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 **LABORATORY
FOR
COGNITIVE
AND
NEUROLOGICAL
SCIENCES**

L'expertise sans peine

Sebastian Dieguez
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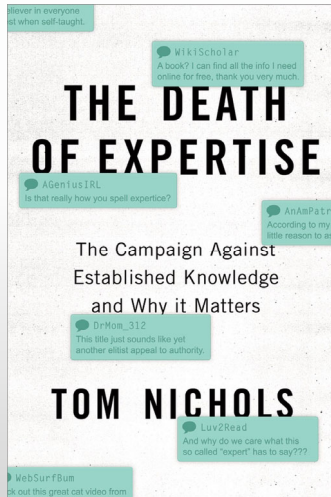
Neuchâtel, 13.09.2019
26e journée de droit de la santé

Qu'est-ce que l'expertise?

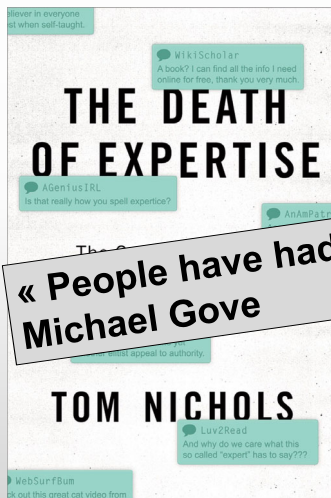
Paradoxes de l'expertise

Obstacles et dangers de l'expertise

L'expertise aujourd'hui: entre défiance et prolifération



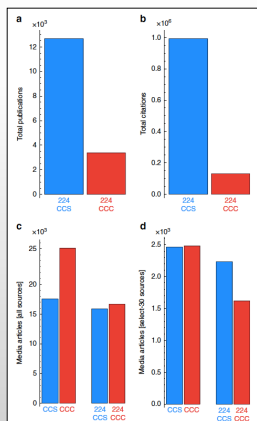
L'expertise aujourd'hui: entre défiance et prolifération



« People have had enough of experts! »
Michael Gove

Expertise et société

ARTICLE Nature Communications, 2019
<https://doi.org/10.1038/s41467-019-09959-4> OPEN
Discrepancy in scientific authority and media visibility of climate change scientists and contrarians
 Alexander Michael Petersen¹, Emmanuel M. Vincent^{2,3} & Anthony LeRoy Westerling^{1,3,4}

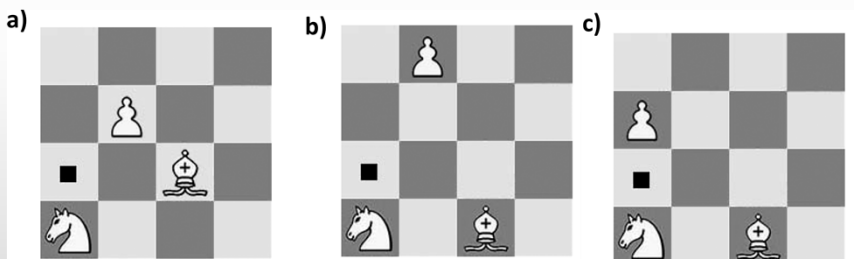


« Post-vérité »

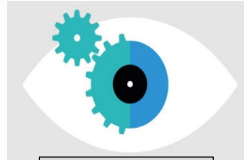
- Culture du clash et fausse équivalence
- *Merchants of doubt*
- Pseudo-expertise

Qu'est-ce que l'expertise? Psychologie

« Le cavalier doit atteindre le carré noir en 3 mouvements »



Qu'est-ce que l'expertise? Psychologie



Perception



Mémoire



Décision



Organisation

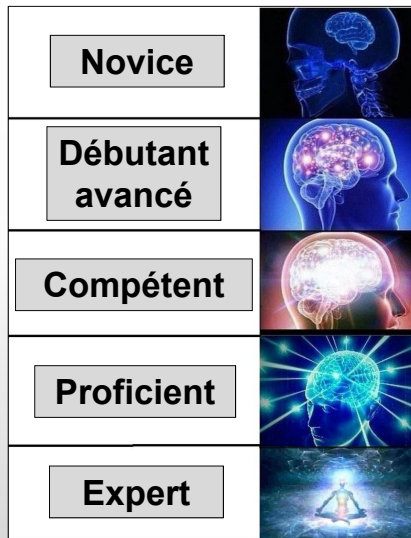
Pertinence

Rapidité

Généralisation



La longue marche vers l'expertise



Contrôle
volontaire



« Intuition »

Dreyfus & Dreyfus, 2005

Qu'est-ce que l'expertise? Epistémologie

L'expertise n'est pas simplement de la *compétence*; l'expert est plus qu'un « professionnel », un « spécialiste », un « instructeur » ou un « passionné ».

« S is an expert about domain D if and only if (A) S has **more true beliefs** (or high credences) in propositions concerning D than most people do, and **fewer false beliefs**; and (B) the **absolute number of true beliefs** S has about propositions in D is very substantial. »

Alvin Goldman 2001, 2018

Qu'est-ce que l'expertise? Epistémologie

- **L'expertise est...**
 - ... un *service* rendu à une communauté
 - ... *spécifique* à un domaine
 - ... *opaque*
 - ... une *performance*
 - ... une question de *réputation*
- **Problèmes:**
 - Mesure de l'expertise? (erreurs)
 - Responsabilité de l'expert (rendre des comptes)
 - Etendue et nature du domaine? (faux domaines)
 - Identification de l'expertise? (pseudo-experts)

Qu'est-ce que l'expertise? Epistémologie

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Expertise et confiance

« Dépendance épistémique »

« If A has good reasons to believe that B has good reasons to believe p, then A has good reasons to believe p. »

John Hardwig, 1985



« We are more gullible and superstitious today than we were in the Middle Ages, and an example of modern credulity is the widespread belief that the Earth is round. »

George Bernard Shaw

Alvin Goldman 2001, 2018

« Experts: which ones should you trust? »

(Goldman, 2001)

- 1) **Arguments** presented by the contending experts to support their own views and critique their rivals' views.
- 2) **Agreement** from additional putative experts on one side or other of the subject in question.
- 3) **Appraisals** by "meta-experts" of the experts' expertise (including appraisals reflected in formal **credentials** earned by the experts).
- 4) **Evidence** of the experts' **interests and biases** vis-a-vis the question at issue.
- 5) **Evidence** of the experts' past "**track-records**".

Paradoxes de l'expertise

Les experts ne peuvent pas expliciter en quoi consiste leur expertise, et ne peuvent communiquer que partiellement avec les non-experts.

Les non-experts ne peuvent pas savoir pas ce que c'est d'être expert dans un domaine, et de ce fait peuvent facilement négliger la parole des experts, et même se prendre eux-mêmes pour des experts.

The curse of knowledge

« Call it the Curse of Knowledge: **a difficulty in imagining what it is like for someone else not to know something that you know.** »

« **The inability to set aside something that you know but that someone else does not know** is such a pervasive affliction of the human mind that psychologists keep discovering related versions of it and giving it new names: *Egocentrism, hindsight bias, false consensus, illusory transparency, mindblindness...* »

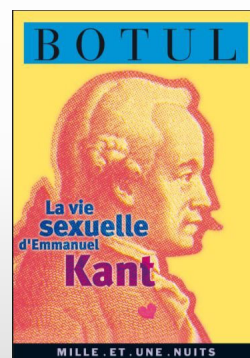
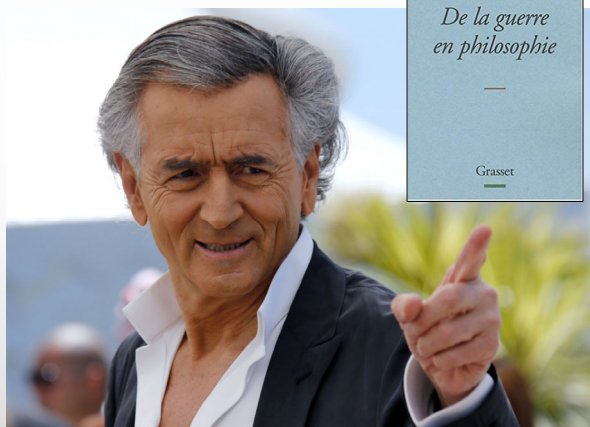
« The curse of knowledge is insidious, because it conceals not only the contents of our thoughts from us but their very form. When we know something well, we don't realize how abstractly we think about it. »
(Steven Pinker, *The Sense of style*)



Jargon; arrogance; autorité; paternalisme;
malentendus; simplifications; manipulations...

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Autonomie épistémique: le cas Botul



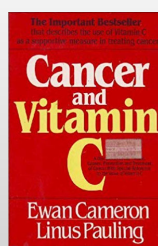
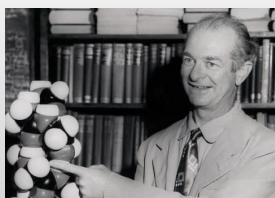
Effraction épistémique

Epistemic Trespassing

NATHAN BALLANTYNE
Fordham University

Mind, 2018

« Epistemic trespassers are thinkers who have competence or expertise to make good judgments in one field, but **move to another field where they lack competence**—and pass judgment nevertheless. We should doubt that trespassers are reliable judges in fields where they are outsiders. »



L'effet Dunning-Kruger

Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments

Justin Kruger and David Dunning
Cornell University

Journal of Personality and Social Psychology, 1999

■ Lemon disguise was no help

PITTSBURGH — A middle-aged bank robber who rubbed lemon juice on his face because he thought it would prevent surveillance cameras from taking a clear picture of him was sentenced to 24½ years in prison.

Surveillance photos at the bank clearly showed MacArthur Wheeler and Clifton Earl Johnson taking \$5,200 from a Mellon Bank in Swissvale on Jan. 5, 1995.

U.S. District Judge Gary Lancaster sentenced Wheeler, 46, on Friday to the prison term and ordered that he serve three years on probation after that.

Johnson, 43, received a five-year sentence in April, in part because he testified against Wheeler. Johnson told him about the juice, Wheeler said.

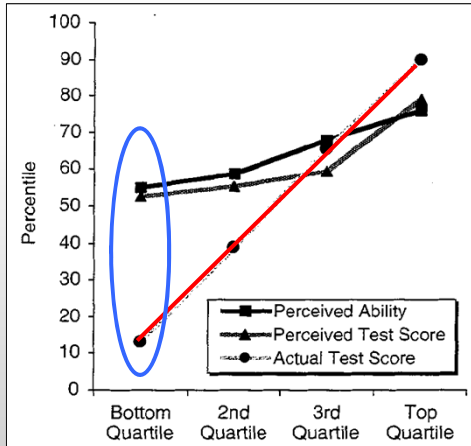
The men didn't wear masks because they were sure the lemon juice would obscure their faces, according to Shaun Sweeney, who prosecuted Wheeler.

L'effet Dunning-Kruger

Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments

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« [P]oor performers tend not to know just how badly they perform. They lack insight into their incompetence **because their deficits in skill and expertise produce two burdens**. The first is the obvious one: **lacking skill and knowledge means they make many wrong decisions**. The second is not so obvious, but no less important: **because they lack the knowledge to recognise what a correct decision looks like, they are not in a position to know that they are making mistakes** and that others are choosing more wisely. **They don't know what they don't know**. As a consequence, they believe they are doing just fine – and perhaps even better than most other people. » (David Dunning)

L'effet Dunning-Kruger

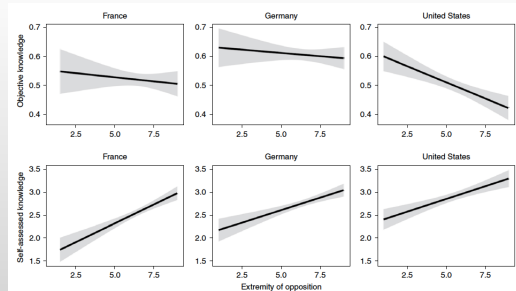
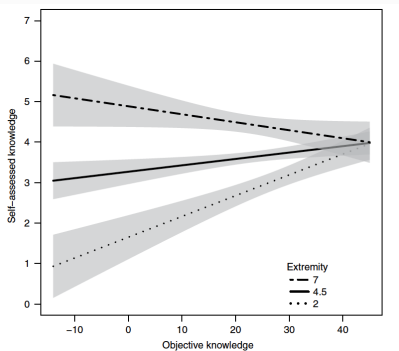
nature human behaviour

LETTERS

<https://doi.org/10.1038/s41562-018-0520-3>

Extreme opponents of genetically modified foods know the least but think they know the most

Philip M. Fernbach^{1*}, Nicholas Light¹, Sydney E. Scott², Yoel Inbar³ and Paul Rozin⁴



Le bullshit pseudo-profond

Judgment and Decision Making, Vol. 10, No. 6, November 2015, pp. 549–563

On the reception and detection of pseudo-profound bullshit

Gordon Pennycook* James Allan Cheyne† Nathaniel Barr‡ Derek J. Koehler†

Jonathan A. Fugelsang†



Pseudo-profound bullshit

Actual tweets from Deepak Chopra :

“Matter is the experience in consciousness of a deeper non-material reality”.

Deepak Chopra Random Generator :

“Hidden meaning transforms unparalleled abstract beauty”.

Pseudo-profound bullshit Random generator :

“Consciousness is the growth of coherence, and of us”.

Mundane statements:

“Newborn babies require constant attention”.

Actual inspirational quotes:

“A wet person does not fear the rain”.

Pseudo-profound bullshit

Judgment and Decision Making, Vol. 10, No. 6, November 2015, pp. 549–563

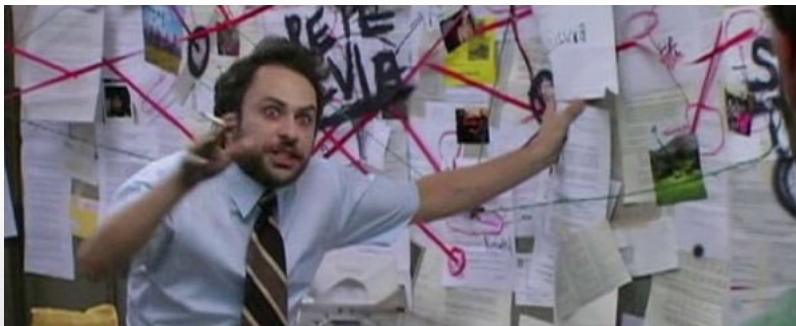
On the reception and detection of pseudo-profound bullshit

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RESULTS:

- More than 25% perceive great depth in bullshit statements;
- Inversely related to analytical thinking and reasoning (and positively to intuitive thinking and faith in intuition);
- Positively related to belief in conspiracy theories, the paranormal and alternative medicine, as well as religiosity.
- **+ Related to fake news endorsement and sharing.**

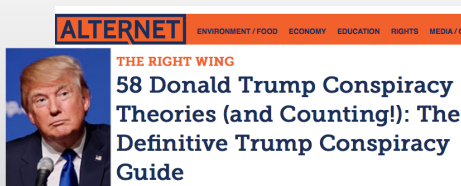
Complotisme: l'autonomie épistémique en roue libre



La mentalité complotiste

NASA Faked the Moon Landing—Therefore, (Climate) Science Is a Hoax: An Anatomy of the Motivated Rejection of Science

Stephan Lewandowsky¹, Klaus Oberauer^{1,2}, and Gilles E. Gignac¹
¹University of Western Australia and ²University of Zurich *Psychological Science*, 2013



Post-truth: “personal epistemologies”

Epistemic beliefs' role in promoting misperceptions and conspiracist ideation

R. Kelly Garrett¹*, Brian E. Weeks²

PLoS One, 2017

“They have given up one way of thinking and adopted another.”
 (L. Wittgenstein)

Beliefs about knowledge...

- Intuition is my truth
- “Truth” is a power-game
- “Winning” an argument means being right
- I get to decide what feels right or not
- It's not a lie if I agree with it

...have consequences:

- Illusion of understanding
- Illusion of knowing
- Overconfidence
- Gullibility
- Cynicism
- Rejection of science and expertise
- Polarization...

« Post-vérité » et expertise

Si les croyances personnelles, les intuitions et le ressenti se sont substitués à la recherche de la vérité - s'il n'y a plus de vérité objective -, alors la notion d'expertise n'a plus aucun sens, et les experts aucune légitimité.



Humilité intellectuelle pour tous

Questionnaire

Comment être absolument certain d'être intellectuellement humble ?
Pour chaque affirmation, indiquez sur une échelle de 1 à 5 à quel point elle vous ressemble (1 = pas moi du tout ; 5 = tout à fait moi), puis faites la somme de vos réponses.

1. Je questionne mes propres opinions, positions et points de vue, car ils pourraient être erronés.
2. Je réévalue mes opinions quand de nouvelles informations se présentent.
3. Je reconnais la valeur des opinions qui sont différentes des miennes.
4. J'accepte que mes croyances et attitudes puissent être fausses.
5. Confronté à des éléments contradictoires, je suis ouvert à changer mes opinions.
6. J'aime trouver de nouvelles informations qui diffèrent de celles que je tiens déjà pour vraies.

Leary *et al.*, 2017

Ethique de l'expertise

Rendre l'expertise extraordinairement coûteuse

- Allier compétence et réputation
- Ne jamais tenir l'expertise pour acquise
- Refuser l'effraction épistémique
- Distinguer intuition et procédures
- Identifier la chaîne de dépendance épistémique.
- Détecter les pseudo-experts.
- Rendre des comptes