Lost in Translation?

Maria Coyle & Christopher McIntyre
News and Information Office
The main challenges

• Tight timeframe

• Technical language

• Your lack of technical knowledge
Manage expectations

• Stick to the brief and keep the audience in mind (Not all stories interesting to the researcher are interesting to the general reader.)

• Check what the department wants to achieve before you set out.
Promoting research responsibly

- Peer review: work is scrutinised to assess validity.
- Less than half of all studies presented as summaries/abstracts at professional meetings later published as peer-reviewed journal articles. (Cochrane Library)
- Point out limitations of the study too
- Careful about claims of ‘finding a cure’
- An association is a link (which is different to causation)
Preparing for the interview

• Who is the right person for the job?
• Do they know what to expect?
• Do they have time to commit?
• Are there junior researchers with more time who are equally good communicators?
Tips for interviewing

• Record interview – for speed and accuracy
• What is the broader context for this research?
• Don’t be afraid to admit you don’t understand. Get them to spell out acronyms. Get them to explain ‘vague’ terms
Plain English Campaign

“Laziness? Trying to make incomprehensible waffle read simply would take too much time. Academic writers lean on the same old jargon rather than write something difficult and genuinely insightful.

Secondly, it’s down to academic insularity. There’s an expectation among teachers and students that they must use specific, complex terminology. It’s true that, depending on the subject, various terms of reference are unavoidable. But the explanation of those terms also tends to rely on jargon, for no good reason. Although it often unfortunately does, academic should never mean ‘difficult to understand’. Teaching and learning should always, particularly at the highest level, be about breaking things down into comprehensible parts. The harder things are to understand, the clearer the information needs to be.

Lastly, and most worryingly, it comes down to the academic writer’s lack of understanding. Most of the worst examples of academic writing we’ve received are jargon to mask confusion or dress up simplicity.”
Use the simplest word available

<table>
<thead>
<tr>
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<th>YES</th>
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<tr>
<td>permit</td>
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<td>free up</td>
<td>free</td>
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<td>cut, cuts</td>
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<td>most especially</td>
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lithotripsy — breaking up kidney or gall stones using ultrasound
mammography — examining the breasts by x-ray
maxillofacial — to do with the face or jaw; (removing a wisdom tooth)
metastasis — the spreading of tumour cells round the body
miscible — able to be mixed with another liquid
MMR — measles, mumps, rubella: the three-in-one vaccination for children
motor neurone disease — a progressive wasting of the nerves that control your muscles
myocardial infarction — a heart attack; seizure of heart muscle
nasal — to do with the nose
nauseous — feeling like you are going to be sick
necrotic — used to describe dead cells or tissue
neoplasm — new and abnormal growth; tumour
neurology — study of the nervous system
neurophysiology — study of the changes associated with the activity of the nervous system
obstetrics — care and control of pregnancy and childbirth
oedema — swelling caused by fluid
oncology — study and treatment of tumours
ophthalmic — to do with the eye; ophthalmology - its treatment
orthodontics — dentistry specialising in correcting tooth problems
orthopaedics — treatment of bones and muscles (originally, in children)
osteopathy — treatment by manipulation and massage of muscles and bones
osteoporosis — brittle bones; weakening of the bones
otolaryngology — treatment of diseases of the ear and throat
paediatrics — study and treatment of children and their diseases
palliative care — lessening pain without curing the symptoms
paraplegia — paralysed of the legs
patella — the kneecap
pathology — study of the causes of disease; the testing (biopsy) of tissue to check for disease
pertussis — whooping cough
phenylketonuria — inherited difficulty in processing an amino acid; can lead to learning difficulties (mental handicap)
physiotherapy — use of physical methods to promote healing such as massage, manipulation and exercise
podiatry — a branch of chirropy
post-op — after the operation
post operative — after the operation
pre-assessment — a hospital appointment before the operation date to check details
pre-med — drug given before an anaesthetic to calm the nerves before an operation
prophylactic — something taken to prevent disease
quadriplegia — paralysis of all four limbs
quarantine — isolation of someone with an infectious or contagious disease (originally for 40 days)
quinsy — abscess on or near the tonsils
radiography — taking x-rays; the x-ray department
radiotherapy — using radiation for treatment (especially of cancer)
renal — to do with the kidneys
rhinitis — inflammation in the nose
sigmoidoscopy — examining the inside of the colon (bowl)
sinusitis — inflammation of the sinuses ('tubes'); usually around the nose
stitches — suture
syndrome — the set of symptoms associated with a particular disease
thrombolysis — dissolving a blood clot
tomogram — the image produced by a computerised tomography (CT) scan, a very detailed three-dimensional X-ray
trachea — the windpipe
trauma — a wound or injury (usually); emotional shock
triage — sorting out patients according to how urgently they need treatment (‘A and E’)

http://www.sciencemediacentre.org/
NOVEMBER 23, 2015

**gene drive**
The term “gene drive” refers to a process by which a genetic trait can spread within a population more quickly than would be expected through natural selection. This Factsheet contains key information about gene drive, including its use and controversy. read more

JANUARY 6, 2015

**ebola: uk preparedness**
Key information about the preparedness of the UK for cases of Ebola virus. read more

JANUARY 6, 2015

**ebola: treatments and vaccines**
Key information about the current and planned treatments and vaccines for Ebola virus. read more

DECEMBER 12, 2014

**electronic cigarettes**
Key information about e-cigarettes, including their prevalence, effects on health, and regulation. read more

DECEMBER 1, 2014

**seasonal influenza viruses**
Key information about seasonal influenza, including its spread and treatment. read more
The Vice-Chancellor of the University of Oxford announced today that the Campaign for the University of Oxford has raised the impressive sum of xxx to date. She also announced a generous £x gift to support a range of projects.

The range and diversity of the gift demonstrates the inclusive and collaborative nature of Oxford’s Campaign.

The Vice-Chancellor said: “The range and diversity of the gift demonstrates the inclusive and collaborative nature of Oxford’s Campaign.”
Strip down language to basics
Warnings over abuse of animal tags

Radio signals from tags are helping hunters and harming conservation, warn scientists.

Dog taken by shark prompts Sydney warning
Volunteers wanted to save red squirrels
Zimbabwe to 'export more elephants'

Moon shot boosts SpaceX ambitions
Rocket entrepreneur Elon Musk's tourist Moon mission plan makes for interesting comparisons with Nasa.

Nest-boxes 'no substitute for trees'
Artificial nests have a markedly different microclimate from tree cavities, a study suggests.

Britain's 'oldest' Iron Age gold found

UK 'must insulate 26 million homes'

Cost caps scrapped for green legal battles

Bread's environmental costs are counted

Attack on experts 'undermines science'

UN: Climate change efforts 'unstoppable'

UK government funding boost for robotics

Most Popular
From Science And Environment
UNDO THE ZIPFILE
• Do not spend several sentences setting the scene. Hold the reader with a fresh but unpretentious use of language.
• Read through your writing several times and edit it ruthlessly and avoid repetition.
• Do not be too chatty.
• Long paragraphs, like long sentences, can confuse the reader.
• “What am I trying to say?”

• “What image or idiom will make it clearer?”
“Imagine that the universe is filled with water – which is the Higgs field – and that elementary particles are swimmers. The Higgs bosons are like little bubbles in the water.”

(John Gunion, physics professor)
Lost in transportation: Information measures and cognitive limits in multilayer navigation

Riccardo Gallotti1, Mason A. Porter2,3 and Marc Barthlomew4,*

Article  Figures & Data  Info & Metrics  eLetters  PDF

You are currently viewing the abstract.

Abstract

Cities and their transportation systems become increasingly complex and multimodal as they grow, and it is natural to wonder whether it is possible to quantitatively characterize our difficulty navigating in them and whether such navigation exceeds our cognitive limits. A transition between different search strategies for navigating in metropolitan maps has been observed for large, complex metropolitan networks. This evidence suggests the existence of a limit associated with cognitive overload and caused by a large amount of information that needs to be processed. In this light, we analyzed the world’s 15 largest metropolitan networks and estimated the information limit for determining a trip in a transportation system to be on the order of 8 bits. Similar to the “Dunbar number,” which represents a limit to the size of an individual’s friendship circle, our cognitive limit suggests that maps should not consist of more than 250 connection points to be easily readable. We also show that including connections with other transportation modes dramatically increases the information needed to navigate in multimodal transportation networks. In large cities such as New York, Paris, and Tokyo, more than 80% of the trips are above the 8-bit limit. Multimodal transportation systems in large cities have thus already exceeded human cognitive limits and, consequently, the traditional view of navigation in cities has to be revised substantially.
Transport maps in big cities baffle human brain, says study

It’s not surprising people get lost on public transport, say researchers - we can’t deal with such a large amount of complex information.

A visitor holds a New York City map in Brooklyn. The city’s subway alone has almost too many connections for the brain to cope with. Photograph: Alamy

Those who get lost on the subway or stuck at the wrong bus stop in a strange city can now take comfort in new research, which argues that urban transport maps are becoming too complex for the human mind.

A journey with two changes in a city network requires processing an amount of information that comes close to the brain’s cognitive limits, according to the calculations of a team of mathematicians and physicists from Oxford and Paris.

The researchers found that 250 connecting stops on a map appeared to be the upper limit for easy comprehension. The New York subway’s connections alone reach the point where the brain would struggle to simply find the most efficient route.

Once multiple modes of transport are added in the likes of New York City, Tokyo, London and Paris, the visitor can be justifiably baffled.

Mason Porter, professor of nonlinear and complex systems at the University of Oxford, said: “We know that there is empirical evidence for some cognitive limit - how many digits people can memorise from phone numbers, or how many moving objects.”

Now, he added: “Cities and their transportation networks have grown to the point where they have reached a level of complexity that is beyond human processing capability to navigate around them.”
Activity-Dependent Exocytosis of Lysosomes Regulates the Structural Plasticity of Dendritic Spines

Zahid Padamsey, Lindsay McGuinness, Scott J. Bardo, Marcia Reinhart, Rudi Tong, Anne Hedegaard, Michael L. Hart, and Nigel J. Emptage

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http://dx.doi.org/10.1016/j.neuron.2016.11.013

SUMMARY

Lysosomes have traditionally been viewed as degradative organelles, although a growing body of evidence suggests that they can function as Ca^{2+} stores. Here we examined the function of these stores in hippocampal pyramidal neurons. We found that backward-propagating action potentials (bpAPs) could elicit Ca^{2+} release from lysosomes in the dendrites. This Ca^{2+} release triggered the fusion of lysosomes with the plasma membrane, resulting in the release of Cathepsin B. Cathepsin B increased the activity of matrix metalloproteinase 9 (MMP-9), an enzyme involved in extracellular matrix (ECM) remodelling and synaptic plasticity. Inhibition of either lysosomal Ca^{2+} signaling or Cathepsin B release prevented the maintenance of dendritic spine growth induced by Hebbian activity. This impairment could be rescued by exogenous application of active MMP-9. Our findings suggest that activity-dependent Ca^{2+} release from lysosomes regulates dendrite plasticity through activation of MMP-9.

tide phosphate (NAADP), which is synthesized, most likely by ADP-ribosyl cyclases, in response to cell-specific physiological stimuli (Galione et al., 2010, 2015). NAADP-dependent Ca^{2+} efflux from lysosomes is thought to occur either via transient receptor potential cation channels of the mucolipin 1 family (TRPML1) or via two-pore channels (TPC1/TPC2) (Guse, 2012), with the weight of evidence currently suggesting that NAADP acts via TPCs, mostly likely via an NAADP-associated binding protein (Morgan and Galione, 2014; Morgan et al., 2015b).

NAADP-dependent lysosomal Ca^{2+} signaling is likely to play a role in neurons. NAADP binding sites have been found throughout the brain (Patel et al., 2000), and NAADP synthesis and lysosomal Ca^{2+} release in neurons can be triggered by exogenous stimulation with glutamate (Pandey et al., 2009). Moreover, application of NAADP elicits Ca^{2+} release in brain microsomes (Bak et al., 1999), promotes neuronal differentiation in PC12 cells (Brailoiu et al., 2006), augments neurite outgrowth in developing cortical neurons (Brailoiu et al., 2005), drives membrane depolarization in medullary neurons (Brailoiu et al., 2009), and increases Ca^{2+} influx through N-type voltage-gated Ca^{2+} channels (VGCCs) in cultured hippocampal neurons (Hui...
New construction role found for cell demolition tool

Chris McIntyre | 16 Dec 2016

A new role has been discovered for a well-known piece of cellular machinery, which could revolutionise the way we understand how tissue is constructed and remodelled within the body.

Lysosomes are small, enzyme-filled sacks found within cells, which break down old cell components and unwanted molecules.

Their potent mixture of destructive enzymes also makes them important in protecting cells against pathogens such as viruses by degrading cell intruders.

However, new research from the University of Oxford has revealed that in addition to breaking down cellular components, lysosomes are also important in building cellular structures.

“We’ve traditionally viewed lysosomes as the cell ‘dustbin’, because everything that goes into them gets chewed up by enzymes,” said Professor Nigel Emptage from the University’s Department of Pharmacology, who led the research. “However, our research has revealed that lysosomes actually play a far more elaborate role, being involved in building as well as demolition, and playing a key part in structural remodelling of cells.”

The discovery was made while the team was looking at hippocampal pyramidal neurones – specialist brain cells important in spatial navigation and memory, which degenerate in Alzheimer’s disease. The researchers observed that lysosomes were involved in supporting the growth of spines from dendrites, structures that increase the cell’s ability to store and process large amounts of information.

He added: “This discovery fundamentally changes how we view this well-known organelle, as it appears that without them new memory could not be stored in the brain. There has been a growing body of evidence for some time that lysosomes have other functions in addition to their traditional role, but it appears that they are also important in cellular construction.”

The full paper, ‘Activity-Dependent Exocytosis of Lysosomes Regulates the Structural Plasticity of Dendritic Spines’ can be read in the journal Neuron.
A wealth of data

A useful new way to capture the many aspects of poverty

Jul 29th 2010

WHAT IS poverty and whom is a person poor? Most would agree that poverty involves not having enough of certain things, or doing without others that richer people take for granted. But what is "enough", which goods and services really matter, and who should decide these questions—researchers, governments or international agencies—are less tractable issues. Perhaps the poor themselves should have the final word. But this presents its own problems. Tabitha, a 44-year-old woman from a slum outside Nairobi, told researchers from Oxford University that going without meals was "normal for us". Diminished expectations are only one of the effects of dire poverty.

In the world of international development, most have rallied around the "dollar-a-day" poverty line (or more precisely, the $1.25-a-day measure) and its less acute cousin, $2-a-day poverty. These World Bank measures judge a person to be poor if his income falls short of a given level, adjusted for differences in purchasing power. In principle poverty rates based on these measures count the fraction of people in a country who lack the resources to buy a notional, basic basket of goods.

Despite the many merits of the $1-a-day measure—not least its simplicity—some argue that looking only at income risks impoverishing the debate about poverty. Such complaints can be overdone. Income clearly matters: it determines how much people can buy and therefore whether they can afford to do the things, like eat enough, that critics of income-based measures think are more important. But rising incomes do not always translate into better health, say, or better nutrition. So there is clearly scope for measures of poverty that directly capture the many different ways in which, to quote Amartya Sen, "human lives are battered and diminished".

A new set of internationally comparable data put together by researchers at the Oxford Poverty and Human Development Initiative at the University of Oxford tries to take Mr Sen’s ideas about "the need for a multidimensional view of poverty and deprivation" seriously. Added by the improved

In this section

Judgment daze

Thinking outside the box

Microfight
Definitions and Context

• Define concepts the first time you mention them. This is important because there may not be one agreed definition and explaining it avoids confusion and improves accuracy.

• Provide context to make it relevant or understandable.
Previous studies have already found that menstruation is viewed widely in developing countries as ‘embarrassing’, ‘shameful’ and ‘dirty’; being unable to stay clean is one of the main reasons why girls stay away from their lessons...
Content

• Catchy title that explains main point
• First sentence that encapsulates story.
• First par: explain and give context
• Name checks for relevant partners
• Facts/figures/human examples/applications
• Add researcher’s quotes (remember the conversation?)
• Comment from external organisation?
In a guest post for Science Blog, Professor David Pyle of Oxford’s Department of Earth Sciences discusses a new paper looking at ancient volcanic activity in the Ethiopian Rift Valley.

The great Rift Valley that runs through Ethiopia has played a pivotal role in human evolution. It is both the location of the earliest fossils of anatomically modern humans and, later, become an important route for human migrations ‘out of Africa’.

Today, it is home to more than ten million people, a major hub for tourists, and the location of important transport links. The main Ethiopian Rift Valley is also one of the largest fields of volcanoes on Earth – although this status may not be obvious from the remnants of the sprawling tumbledown hills that break through the dusty flats of the rift valley floor. Here, Africa has been slowly pulling apart for millions of years. As the continent pulls apart, the crust extends and thins, promoting the rise of magma from the depths of the Earth’s mantle. None of these volcanoes is thought to have erupted since the early 19th century, and several are now the focus of development of geothermal energy potential.

In a new paper published in the journal Nature Communications, Will Hutchison, an Oxford DPhil student, and a team of collaborators from the UK, Ethiopia and the USA, shed a little more light on the violently explosive past of several of these rift volcanoes. Using a combination of field work (to reconstruct the deep history of the volcanoes) and isotopic age dating techniques, the researchers find that at least four of the volcanoes of the main Ethiopian Rift Valley suffered colossal eruptions between about 320,000 and 170,000 years ago. These were very significant eruptions – perhaps of the scale of the eruption of Krakatao in Indonesia in 1883. They would have buried the rift floor in volcanic ejecta, disrupting water sources and habitats across wide areas, with the collapsed remnants of the volcanic edifices forming great ‘calderas’, or craters, in the rift floor.

This pulse in volcanism coincides with the arrival of Homo sapiens in the region around 200,000 years ago and raises the question of to what extent these changes in the landscape and environments occupied by our earliest human ancestors might have influenced human evolution and migration. The recognition that explosive volcanism in the rift occurs in bursts also poses some interesting geological questions, and future inter-disciplinary research is needed to understand the scale of eruptions at other large volcanoes of the rift, their causes, and their wider consequences.
Study offers hope of new treatment for rheumatoid arthritis

Patients who do not respond to current rheumatoid arthritis (RA) treatments may benefit from a new form of treatment that has been shown in a study to be effective against symptoms of the disease.

The RA-BEAM study is the first to demonstrate that the drug baricitinib is more effective in improving the symptoms of rheumatoid arthritis than the current standard treatment of injectable biologic anti-TNF medications. Baricitinib has been specifically developed as a treatment for rheumatoid arthritis.

A common and potentially debilitating disease, rheumatoid arthritis typically affects multiple joints and causes pain, swelling and stiffness that can greatly affect a person’s quality of life.

There have been significant treatment advances in recent decades in the form of biologic drugs, which are large molecular weight proteins that block the activity of key molecules involved in causing inflammation.

However, biologic drugs need to be administered by injection or intravenously, which can be difficult and painful for many patients. By contrast, baricitinib is a low molecular weight drug that can be taken as an oral medication once a day.

Professor Peter C. Taylor from the Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS), University of Oxford, lead investigator for the RA-BEAM clinical trial, said: “Current biological injectable treatments ease the symptoms of rheumatoid arthritis and slow disease progression to protect joints from long-term damage, but can be painful to administer and do not work for all patients.

“Developing an oral treatment is a huge step forward to simplifying therapy. Early intervention is particularly important in slowing the progress of the disease and maintaining a normal lifestyle.”

Baricitinib is a drug developed by Eli Lilly and Company and Incyte Corporation that inhibits two enzymes that are known to play a key role in the inflammation of rheumatoid arthritis (Jak1 and Jak 2).
<table>
<thead>
<tr>
<th>What blogs are</th>
<th>What they’re not</th>
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<td>full of links</td>
<td>full of info</td>
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Before you start blogging

- Can you spare ½ day a week?
- Have you got enough stories/images?
- Can you find material for regular updates?
- Can you integrate with web system?
- Good luck!

www.ox.ac.uk/news/arts-blog/
www.ox.ac.uk/scienceblog/
Gravitational waves – Prof Chris Lintott’s reaction

Chris takes time out from counting penguins in Antarctica to share his thoughts on the week’s big news story – the discovery of gravitational waves.

14 February 2016

2 minutes
Charlotte: I just don’t know what I am supposed to be.

Bob: You’ll figure that out. The more you know who you are, and what you want, the less you let things upset you.