

# THE FUNNIER SIDE OF SCIENCE

The fascinating world of amusing research generally applies serious science to unusual but intriguing questions, while also including the occasional spoof paper. Science humour can improve student learning and make a topic more accessible to an outside (more general and diverse) audience, contributing to a better understanding of science in the general public. Often, a more serious message is hidden between the lines or disguised by tackling a ridiculous topic.

This is the first in a series of articles presenting some of the weird and wonderful research findings hidden amongst the scientific literature. It aims to ensure that we remember the funnier side of science and provides answers to questions we may have been too afraid to ask. This study was conducted entirely in the author's spare time and is in no way related to his employer. To get started, we explore general issues about publishing, the difficulties associated with it and provide amusing examples.

## BACKGROUND

The science humour magazine *Annals of Improbable Research* introduced the Ig Nobel Prizes in 1991 to honour unusual and imaginative research. These prizes aim to make people laugh and then think, while stimulating their interest in science. They are presented to the winners by genuine Nobel laureates during an annual ceremony at Harvard University.

The *Journal of Irreproducible Results* is another science humour magazine worth mentioning. These magazines often include shorter communications addressing intriguing questions such as: Which came first, the chicken or the egg? Does it rain more often on weekends? Can you compare apples and oranges? How do cats react to bearded men? Is an eye for an eye worth more than an arm and a leg? What is the dead grandmother/exam syndrome?

To set your mind at ease: The chicken came first, proven experimentally using a chicken, an egg and the US Postal Service (but conflicting with a later theoretical answer collaboratively provided by a geneticist, philosopher and chicken farmer). Yes, certain locations exhibit more rain on weekends than weekdays (and vice versa), proven by analysing precipitation data from 200 stations across the US over 40 years. Apples and oranges can indeed be compared and are actually very similar, proven via infrared spectra of apple and orange extracts. Female cats dislike men with long dark beards, proven by analysing the reactions of 214 cats to photos of bearded men and measuring changes in pulse rate, respiration, eye dilation, fur shed rate and qualitative behaviour. An arm and a leg are worth less than two eyes, proven by determining the psychological worth people attribute to various parts of their body.

'The dead grandmother/exam syndrome' implies that a student's grandmother is far more likely to die suddenly just before the student takes an exam than at any other time of year (particularly if the student's current grade is poor), proven by M. Adams (1999) based on 20 years of data. A student who is about to fail a class and faces a final exam was found to be 50 times more likely to lose a family member than an excellent student not facing exams. This clearly

showed that family members literally worry themselves to death over the outcome of their relatives' exam performance.

Another valuable source of science humour is arXiv (<https://arxiv.org/>), a free open-access archive for scholarly articles in various fields of science, including contributions that were never intended for submission elsewhere. An intriguingly large number of papers are uploaded to this archive around April Fool's Day each year.

Thankfully, several scientific journals continue to support the publication of the occasional humorous paper, sometimes with unexpected results. For example, in 2012, a study on the 'indirect tracking of drop bears using GNSS technology' by V. Janssen was published in the *Australian Geographer* and quickly became the most downloaded paper in the journal's online history.

## WRITING AND PRESENTING A PAPER

Starting with the difficulty to write an academic paper, D. Upper (1974) famously reported on 'the unsuccessful self-treatment of a case of writer's block' (Figure 1). The reviewer mentioned at the time: "I have studied this manuscript very carefully with lemon juice and X-rays and have not detected a single flaw in either design or writing style. I suggest it be published without revision. Clearly it is the most concise manuscript I have ever seen – yet it contains sufficient detail to allow other investigators to replicate Dr Upper's failure." (See Figure 1)

The feedback received from reviewers is usually constructive and helpful in improving the submitted paper, but sometimes it can be incomprehensible or plain silly. To help emerging academics navigate the peer-review process in these cases, D. Rosenfield and S. Hoffman (2009) developed 'snappy answers to stupid questions: an evidence-based framework for responding to peer-review feedback'. The received (inadequate) feedback is given a score on the five-tiered Scale of Silliness (SOS), which can be adjusted by  $\pm 1$  through the Mood Reflective Index (MRI) depending on the author's disposition at

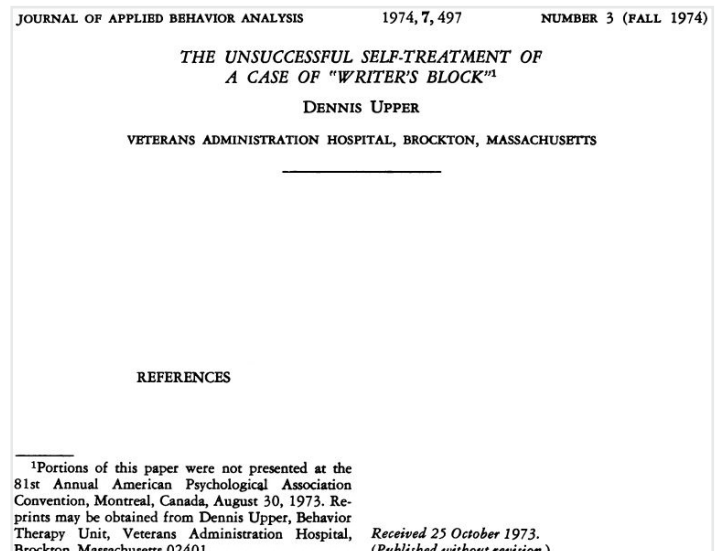


Figure 1: Unsuccessful self-treatment of writer's block (Upper, 1974).

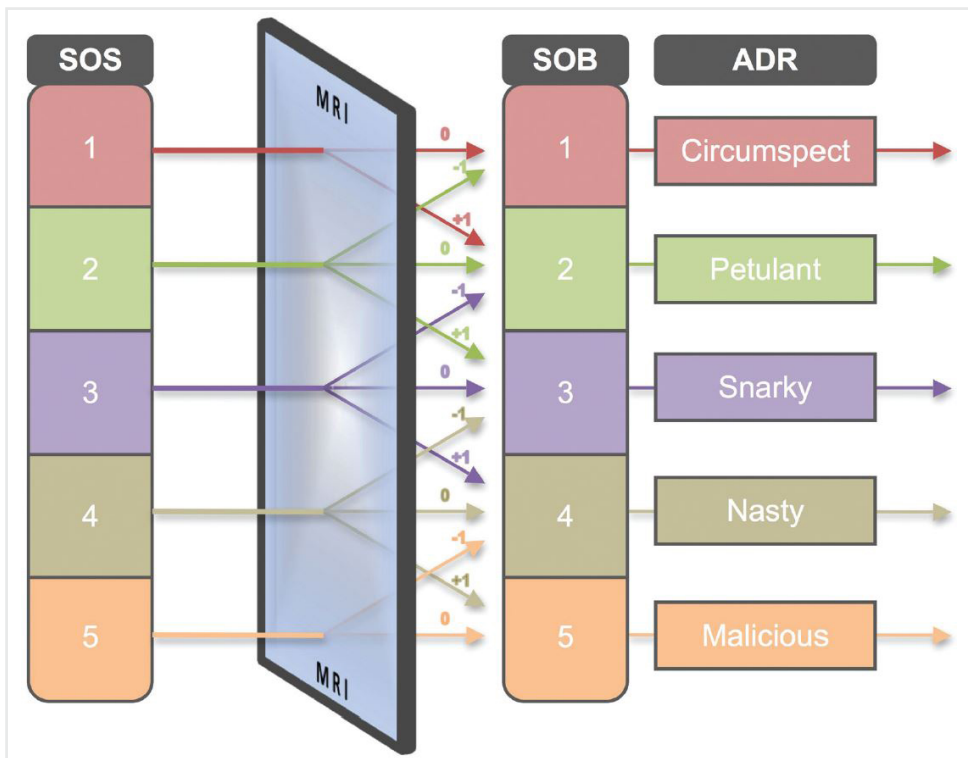


Figure 2: Framework for responding to silly peer-review feedback, using the Scale of Silliness (SOS), Mood Reflective Index (MRI) and Scale of Belligerence (SOB) to arrive at the Appropriate Degree of Response (ADR) (Rosenfield and Hoffman, 2009).

the time, to obtain the Scale of Belligerence (SOB), which determines the Appropriate Degree of Response (ADR). The ADR ranges from timid circumspection (caution) all the way to extreme maliciousness, with mild petulance, moderate snarkiness and severe nastiness in between (Figure 2).

It was noted that applying this framework to its full extent may have negative consequences, such as loss of promotion or research funding, but its therapeutic value cannot be understated. Also, it should only be used in conjunction with high-quality submissions that reviewers either did not understand or did not give sufficient attention to, as poorly written and under-researched submissions probably deserve the feedback received. (See Figure 2)

S. Subotic and B. Mukherjee (2014) investigated title characteristics (length, type, amusement and pleasantness) and title markers (colons and attention-grabbing words) in relation to subsequent paper downloads and citations ('Short and amusing: The relationship between title characteristics, downloads, and citations in psychology articles'). Examples of titles classified as highly amusing included 'How extraverted is honey.bunny77@hotmail.de? Inferring personality from e-mail addresses' and 'Taking a new look at looking at nothing.'

They determined that shorter titles were generally associated with more citations. Papers with more humorous titles showed slightly more downloads but were not correlated with citations, and more amusing titles tended to be shorter. Noting that more research is required to understand how

relevant title characteristics relate to each other, they recommended to keep the title short and amusing (within common sense and good taste) and that colon usage does not matter.

Research findings are often presented at conferences and seminars. K. Rockwood and colleagues (2004) explored the 'incidence of and risk factors for nodding off at scientific sessions'. After counting the number of heads falling forward during a 2-day lecture series attended by 120 people, they calculated incidence density curves for nodding-off events per lecture (NOELs) (Figure 3). The quality of the presentations varied from entertaining and informative to monotonous and repetitive, to rushed and surreal.

Identified risk factors for nodding off included environmental factors (dim lighting, warm room temperature, comfortable seating), audio-visual factors (poor slides, not speaking into the microphone) and circadian factors (early

morning, post meal), but speaker-related behaviour (monotonous tone, tweed jacket, getting lost in the presentation) provided the strongest risk. A questionnaire administered to those who nodded off revealed that most were comforted to know they were not alone and that it was predominantly the speaker's fault. Most had no enthusiasm to attend boring presentations but were influenced by continuing professional development (CPD) credits, guilt or obsessiveness. (See Figure 3)

Since this study generated considerably more interest than their more conventional publications, they decided to write a follow-up: 'Nodding and napping in medical lectures: An instructive systematic

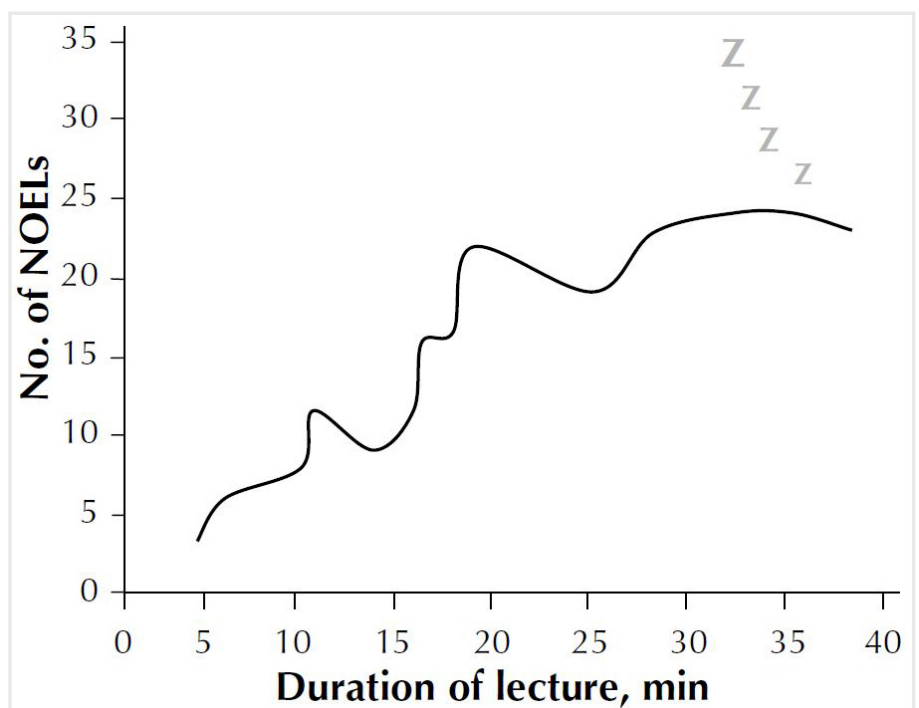


Figure 3: Special incidence density curve, showing the number of nodding-off events per lecture (NOELs) per 100 attendees as a function of presentation time (Rockwood and colleagues, 2004).

review' (K. Rockwood and colleagues, 2005). Here, they performed a comprehensive, international review of nodding off and napping during medical presentations, spanning more than 100 years (but only three papers during that time, including their own). The results suggested that tranquillising lectures are common, annoying and persistent, with low lighting and boring (and badly presented) contents being the main risk factors for nodding off. They also provided a few tips on how to increase the attention a paper may receive after publication through ingested keywords, citations and tweaking the methodology to exclude unwanted references.

### HUMOROUS PUBLICATIONS

In her paper 'A sociologist walks into a bar (and other academic challenges): Towards a methodology of humour,' C. Watson (2015) noted that comedy can tell us something important about the human condition and encouraged the use of humour. She concluded that academics should take seriously their responsibilities as producers of research to entertain and as consumers to read for fun. Not an easy task, considering the danger of having an amusing paper rejected by the targeted publication or potentially losing credibility amongst peers and thereby jeopardising one's professional career.

D. Scott (2021) reiterated the need to see the funnier side of science, while taking the reader on a journey through 'science spoofs, physics pranks and astronomical antics.' In a world still suffering from the effects of the COVID-19 pandemic, maybe this is now more important than ever. Fortunately, researchers in many areas of science have taken on the challenge of being entertaining, as evidenced in several lists of funny papers that generally focus on a particular discipline.

Here are only a few examples of paper titles included on these lists:

- Fragmentation of rods by cascading cracks: Why spaghetti does not break in half
- Injuries due to falling coconuts
- Discrimination of 'W' and 'V' shapes by goldfish
- A study of the effects of water content on the compaction behaviour of breakfast cereal flakes
- Are nonproper chopstick holders clumsier than proper chopstick holders in their manual movements?
- Estimation of the total surface area in Indian elephants
- Nonuniform distribution of the elliptical longitudes of sun and moon at the birthdays of top scientists
- Effects of high-speed drill noise and gunfire on dentists' hearing

Other amusing papers include 'Life is too short to RTFM: How users relate to documentation and excess features in consumer products' by A. Blackler and colleagues (2016). They confirmed that users of various products and interfaces generally find life is too short to read the fricking manual, which may be of particular concern to spatial professionals regularly employing sophisticated equipment. Using a series of questionnaires administered to 170 people over 7 years and two 6-month studies based on diaries and interviews, they concluded that people do not read manuals because they find it a negative experience, overly complicated and feel that the interface itself should tell them all they need to know.

The application of human saliva to clean dirty surfaces has been an intuitive practice for many generations (and caused many children to protest in disgust when their parents used this technique on them). Apparently, conservators have been cleaning old paintings and statues with their own spit for years because they discovered that it can clean an artefact without breaking it down. In 'Human saliva as

a cleaning agent for dirty surfaces,' P. Romao and colleagues (1990) finally established the scientific basis for this practice through tests on gilded and polychromed sculptures. Compared to other cleaning agents, saliva was confirmed as the best cleaner, although it slightly attacked red and blue matte surfaces.

A. Blinder (1974) investigated 'the economics of brushing teeth,' arguing that the existing bad-taste-in-your-mouth and mother-told-me-so models were not sufficiently rigorous to describe this phenomenon. Using economic theory, he considered the toothbrushing decisions of chefs and waiters in a restaurant. Chefs are rarely seen by customers and work on a consistent salary, while waiters constantly interact with the public and rely on tips for most of their income, i.e. bad breath and/or yellow teeth could negatively affect their earnings. Since wages for chefs are higher, the opportunity cost of brushing is correspondingly higher. Therefore, the theory predicts that chefs brush their teeth less often than waiters.

This was empirically confirmed through the analysis of data obtained from a cross-sectional study of American adults, conducted by the Federal Brushing Institute (FBI), which included denture wearers but excluded people with no teeth at all. Thus, the study demonstrated the usefulness of human capital concepts in understanding dental hygiene. Furthermore, it was noted that the model could also be applied to other problems such as combing hair, washing hands or cutting fingernails.

Staying with economics, R. McAfee (1983) applied counterfactual analysis to study 'American economic growth and the voyage of Columbus' by examining what would have happened if Columbus had fallen off the edge of the world rather than stumbled across the American continents. He constructed a theoretical model in which implications of Columbus' demise could be tested and used a novel analytical procedure to detail the properties of the counterfactual world.

This revealed that the US would be relatively unaffected by tinkering with history, but the rest of the world would be drastically different. For example, in a daring exploit, Australia was unfastened from the Pacific rim and snuck past India and Africa to be fastened near the edge of the world about 1,000 miles off Britain. While travelling around the Cape, Australia was accidentally inverted, causing this new continent of America to look remarkably like today's US. It was first used as a penal colony for former British Lords and French royalty who eventually revolted, and the rest is history. It was also speculated that if the Earth had more than one moon, the space race would have turned out differently, representing an  $m$  nation  $n$  moon problem.

### CONCLUSION

This article has provided a brief introduction into the fascinating world of amusing research, which generally applies serious science to weird and wonderful research questions but also includes the occasional spoof paper. Upcoming articles will highlight selected examples of entertaining research for particular areas of interest, often involving a considerable spatial component. This includes workplace office mysteries, the coexistence of humans and vampires or zombies, animal mapping and behaviour, grappling with applied physics in our everyday lives, and studies related to work health and safety.

**Dr Volker Janssen**  
Publications Officer, APAS

# WHO AM I?

I was conceived in 1973, in the lonely halls of a government building in North America.

I have a loving father and many uncles, all of them very smart but not known to the general public.

I am not your average person. I'm everywhere but invisible to the naked eye.

First it was just me, then I had a troubled brother. Now I have several siblings. We don't always see eye-to-eye, but we do work well together for the benefit of all.

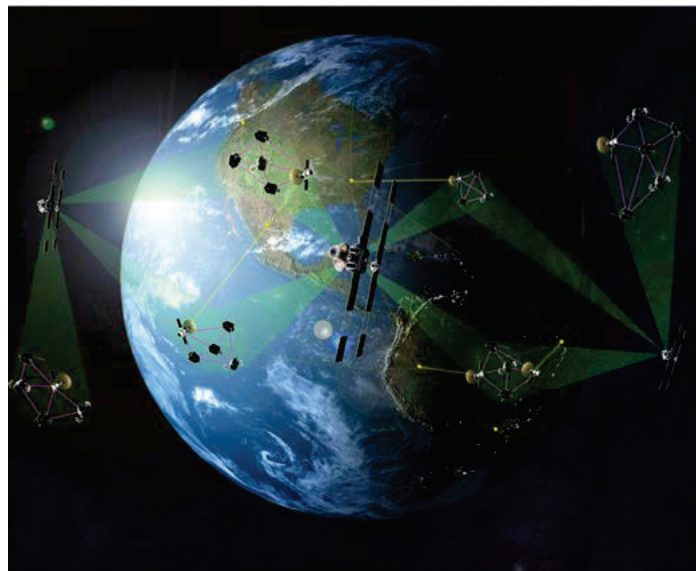
I didn't have an easy childhood, but now I'm living the American dream... from humble beginnings to world domination.

I have a huge ego and enjoy telling people where to go.

They say that money makes the world go round, but really it is me because my timing is so good.

I was embraced during the 1st Gulf War and have never looked back.

As I grew more mature, I lost weight and now I fit into almost anything.



This year I'm celebrating my golden jubilee... and I'm not done yet. I'm here to stay. I love being sky-high and on top of the world.

I am GPS.

**Dr Volker Janssen**  
**DCS Spatial Services**  
**NSW Department of Customer Service**

## MEMBERSHIP CONNECT

The Institution of Surveyors NSW is pleased to welcome and congratulate the following people who joined the membership since July 2023

### AFFILIATE

Mark Wheeler  
 Robert Twin

### ASSOCIATE

Jeffrey James  
 Mitchell Blumberg  
 Sean Ainsworth

### GRADUATE

Caitlin Williams  
 Damien Darmody  
 Fook Sang Chong  
 Hyeokseong Song  
 Jakkapan Puengpi boon  
 Lindsay Pike  
 Logan Davies  
 Oliver Salm  
 Sean Nicholls  
 Shuo Li  
 Tianqing Yang

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 James Langman  
 Marcus Hager  
 Matthew Cooper  
 Nathan Vaughan  
 Nick Sam  
 Phillip Marriot  
 Ralph Kinsella  
 Richard Dummett  
 Rowan Donnelly  
 Sam North  
 Sean Doodson  
 Stephen Lawler  
 Thilina Pathirana

### STUDENT

Alex Pinkerton  
 Andrew Newton  
 Bawer Ekinci  
 Cameron Sherrington  
 Harish Shrestha  
 Jarrah Gilmour

Jasmine Cheng  
 Jason Hannouch  
 Jeremy Weiss  
 Joey Jones  
 Jonathan Woo  
 Joshua McGarrity  
 Lucy Illek  
 Matthew Miller  
 Michael Baker  
 Mitchell Ford  
 Mitchell Littlemore  
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 Naomi Eastwood  
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 Nicholas Wright  
 Patrick Hartley  
 Peter Hales  
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 Steven Cooper  
 Thomas Judge  
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 Tom Braund  
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