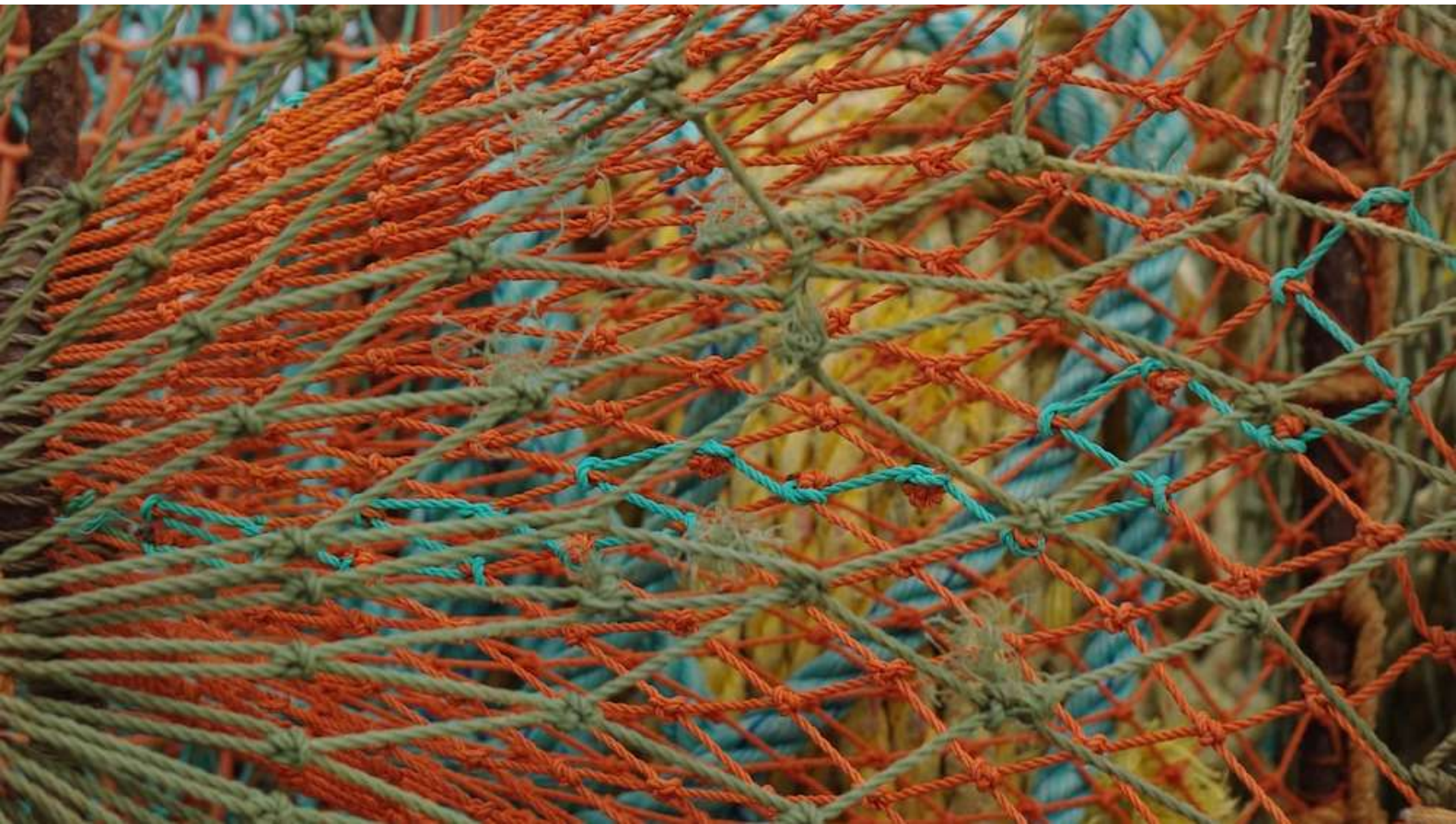
3

Mindset



Quando me
esforço...









पाहरूको रेडिमेड पोशाक
* कस्मेटिक तथा लगनका सामान

* लैडिज अण्डर गार्मेन्ट्स

पोते तथा पोतेमा तिलहरी हाल्नेकाम







Soon we learn new methods to solve circular motion problems. $F_c = \frac{mv^2}{R}$

LECTURE 4 [E14] Re mentioned in lecture 5 interesting example work

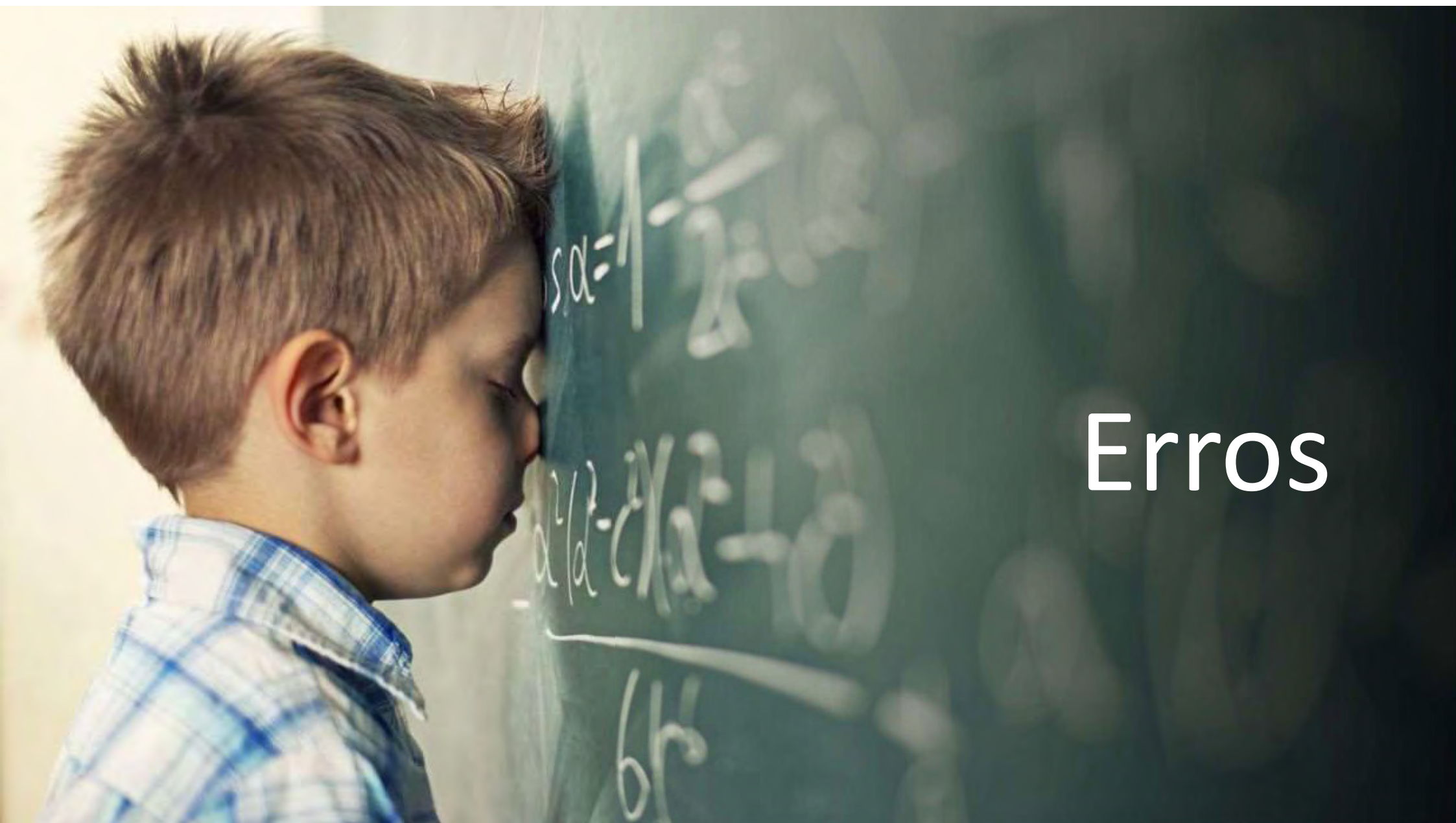
LECTURE 6 [E5] JEG



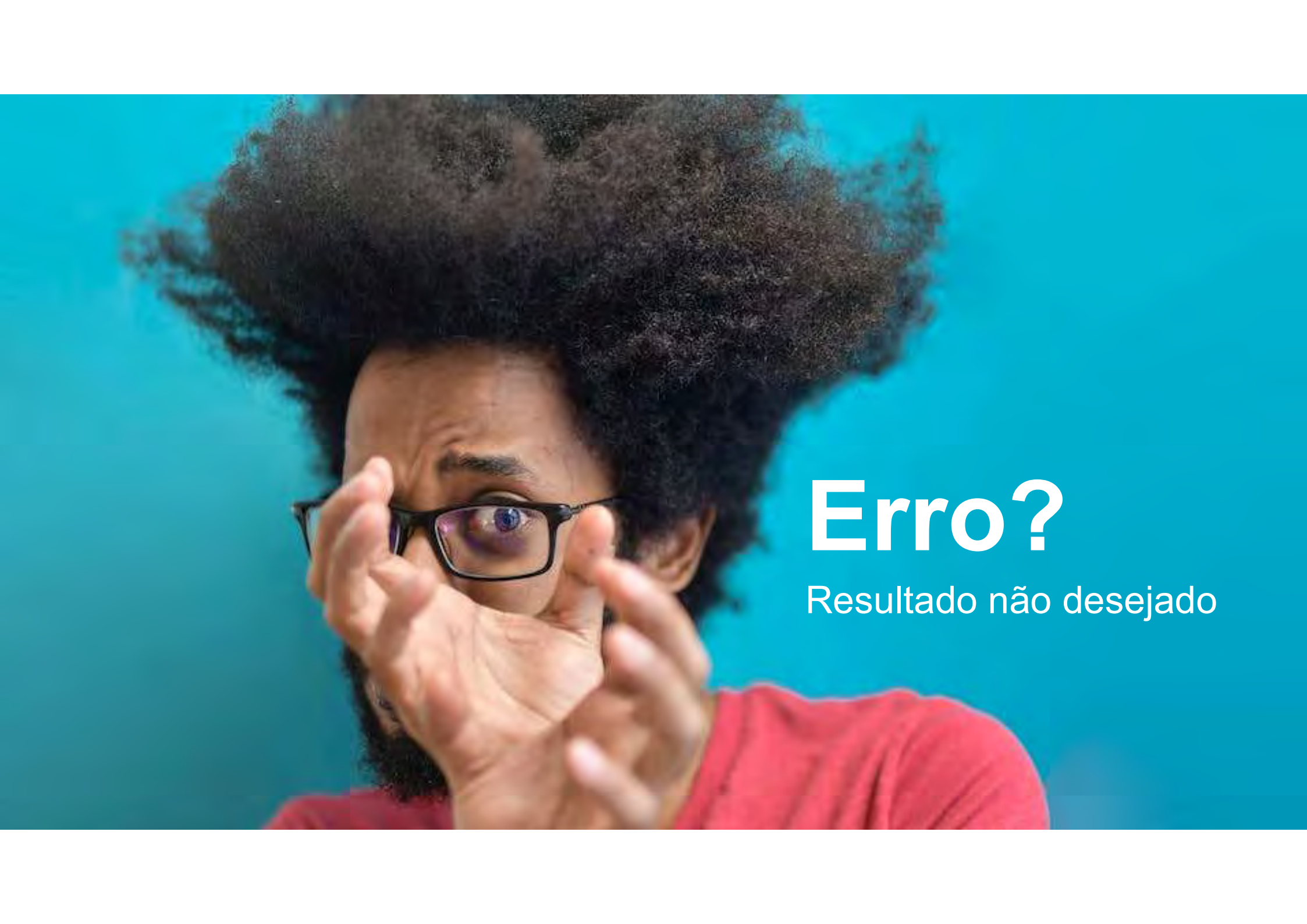
$$\begin{aligned} \sum F_x &= 0 \\ \sum F_y &= 0 \\ T \sin 40^\circ &= Mg \\ T \cos 40^\circ &= T \sin 30^\circ \end{aligned}$$

A full-page background image of a sunset sky. The top half features a deep purple sky with scattered, lighter purple and pinkish clouds. The bottom half transitions into a more intense orange and pink hue, with large, billowing clouds in shades of magenta, red, and yellow. The overall effect is a dramatic and colorful gradient.

Como é que o Mindset se transformou num
acelerador da aprendizagem e da mudança?



Erros



Erro?

Resultado não desejado





O cérebro humano aprende
através dos erros...

O cérebro toma decisões mais acertadas após um erro, diz investigação da Fundação Champalimaud

🕒 Leitura: 5 min 10 agosto, 2023 às 21:47



O investigador e neurocientista da Fundação Champalimaud, Alfonso Renart
Reinaldo Rodrigues/Arquivo Global Imagens

Response outcome gates the effect of spontaneous cortical state fluctuations on perceptual decisions

Davide Reato^{*†}, Raphael Steinfeld[†], André Tacão-Monteiro, Alfonso Renart^{*}

Champalimaud Research, Champalimaud Foundation, Lisbon, Portugal

Abstract Sensory responses of cortical neurons are more discriminable when evoked on a baseline of desynchronized spontaneous activity, but cortical desynchronization has not generally been associated with more accurate perceptual decisions. Here, we show that mice **perform more accurate auditory judgments** when activity in the auditory cortex is elevated and desynchronized before stimulus onset, **but only if the previous trial was an error**, and that this relationship is occluded if previous outcome is ignored. We confirmed that the outcome-dependent effect of brain state on performance is neither due to idiosyncratic associations between the slow components of either signal, nor to the existence of specific cortical states evident only after errors. Instead, errors appear to gate the effect of cortical state fluctuations on discrimination accuracy. Neither facial movements nor pupil size during the baseline were associated with accuracy, but they were predictive of measures of responsivity, such as the probability of not responding to the stimulus or of responding prematurely. These results suggest that the functional role of cortical state on behavior is dynamic and constantly regulated by performance monitoring systems.

Depois de cometer um erro, o cérebro humano muda...
Para evitar cometer os mesmos erros.



**Aprendemos sempre
quando cometemos
erros?**

How Your Brain Reacts To Mistakes Depends On Your Mindset

September 29, 2011

TAGS: [ATTENTION](#) | [BRAIN](#) | [INTELLIGENCE](#) | [NEUROSCIENCE](#) | [PSYCHOLOGICAL SCIENCE](#) | [SOCIAL BEHAVIOR](#)

➔ Log in to Save for Later

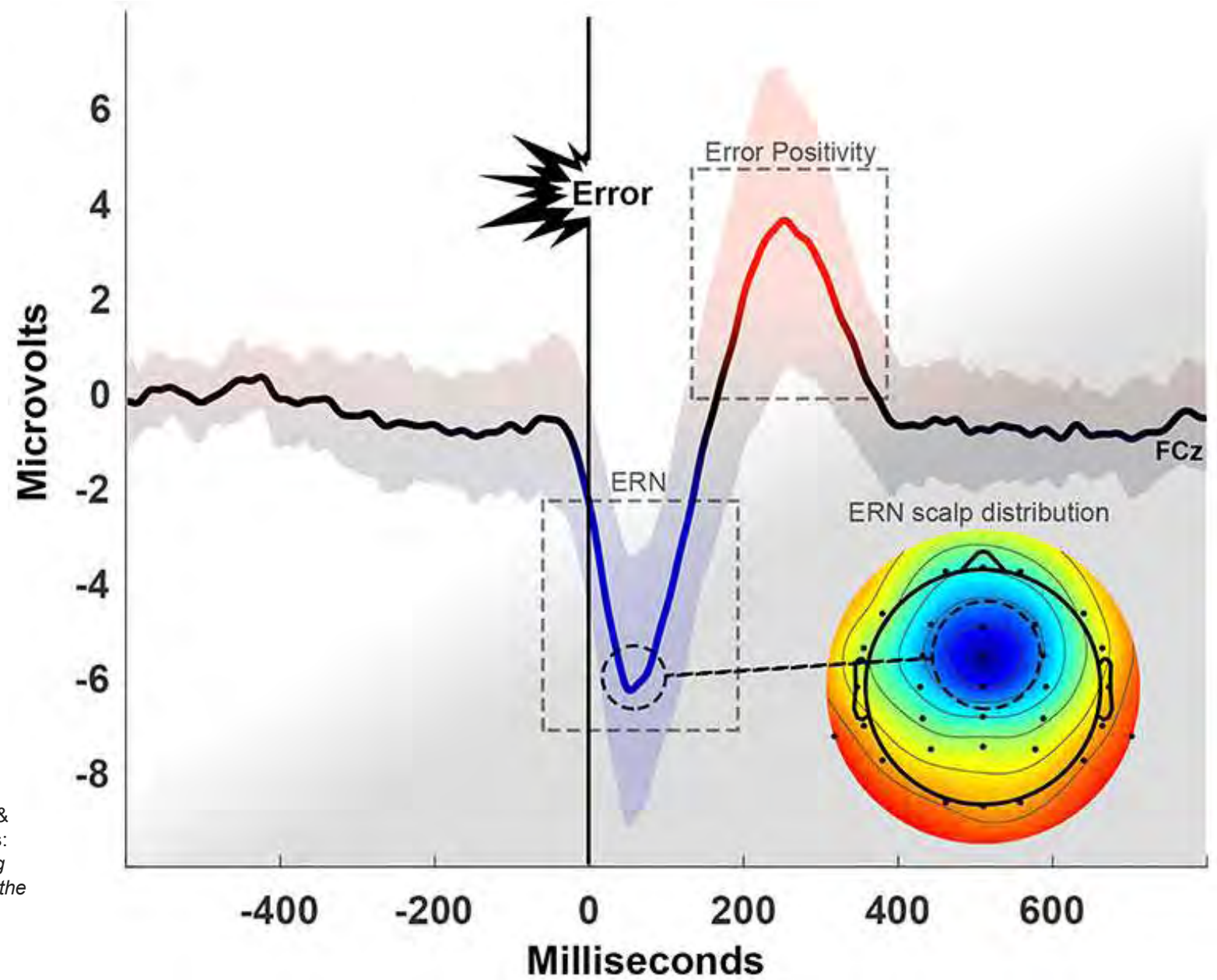


“Whether you think you can or think you can’t—you’re right,” said Henry Ford. A new study, to be published in an upcoming issue of *Psychological Science*, a journal of the Association for Psychological Science, finds that people who think they can learn from their mistakes have a different brain reaction to mistakes than people who think intelligence is fixed.

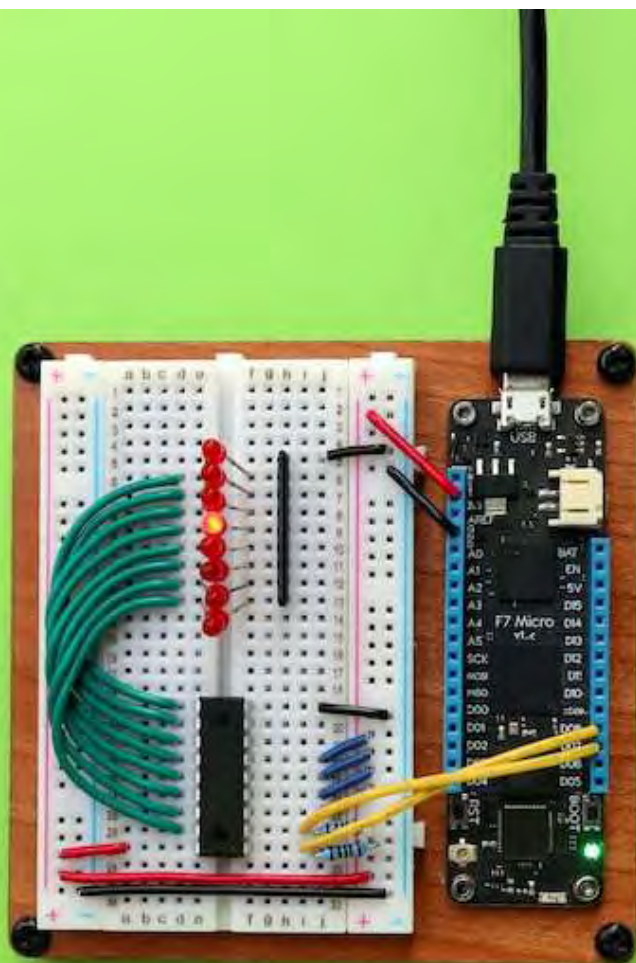
“One big difference between people who think intelligence is malleable and those who think intelligence is fixed is how they respond to mistakes,” says Jason S. Moser, of Michigan State University, who collaborated on the new study with Hans S. Schroder, Carrie Heeter, Tim P. Moran, and Yu-Hao Lee. Studies have found that people who think intelligence is malleable say things like, “When the going gets tough, I put in more effort” or “If I make a mistake, I try to learn and figure it out.” On the other hand, people who think that they can’t get smarter will not take opportunities to learn from their mistakes. This can be a problem in school, for example; a student who thinks her intelligence is fixed will think it’s not worth bothering to try harder after she fails a test.



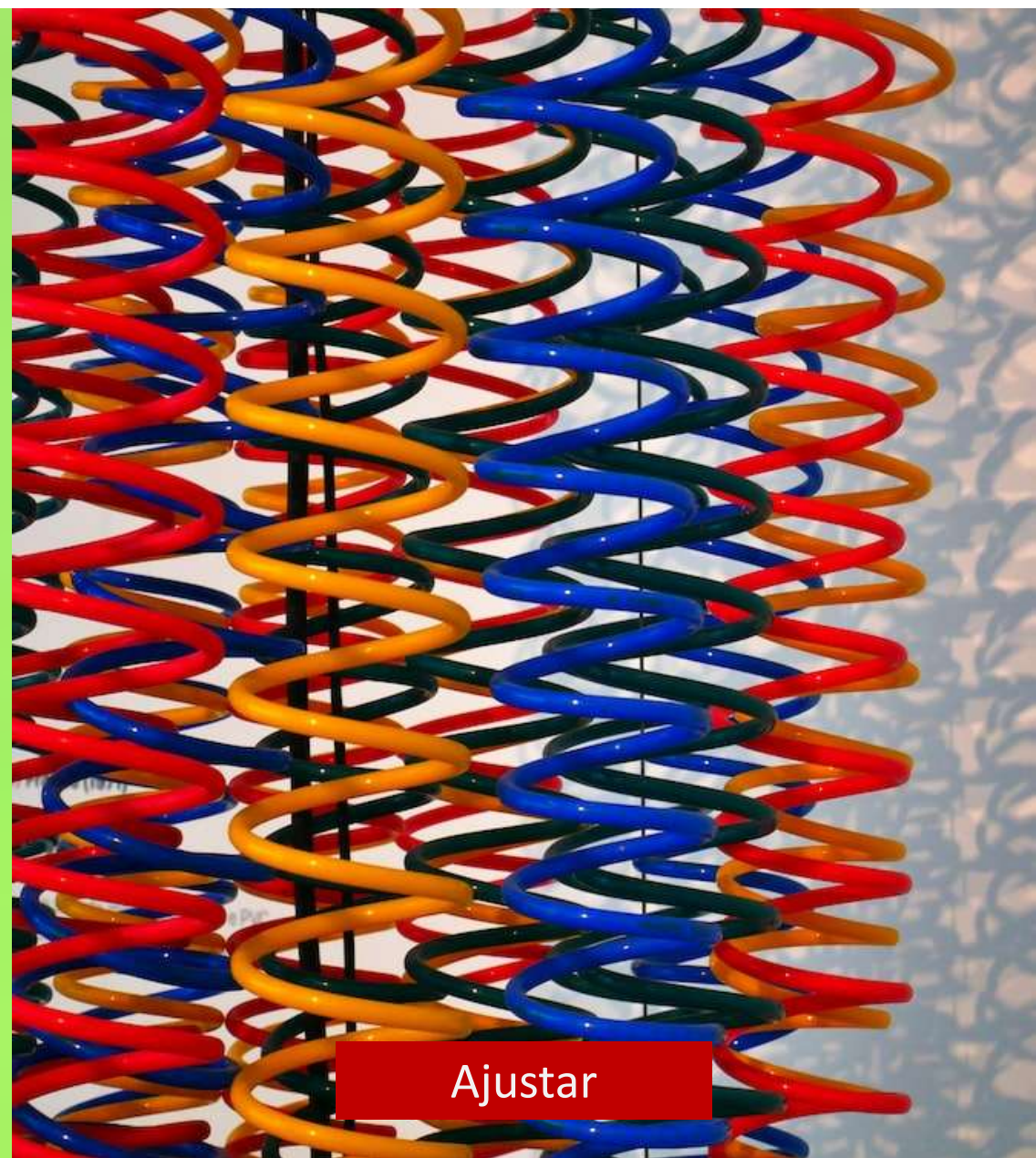
Eletroencefalograma (EEG)



Source: Overbye, K., Bøen, R., Huster, R. J., & Tamnes, C. K. (2020). Learning from mistakes: How does the brain handle errors?. *Everything You and Your Teachers Need to Know About the Learning Brain*, 20.



Detetar

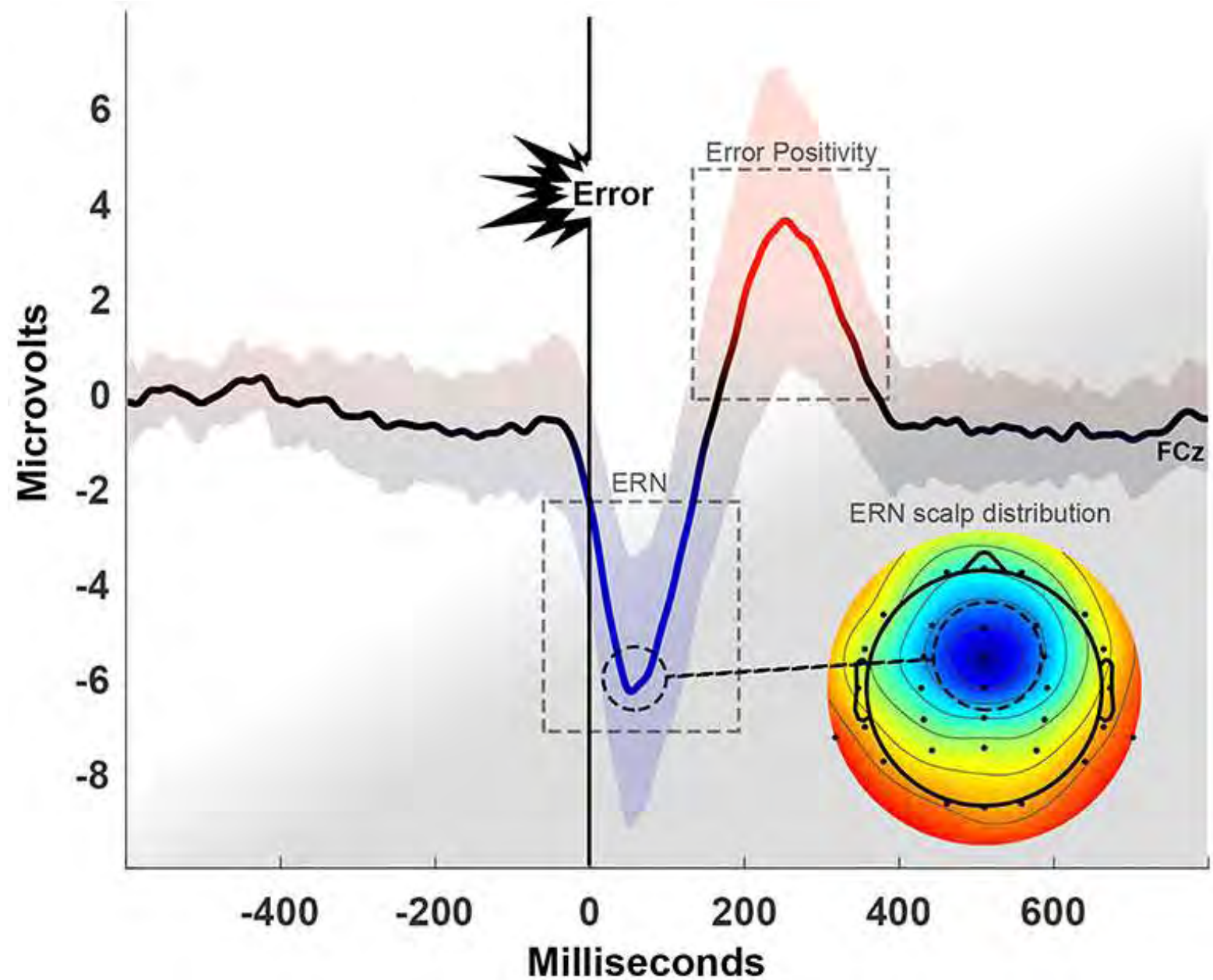


Ajustar



Quanto maior for o pico (sinal de erro),
maior será a probabilidade de termos
sucesso na próxima vez que nos
depararmos com a mesma situação.

Depois de
cometermos um erro,
ficamos mais lentos.



Source: Overbye, K., Bøen, R., Huster, R. J., & Tamnes, C. K. (2020). Learning from mistakes: How does the brain handle errors?. *Everything You and Your Teachers Need to Know About the Learning Brain*, 20.



Check for updates

Research Report

Mind Your Errors: Evidence for a Neural Mechanism Linking Growth Mind-Set to Adaptive Posterror Adjustments

Jason S. Moser¹, Hans S. Schroder¹, Carrie Heeter²,
Tim P. Moran¹, and Yu-Hao Lee²

¹Department of Psychology and ²Department of Telecommunications, Information Studies, and Media,
Michigan State University

Abstract

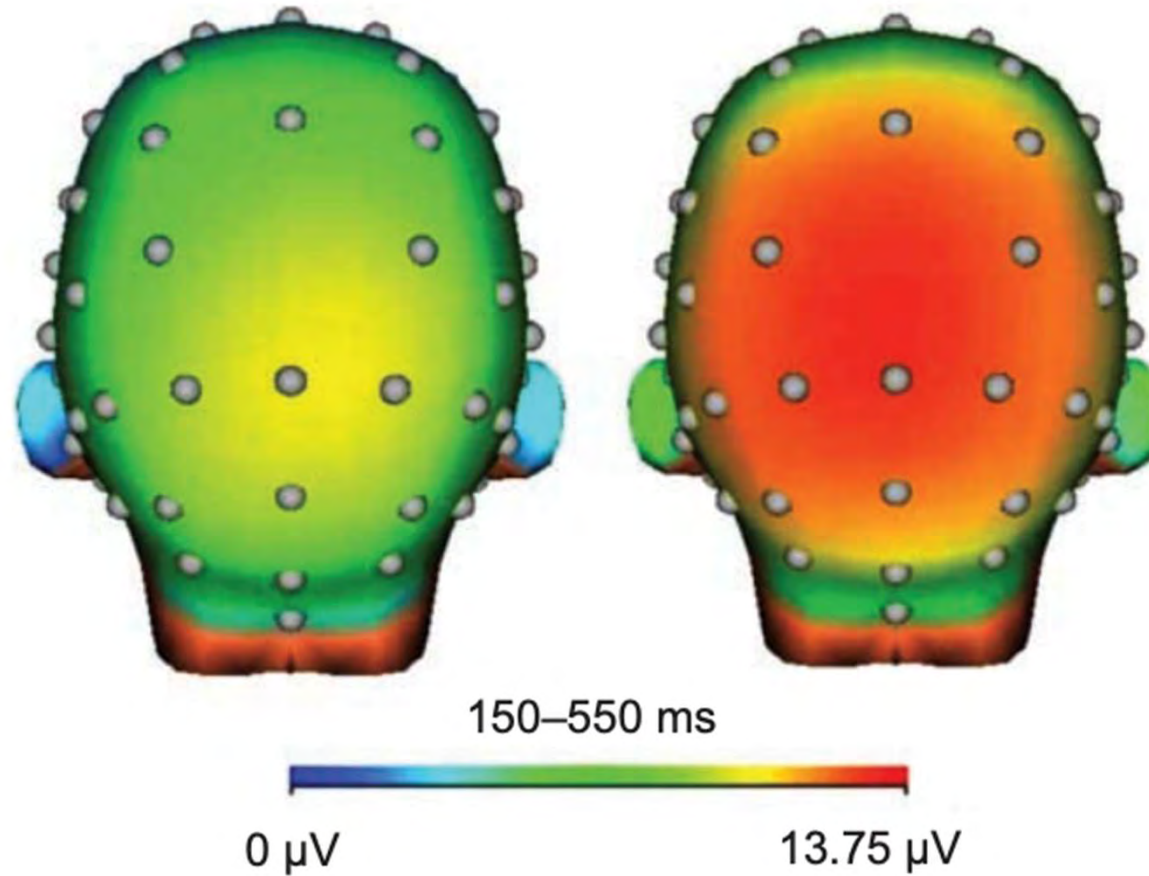
How well people bounce back from mistakes depends on their beliefs about learning and intelligence. For individuals with a growth mind-set, who believe intelligence develops through effort, mistakes are seen as opportunities to learn and individuals with a fixed mind-set, who believe intelligence is a stable characteristic, mistakes indicate lack of ability. We used performance-monitoring event-related potentials (ERPs) to probe the neural mechanisms underlying these different responses to mistakes. Findings revealed that a growth mind-set was associated with enhancement of the error positivity component, which reflects awareness of and allocation of attention to mistakes. More growth-minded individuals also showed superior posterror performance compared with individuals endorsing a more fixed mind-set. It is critical to note that the relationship between mind-set and posterror accuracy. These results suggest that neural mechanisms indexing on-line monitoring of and attention to mistakes are intimately involved in growth-minded individuals' ability to rebound from mistakes.

ap
ASSOCIATION
PSYCHOLOGICAL SCIENCES

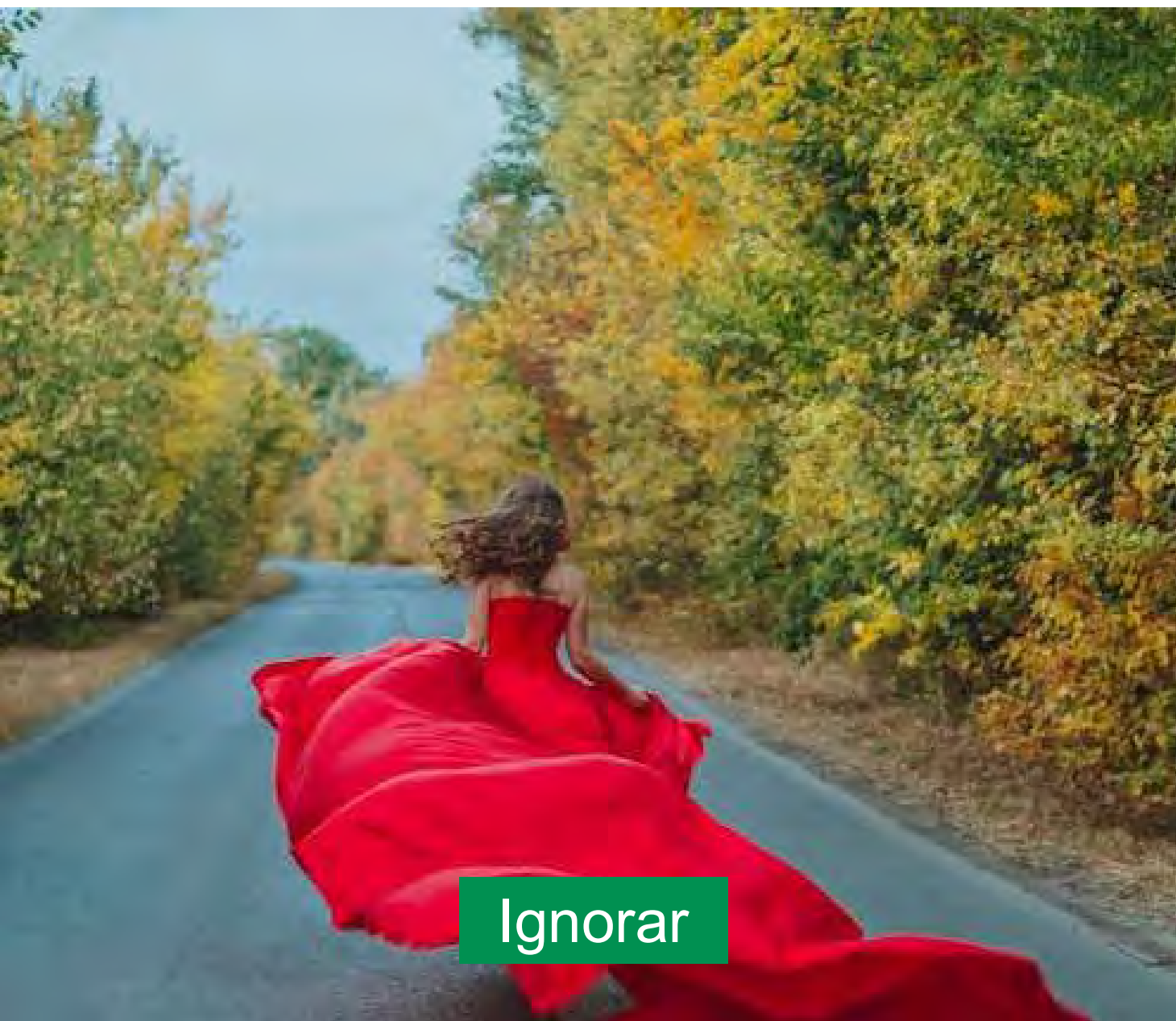
Psychological Science
22(12) 1484–1489
© The Author(s) 2011
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0956797611419561
http://pss.sagepub.com
SAGE

Fixed Mind-Set

Growth Mind-Set



Source: Moser, J. S., Schroder, H. S., Heeter, C., Moran, T. P., & Lee, Y. H. (2011). Mind your errors: Evidence for a neural mechanism linking growth mind-set to adaptive posterror adjustments. *Psychological science*, 22(12), 1484-1489.



Ignorar

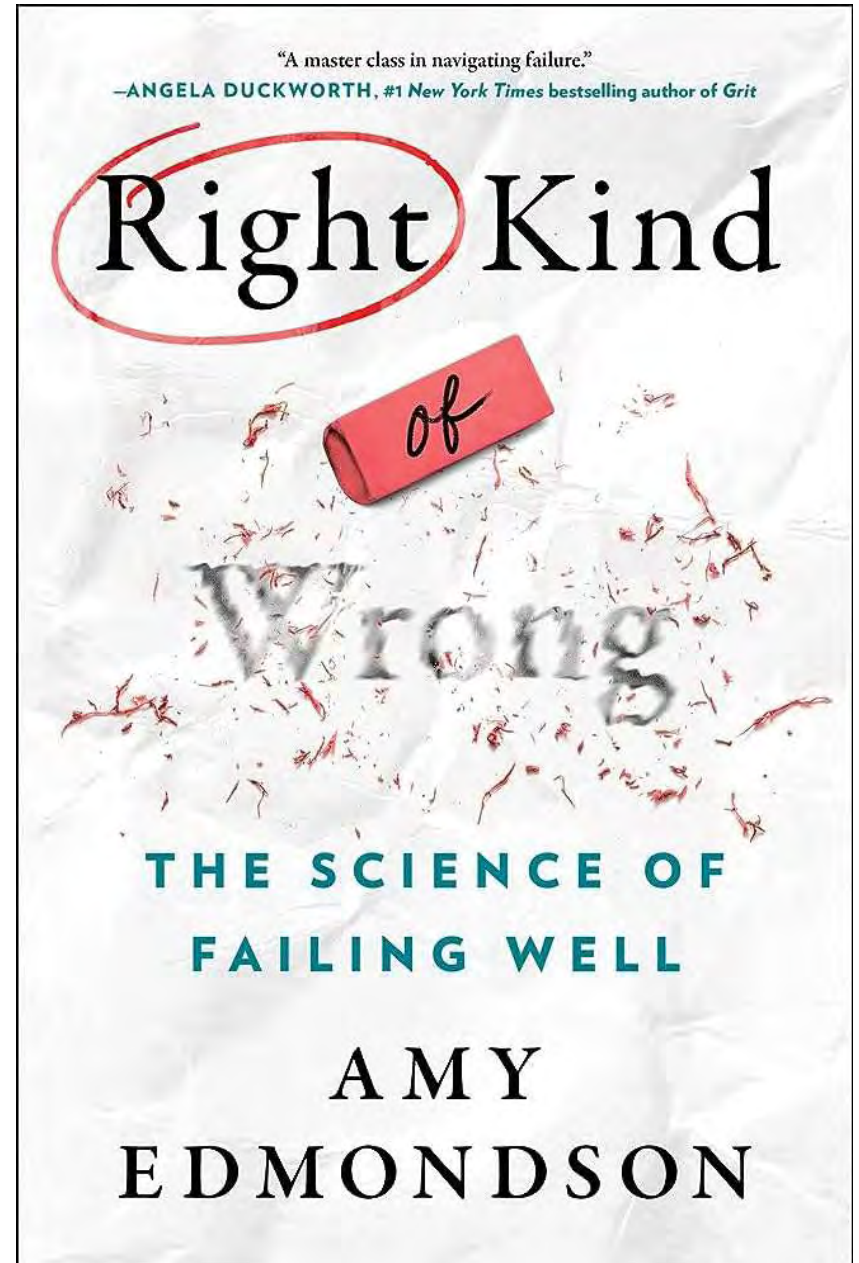


Corrigir



4

Dominar a
arte de
errar bem





Básicos



Complexos



Inteligentes

4 criterios

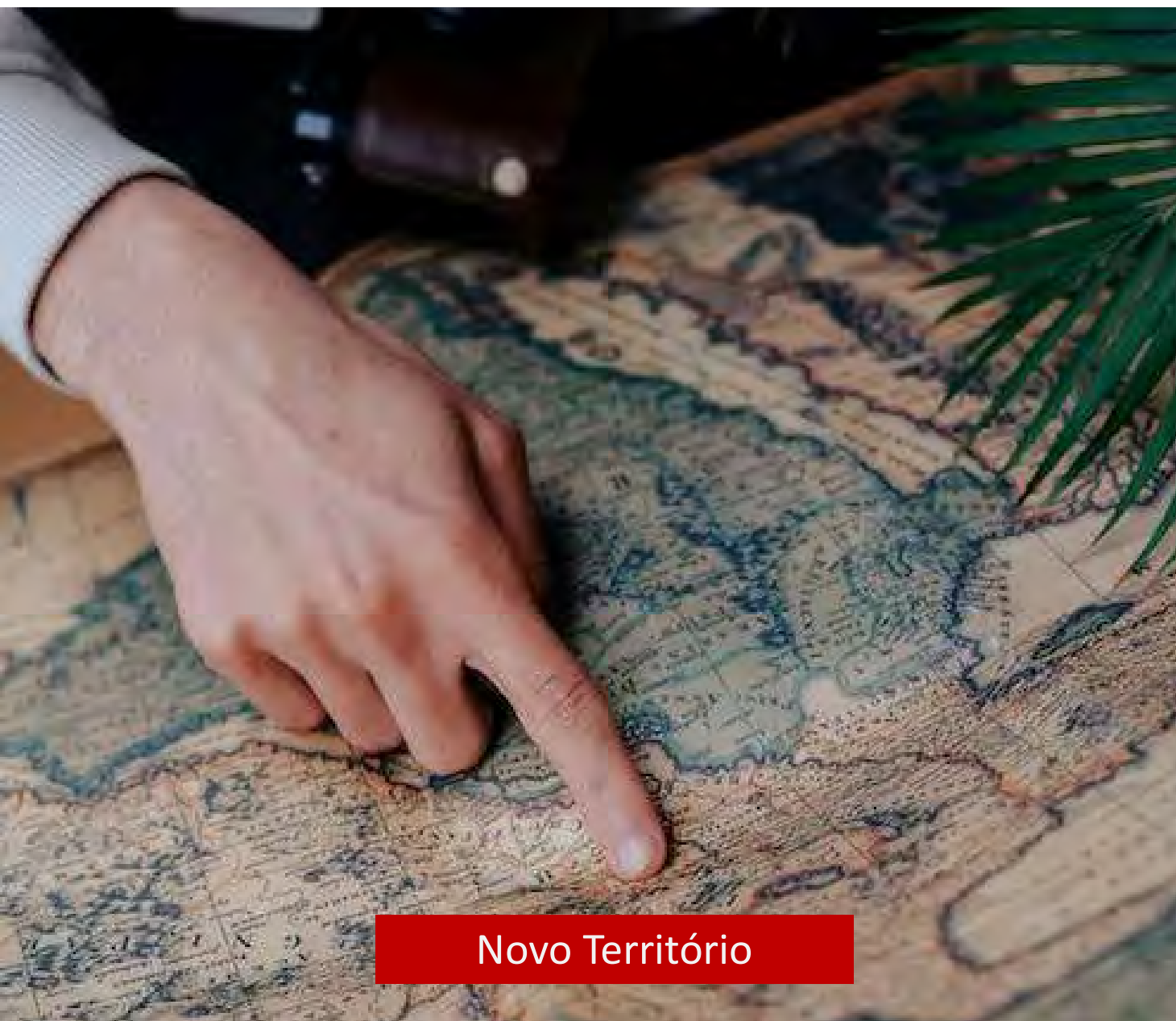




Perseguir um objetivo



Hipótese



Novo Território



Custo e âmbito, o menor possível



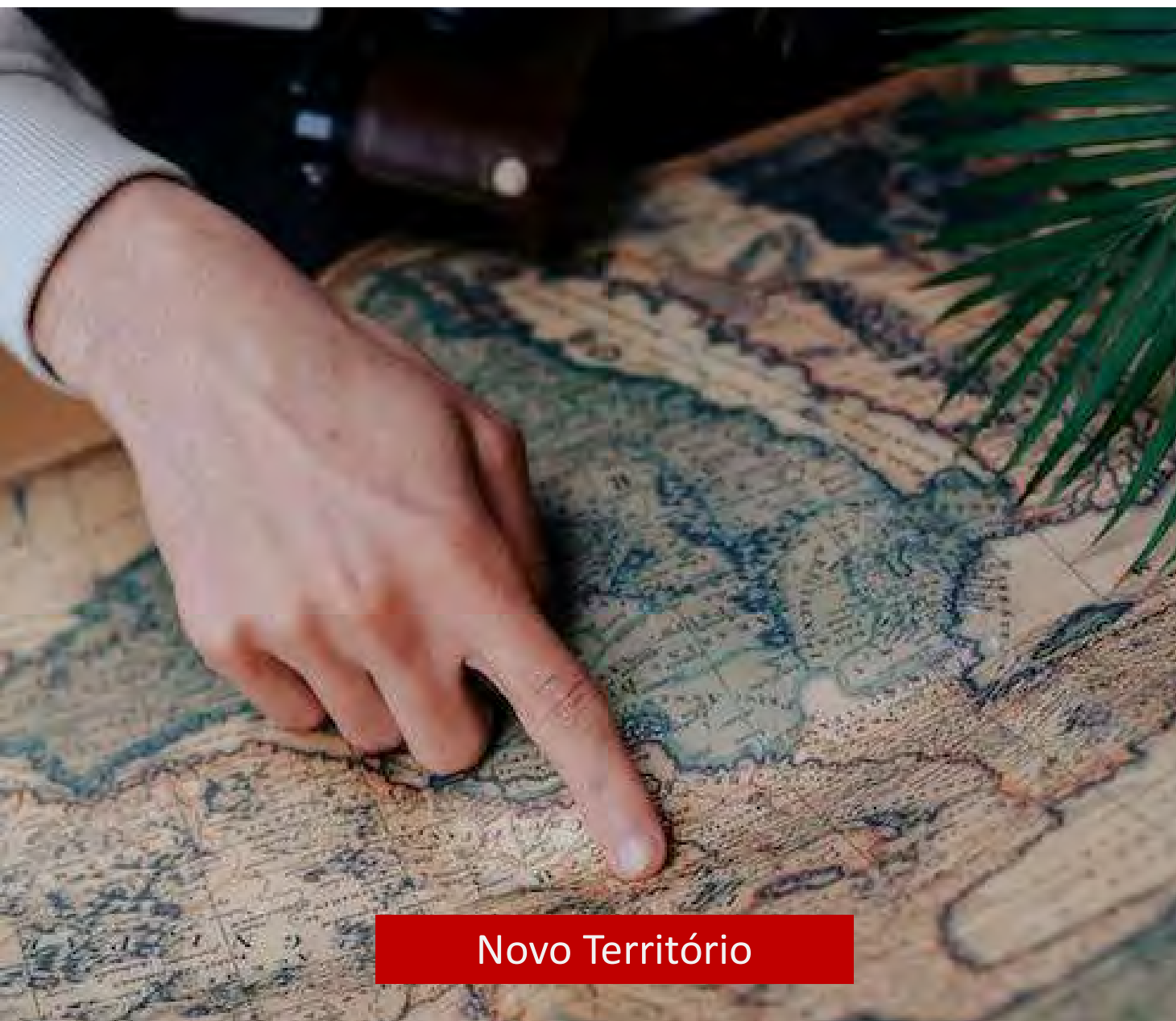
Cristóvão Colombo?



Perseguir um objetivo



Hipótese



Novo Território



Custo e âmbito, o menor possível

A photograph showing a person's hands holding a grey mug on a white table. Another person's hands are visible, one resting on the table and the other near a second grey mug. A small vase with dried flowers is in the background. A blue banner with white text is overlaid at the bottom.

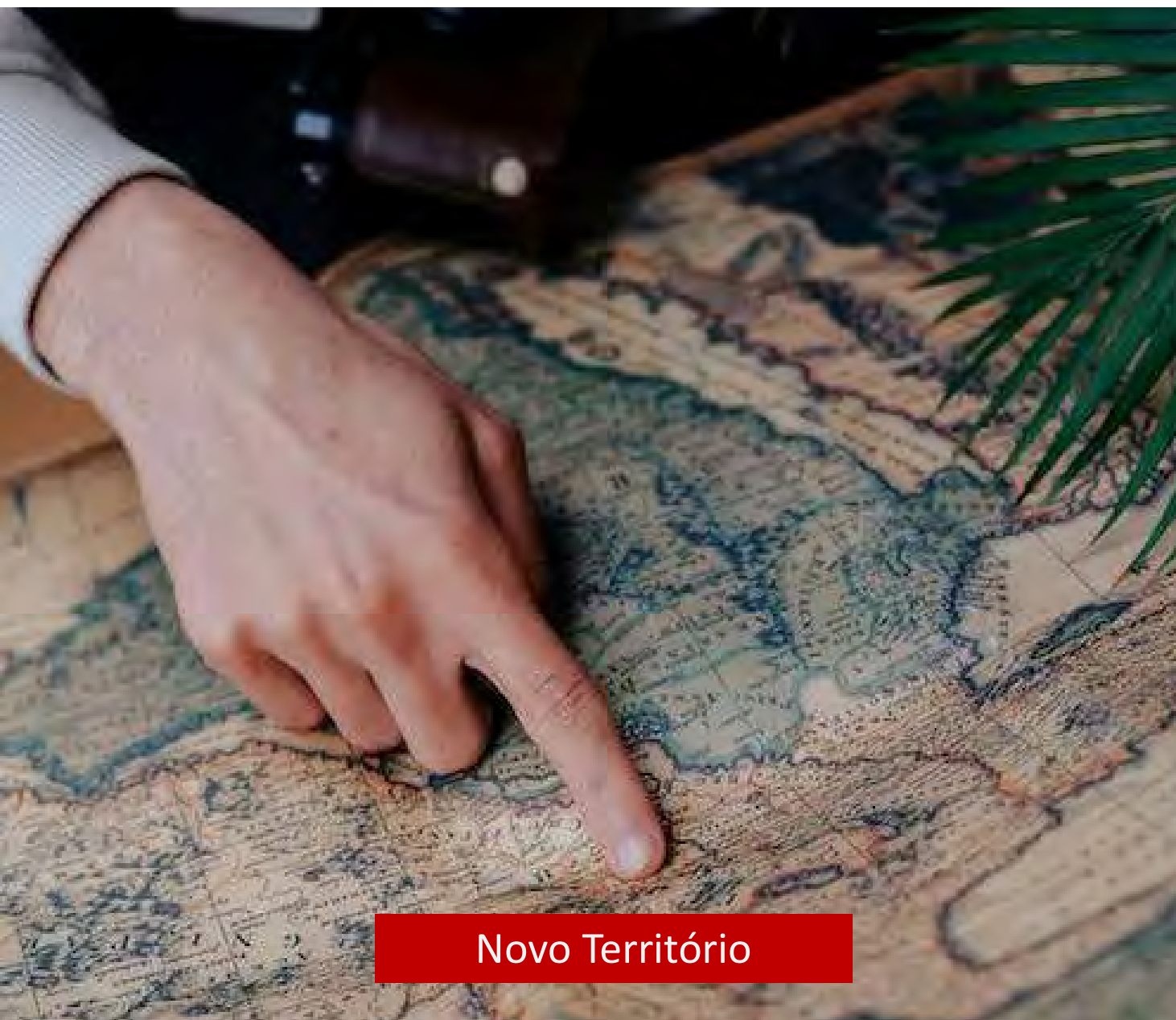
Blind Date que corre mal?



Perseguir um objetivo



Hipótese



Novo Território



Custo e âmbito, o menor possível



Queda de um Avião?

A photograph of the Space Shuttle Columbia in flight, angled upwards against a dark blue sky. The shuttle is white with orange and black thermal tiles on the nose and wings. The word "USA" is visible on the side of the orbiter. Large plumes of white smoke and fire are coming from the engines at the rear.

Estratégia de decisão (CRM)
“Cockpit Resource Management”

Estudo da NASA de 1970.
“GOD Like certainty” do piloto.

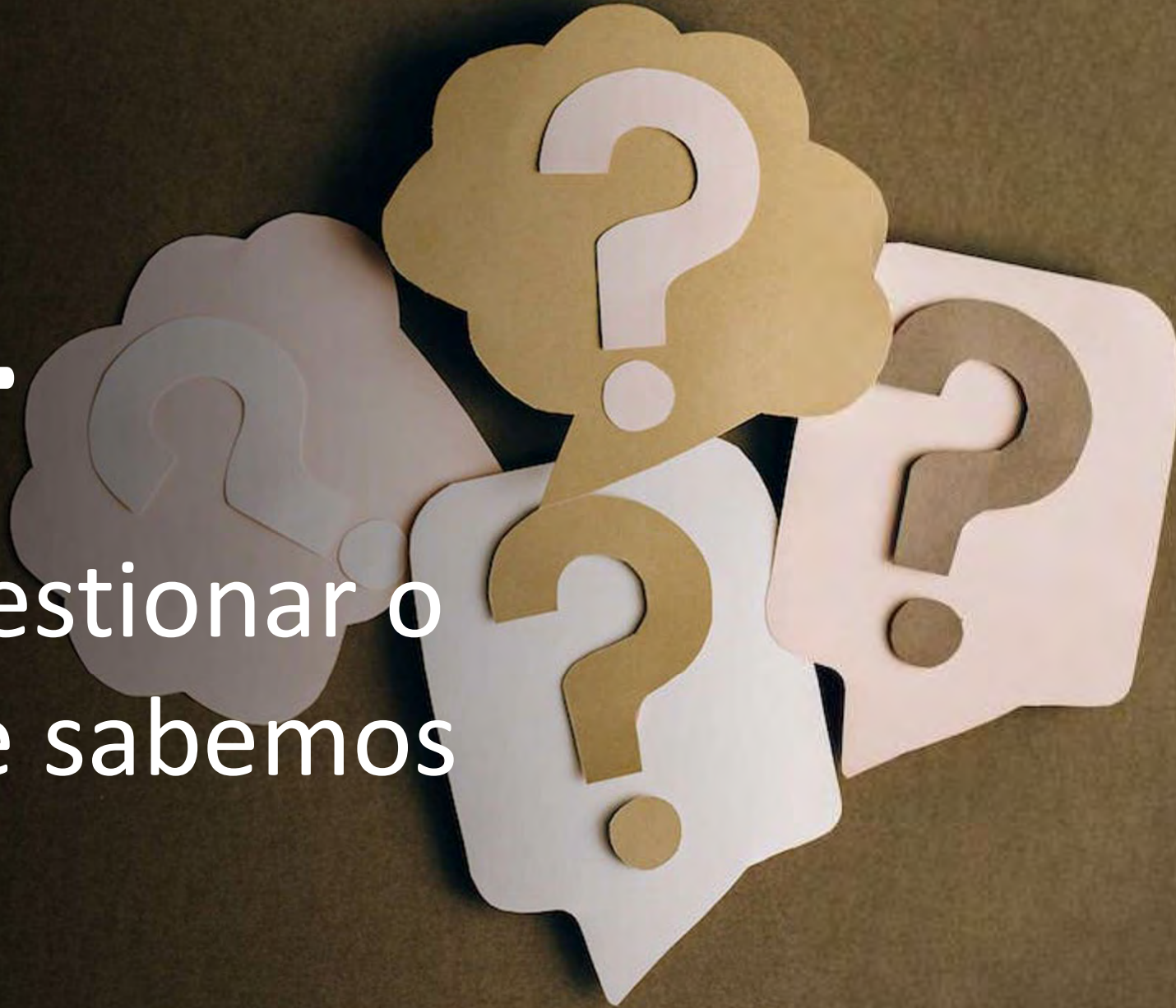
Segurança psicológica nasceu de um erro

HIP: Melhores equipas = cometem menos erros médicos



1

Questionar o
que sabemos



2

Foco



3

Mindset





4

Dominar a
arte de
errar bem

Obrigada.

