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Fraude : quelques affaires retentissantes



Obokata et Sasai (2014) : 2 rétractations



Stapel (2011) : 55 rétractations



Hwang (2006) : 2 rétractations

Les sciences « dures » ne sont pas épargnées



Schön (2003) : 17 rétractations



Bogdanoffs : 6 inepties

Et la médecine semble la plus affectée



Boldt (2013) : 88 rétractations



Fujii (2011) : 183 rétractations

La fraude selon Charles Babbage (1791-1871)

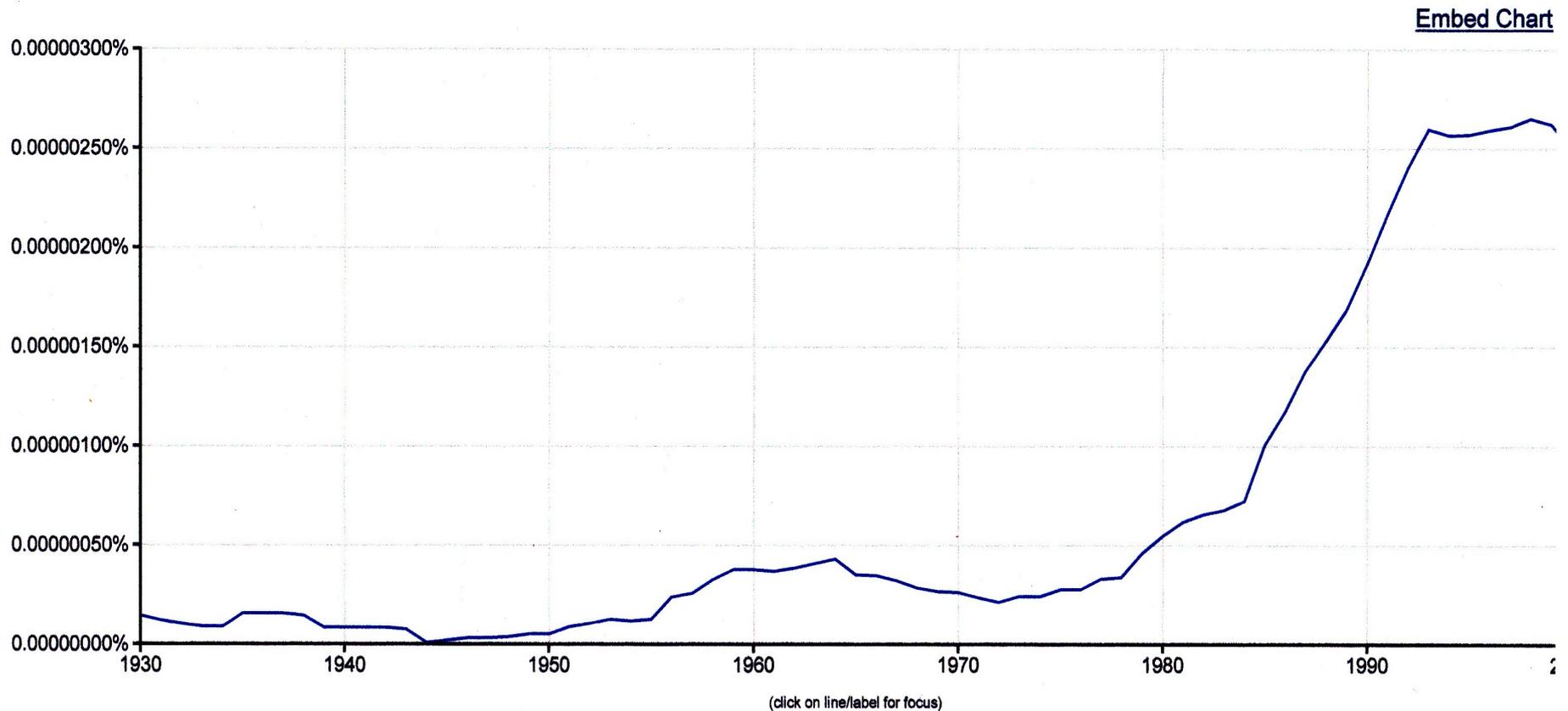
- Le canular

- **La falsification** « diffère du canular, en cela que ce dernier est conçu pour ne durer qu'un temps, pour ensuite être découvert et ridiculiser ceux qui lui ont accordé foi, tandis que celui qui décrit le résultat d'expériences qu'il n'a jamais faites a l'intention de se faire une réputation durable dans le monde scientifique ».

- **La taille** « consiste à couper ici et là quelques observations qui sortent par trop de la moyenne pour se forger une réputation d'observateur exceptionnellement méticuleux ».

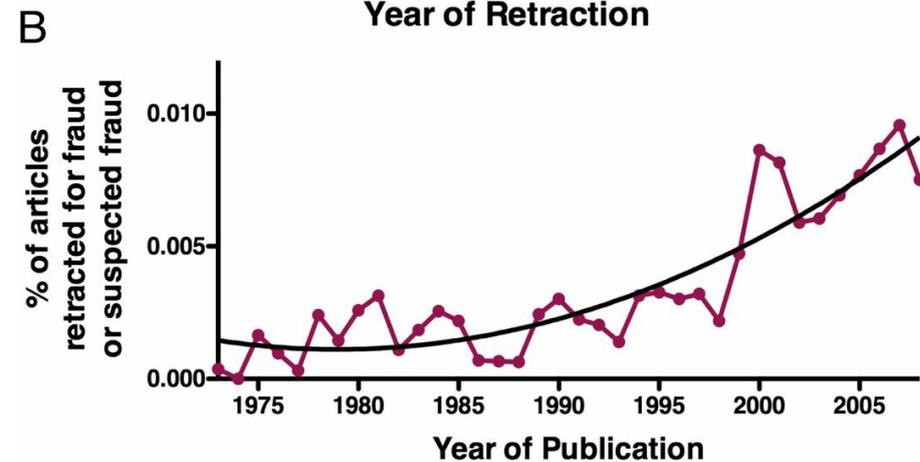
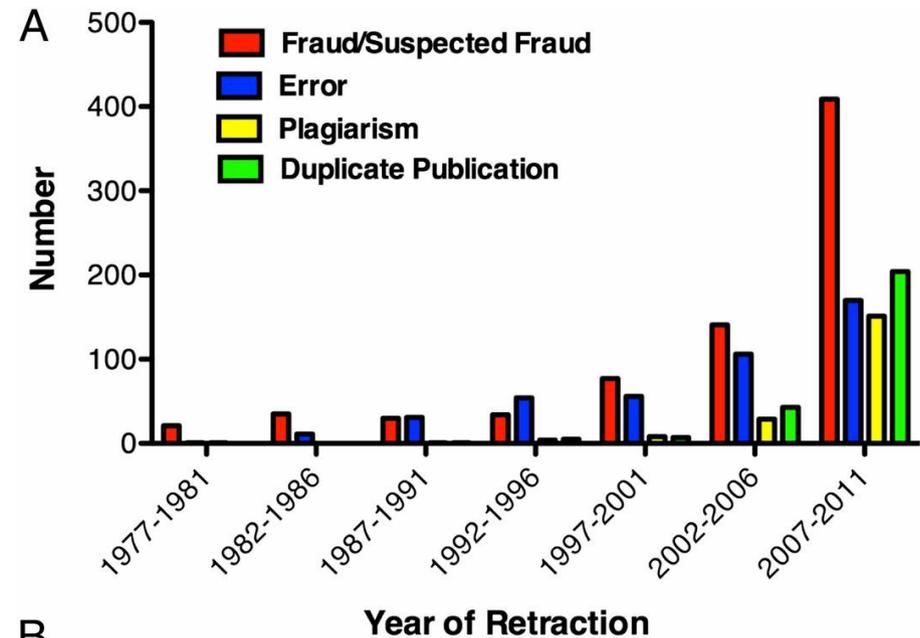
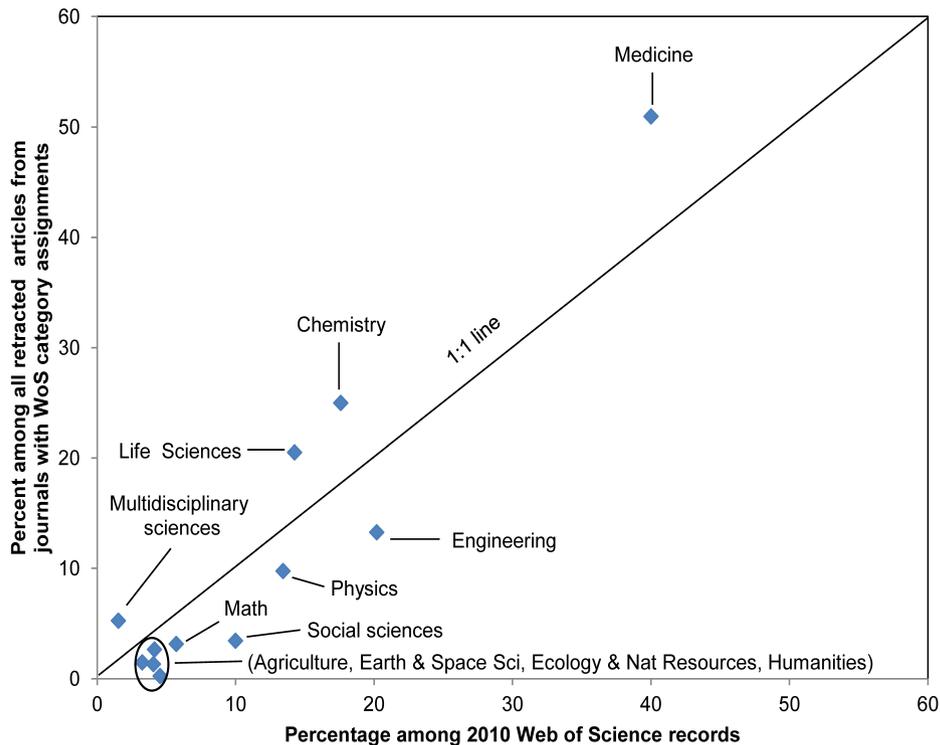
- **Le cuisinage**, « art aux manifestations multiples, dont le point commun est de donner à des observations ordinaires l'apparence et les caractéristiques de celles qui sont les plus précises. Une des nombreuses manières de procéder est de faire de multiples observations, et de ne sélectionner que celles qui vous plaisent le plus. S'il mène une centaine d'observations, le cuisinier doit être bien malchanceux s'il ne peut en trouver une vingtaine qu'il pourra servir »

La découverte de la fraude scientifique



Analyse de la fréquence du terme « science fraud » dans les livres de langue anglaise indexés par google books.

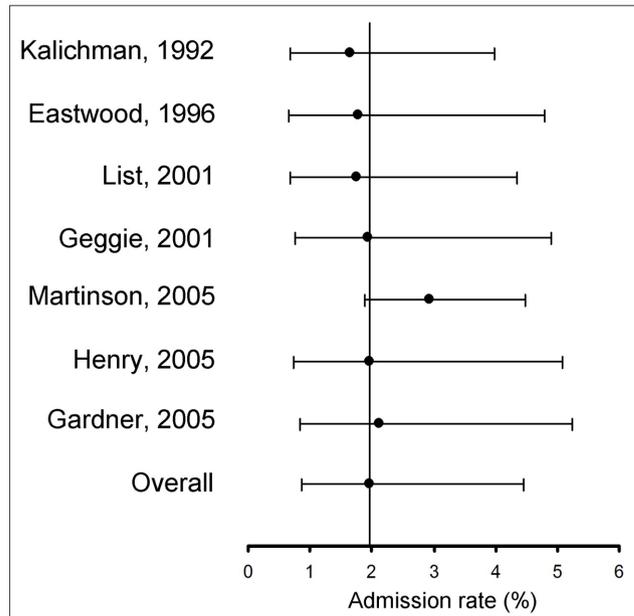
La biomédecine semble la discipline la plus affectée



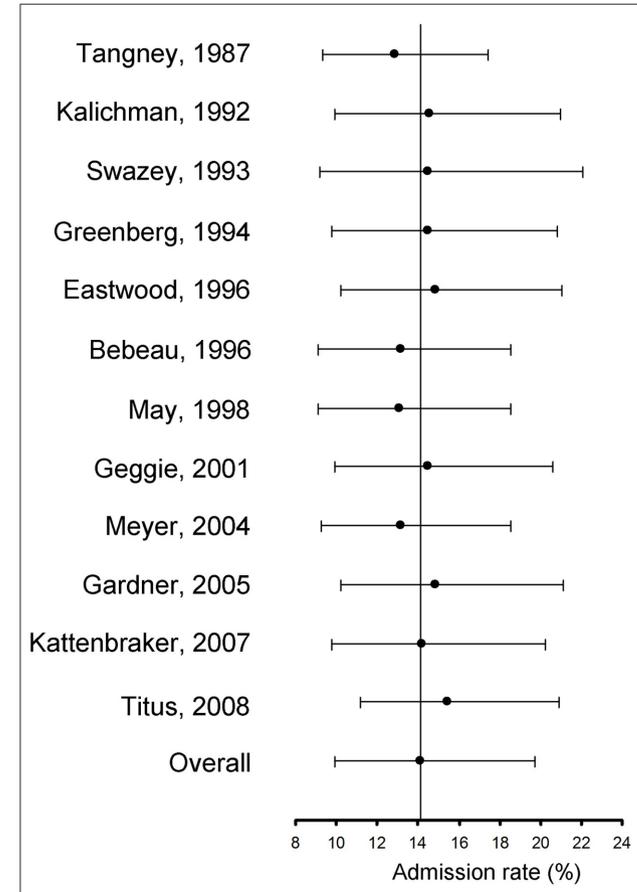
M.L. Grieneisen et M. Zhang,
 « A Comprehensive Survey of Retracted Articles
 from the Scholarly Literature »,
PloS One (2012)

F.C. Fang, R. G. Steen et A. Casadevall,
 « Misconduct Accounts for the Majority of Retracted Scientific Publications »,
Proceedings of the National Academy of Sciences USA (2012)

Le taux de rétractation sous-estime-t-il l'ampleur des fraudes ?



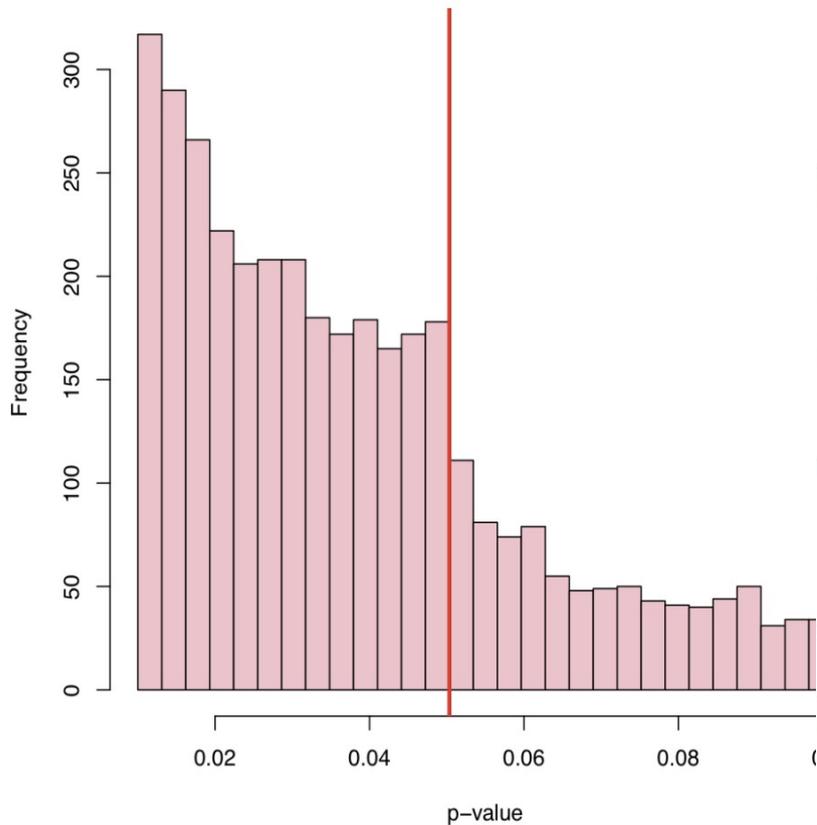
Auto-déclaration



Connaissance de cas

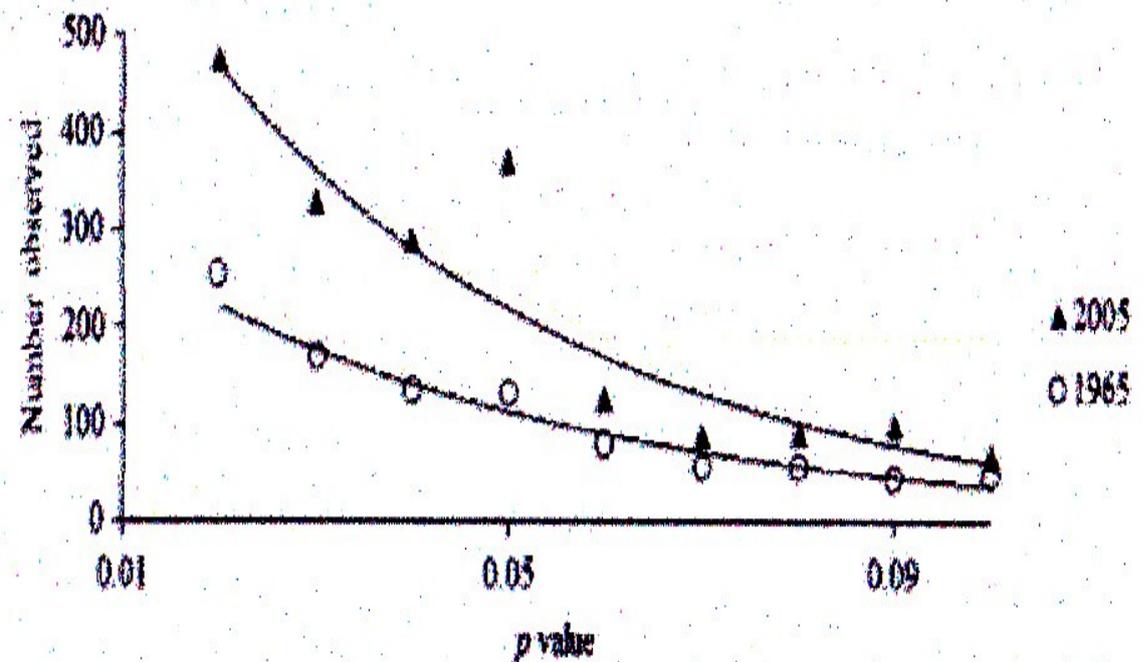
D. Fanelli, « How Many Scientists Fabricate and Falsify Research ? A Systematic Review and Meta-Analysis of Survey Data », *PLoS One* (2009)

La recherche qui trouve (1)



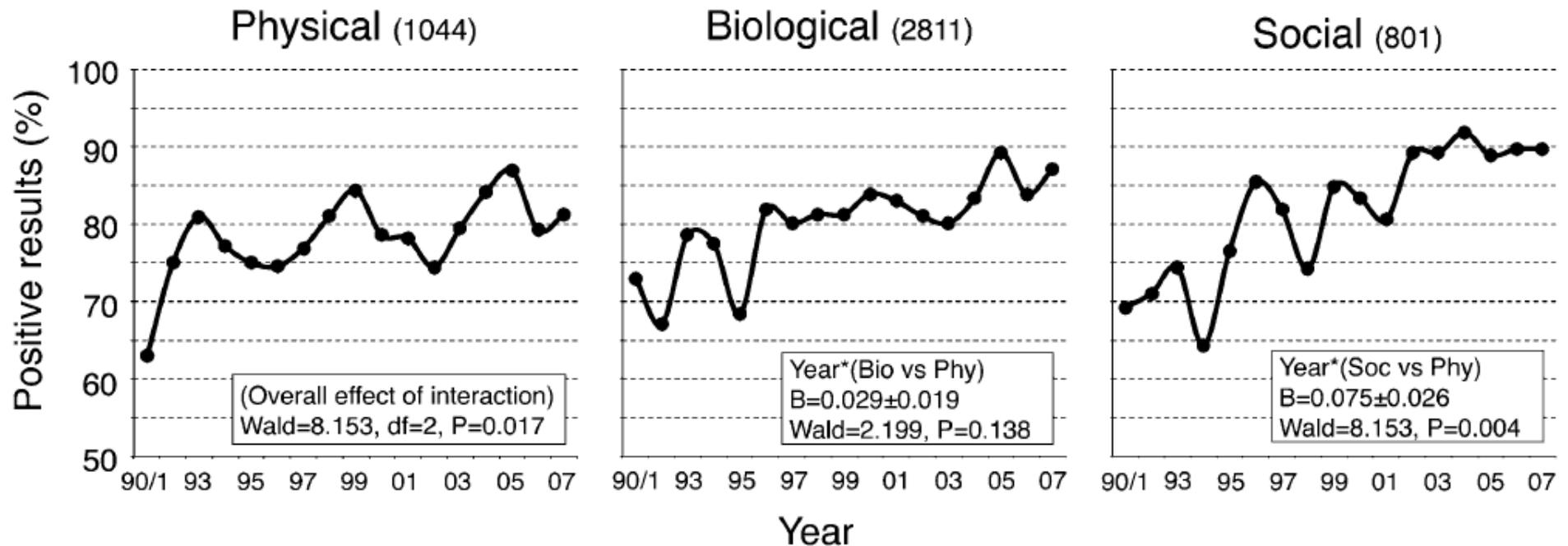
Distribution des valeurs de p dans 3 000 publications en psychologie expérimentale parues en 2008.

D'après Masicampo et Lalande (2012)



Distribution des valeurs de p rapportées dans les publications de 1965 et de 2005 du *Journal of Personality and Social Psychology*

La recherche qui trouve (2)



Évolution du pourcentage d'articles affirmant avoir confirmé leur hypothèse dans trois domaines entre 1990 et 2007. Fanelli (2012).

On ne publie que ce qui marche

- le caractère confidentiel des journaux « négatifs »
- la prédilection des « grands journaux » pour les belles histoires
- le HARKing (Hypothesing After Résultats are Known)
- l'inflation rhétorique

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Hertz L, Rothman DL, Li B, Peng L.

Front Behav Neurosci. 2015 Nov 13;9:308. eCollection 2015. No abstract available.

PMID: 26617504

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Le coût de la fraude

- scientifique : la littérature toxique
- financier : le gaspillage de fonds publics

Table 8: Effect of Retraction on Publication Frequency and NIH Funding

	(1)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
	Nb. of Related Articles	Nb. of Closely Related Articles (80% score or higher)	Nb. of Closely Related Articles (rank 10 or lower)	Nb. of Related Articles Published in High Journal Impact Factor Journals	Nb. of Related Articles Published in Low Journal Impact Factor Journals	Nb. of Grants	\$ Amounts
After Retraction	-0.309** (0.096)	-0.433** (0.166)	-0.271† (0.141)	-0.333** (0.115)	-0.240** (0.092)	-1.152** (0.110)	-1.363** (0.145)
Nb. of Retraction Cases	333	333	333	333	333	332	332
Nb. of Treating/Control Articles	1,644	1,511	1,626	1,633	1,644	1,513	1,513
Nb. of Article-Year Obs.	53,854	49,521	53,264	53,453	53,854	43,159	43,159
Log Likelihood	-188,980	-30,028	-26,628	-121,006	-112,071	-54,399	-273,467

Note: Estimates stem from conditional quasi-maximum likelihood Poisson specifications. The dependent variable is the total number of related articles published in a particular source/year (columns 1a, 2a, 2b, 3a and 3b), as well as the number or total dollar amount of NIH funding awarded in a particular year that yields at least one publication over the next three years that is related to either a retracted article or one of their nearest-neighbor controls (columns 4a, and 4b). The high Journal Impact Factor (JIF) category includes journals in the top quartile of JIF (indexed by ISI), while the low JIF category includes journals from the lower three quartiles. All models incorporate a full suite of calendar year effects.

Le coût de la fraude

- scientifique : la littérature toxique
- financier : le gaspillage de fonds publics
- et surtout humain : quand frauder tue :

Joachim Boldt
Andrew Wakefield

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities (swelling) from lymphoid nodular hyperplasia to atrophic ulceration. Histology showed patchy chronic inflammation in 11 children and reactive ileo-lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and MRI and EEG tests were normal. Abnormal laboratory results were significantly raised urinary uric acid compared with age-matched controls (p=0.03), low haemoglobin in four children, and low serum IgA in 10 children.

Interpretation We identify associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time to possible environmental triggers.

Lancet 1998; **351**: 637-41
See Commentary page

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features of these children.

Patients and methods

12 children, consecutively referred to a department of paediatric gastroenterology, had a history of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms (abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward for a week, accompanied by their parents.

Clinical investigations

Case notes, including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases, the history was obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by consultant staff (PH, MB) with HMS-4 criteria.¹ Developmental records included a review of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SEM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum, ascending, transverse, descending, and sigmoid colon, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

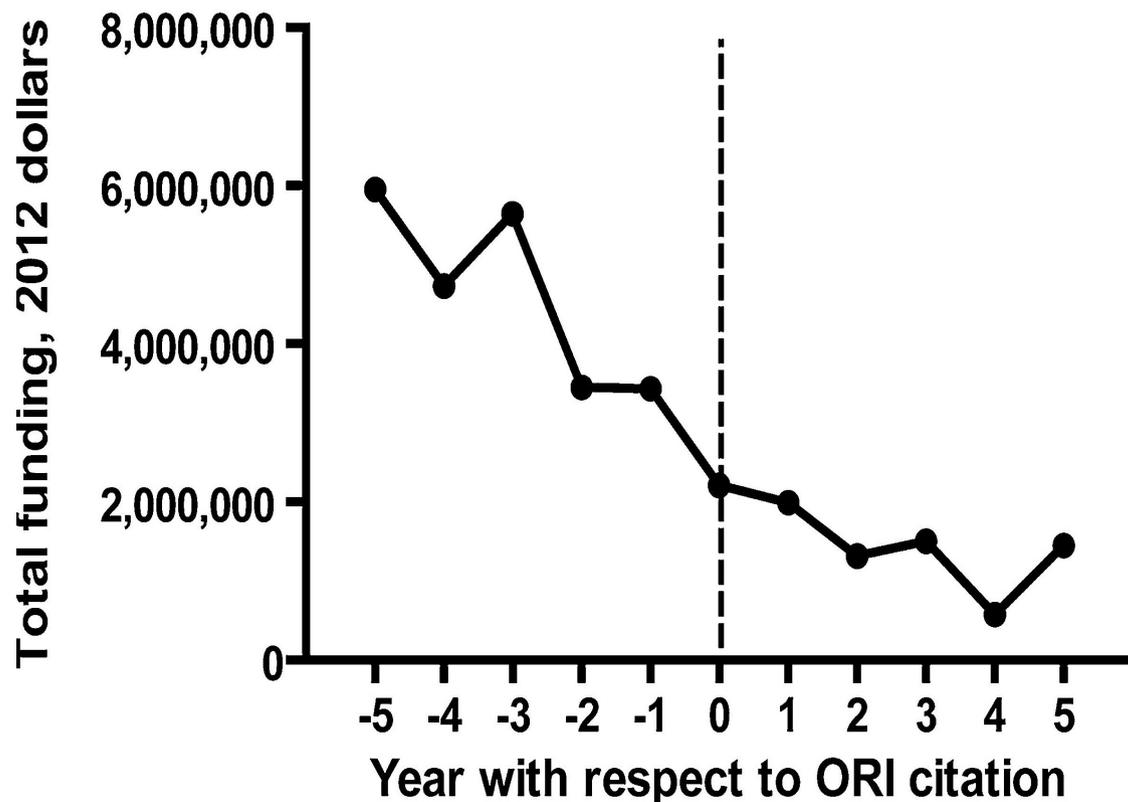
Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary methylmalonic acid was measured in random urine samples from

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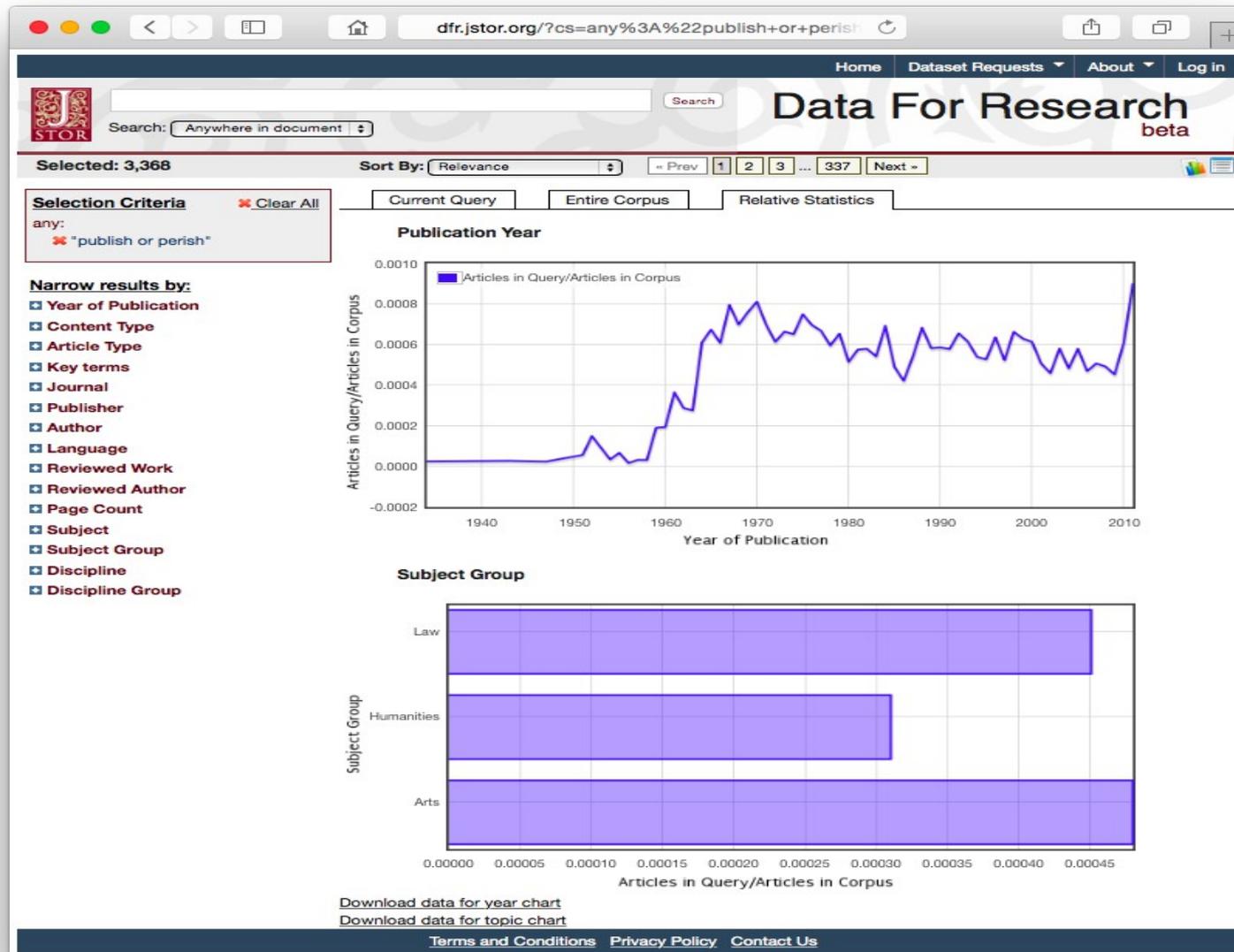
- L'émergence de la Chine comme puissance scientifique
- Publier plus pour gagner plus
- L'hyperinflation productive
- Le financement de plus en concurrentiel



Les chercheurs reconnus coupables de fraude par l'Office of Research Integrity (ORI) américain connaissaient des difficultés de financement plusieurs années avant leur condamnation. Steen et al. *PLoS ONE*, (2013)

Aux sources de la malscience

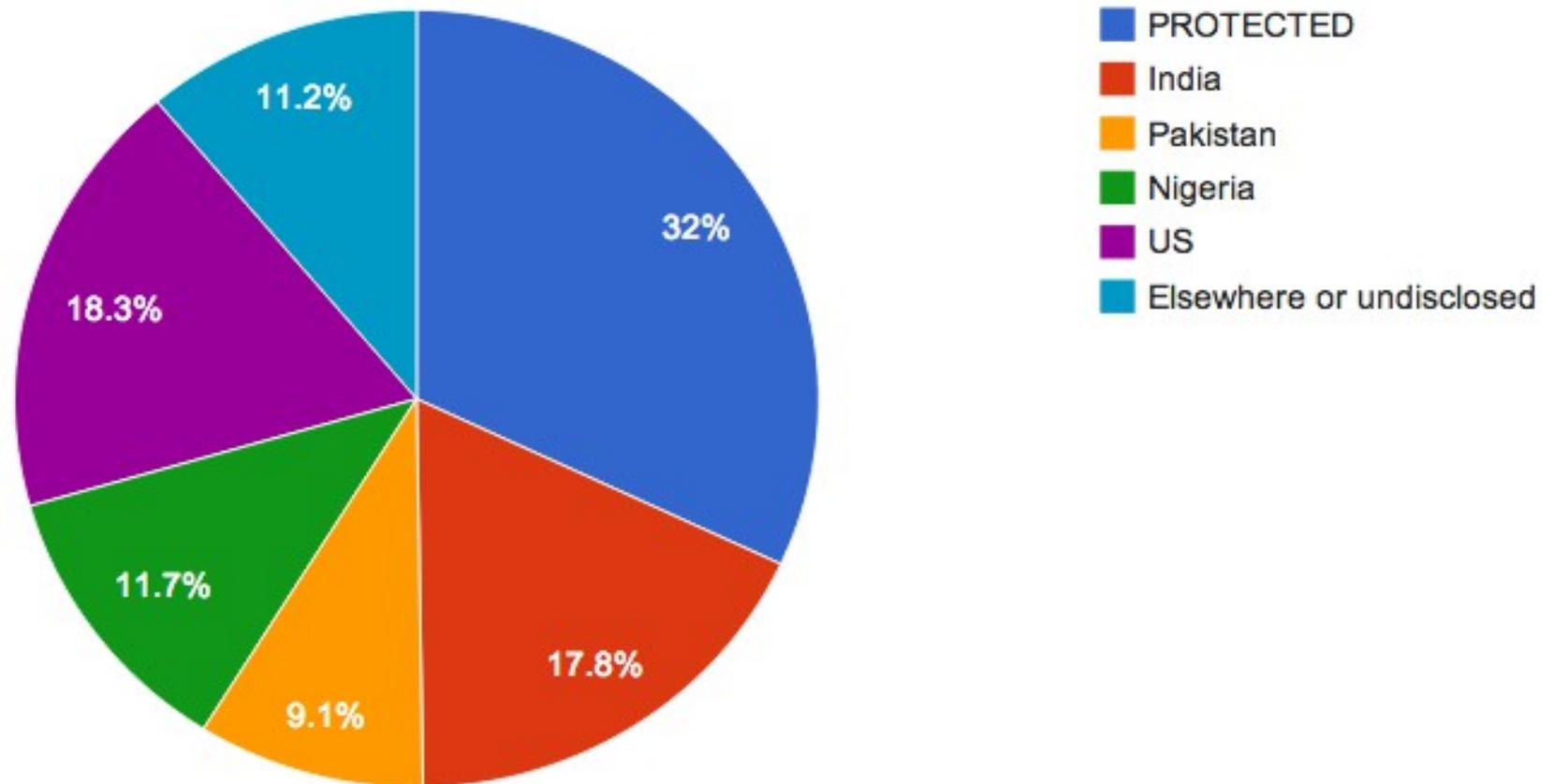
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3. Les mutations de l'édition scientifique : open access et prédateurs

The Open Chemical Physics Journal

ISSN: 1874-4125



[DOI: 10.2174/1874412500902010007]

Active Thermitic Material Discovered in Dust from the 9/11 World Trade Center Catastrophe

Niels H. Harrit, Jeffrey Farrer, Steven E. Jones Kevin R. Ryan, Frank M. Legge, Daniel Farnsworth, Gregg Roberts, James R. Gourley and Bradley R. Larsen Pp 7-31

Hooker *Translational Neurodegeneration* 2014, 3:16
<http://www.translationalneurodegeneration.com/content/3/1/16>



Translational
Neurodegeneration

RESEARCH

Open Access

Measles-mumps-rubella vaccination timing and autism among young african american boys: a reanalysis of CDC data

Bitan S Hooker

A retraction article was published for this article. It is available from the following link; <http://www.translationalneurodegeneration.com/content/3/1/22>



La belle histoire de l'article scientifique

*« À mesure que la partie s'avance, comment ne pas chercher à s'avouer quelles ont été la part du hasard et celle de l'inspiration ?
Mais pour que soit accepté un travail, admise une nouvelle façon de penser, il faut épurer la recherche de toute scorie affective ou irrationnelle.
La débarrasser de tout relent personnel, de toute odeur humaine.
Parcourir la voie royale qui mène une jeunesse balbutiante à une maturité épanouie.
Remplacer l'ordre des événements, des découvertes, par ce qui aurait du être suivi si, au début, la conclusion avait été connue.
Il y a un rite dans la manière de présenter les résultats scientifiques.
Un peu comme si l'on écrivait l'histoire d'une guerre d'après les seuls communiqués d'état-major. »*

François Jacob, *La Statue intérieure*, Odile Jacob, 1987