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# Metaphors and analogies in from Kerp to dripping to

Although we use metaphors and analogies in everyday speech all the time, I for one sometimes forget the definitions. A *metaphor* is a figure of speech in which a name, descriptive term or phrase is applied to an object or action to which it is imaginatively but not literally applicable. For example: revising for exams at the last minute seems to be 'sailing very close to the wind'; we 'get to grips with' learning neurology; it's raining 'cats and dogs' and so on. An *analogy* is another figure of speech, which uses correspondence or partial similarity to illustrate an idea, feeling or experience; for example, 'your face has gone as red as a beetroot', I feel 'just like I am on the deck of a boat in a heavy sea'.  
The Editor

# neurology

# plunk

# aps



The children's game  
'Kerplunk'

## INTRODUCTION

A picture is said to be worth a thousand words (one kiloword!). Metaphors and analogies are pictures painted in the mind. They are probably not worth a full kiloword, but they must be worth a few hundred. So how are metaphors, and particularly analogies, useful in neurology?

Communication of ideas lies at the heart of clinical practice. But any explanation given to patients about their illness or treatment often contains ideas that are new to them. These could be to do with types of pathology they have not encountered, pathological processes they will need to understand to make sense of their illness, statistical assessments of risks and benefits of treatments, and explanations about how damage to the nervous system produces different symptoms. These explanations are tailored to the patient's prior knowledge and background and should reflect how much the patient wants to know. The same need to convey ideas is central to teaching, both of medical students and postgraduates.

However, there are many constraints to communication. Time is limited. The patient is trying to describe sensations that are unfamiliar and may find it difficult to make sense of them with ordinary words. Different backgrounds mean that patients have different levels of understanding and beliefs about the way their body works, and how it can be affected by disease. But very often many of these difficulties can be entirely sidestepped by using an appropriate metaphor or analogy. We all use them in everyday clinical practice, usually developing and refining the successful ones on the basis of feedback we get in the clinic. We may come across examples that our colleagues use and adapt them for ourselves – this is one of the most useful things to come out of joint clinics and meetings. And, it goes without saying, none of this has a formal 'evidence base' – designing the appropriate studies would be an interesting challenge.

Here are a selection of metaphors and analogies. We have included some that are commonly used by patients, and others that we find helpful in the appropriate circumstances. We have grouped them together according to when they seem most helpful, though clearly they can be used at more than one stage in the consultation. Perhaps one should consider them as tools, to take from the toolbox when needed.

## TO HELP THE PATIENT

### DESCRIBE THEIR SYMPTOMS

The best analogies in this situation are the ones that patients provide spontaneously. There are also occasions when it can be helpful to use analogies to help make sense of the patient's symptoms with more direct questions – 'is it like?' – although, as always, information received from direct questioning carries less weight than spontaneous report. At the very least, suggesting an appropriate analogy (or even one that is not quite right but is in the right sort of area) can help patients feel that you understand the symptoms they are trying to tell you about.

### Pain

Patients often use analogies when describing pain that we will only briefly consider. Common spontaneously generated analogies in neurology clinics are face pain 'like a red hot needle' and headaches 'like a tight band' or 'vice'. We associate the first with neuralgic pain, typically trigeminal neuralgia, and the last two with tension-type headache. These are descriptions that intuitively carry a high level of diagnostic information. However, the range of analogies used in describing pain is very wide, and often complicated as well, so often they do not provide the same level of diagnostic force. We have all seen patients who give a detailed report that fleshes out the quality of the pain in astonishing detail – 'the pain is like a man drilling behind the bridge of my nose, who sometimes stops and hits my eye with a pick axe'. Such analogies often convey a powerful description of the patient's experience and as such help in syndromic diagnosis.

Pains are also often likened to common experience. For example, likening pain in the hands to the pain 'you get in your fingers when they are warming up after being in ice-cold water' or 'after you bang your finger with a hammer'. These too flesh out descriptions although it is not clear whether they increase diagnostic discrimination.

### Other sensory symptoms

Sensory symptoms are often described using analogies. Some are so familiar that they are no longer analogies – 'pins and needles' for example describes such a specific sensation that people use it without thinking of it as an analogy. Patients may also describe a limb as though it is 'wrapped in tight bandages' or 'in a plaster cast'. Commonly they have impaired

posterior column sensation. Patients also describe a feeling that they are walking on cotton wool or on sponge, or a feeling they have a layer of cardboard under their feet. These symptoms suggest distal sensory loss. It would be useful to know the sensitivity and specificity of these analogies.



likening the seizure to setting off one particular piece of videotape again and again is a useful analogy when explaining the temporal lobe seizures to patients

### Videotape

When talking to patients with episodes that could be partial or complex partial seizures it is often useful to ask whether the events are all the same – ‘like the same bit of videotape playing each time’. Strong recognition of this notion reinforces the idea that the events are stereotyped, and thus more likely to be seizures. This analogy is also useful when explaining how focal seizures, particularly temporal lobe seizures, produce symptoms – likening the seizure to setting off one particular bit of videotape again and again.

### Visual symptoms

Patients often spontaneously use analogies when describing visual symptoms, like looking through ‘frosted glass’ or a ‘net curtain’, that can arise from a variety of pathologies. Others, such as a ‘swarm of bees’ or ‘like a kaleidoscope’ should alert one to more specific diagnoses (retinal detachment and migraine, respectively). Increasingly sophisticated analogies are derived from television. For example, patients describing holes in their visual fields refer to the pixilation used to make faces anonymous on the news – usually as part of a migrainous phenomenon. Patients can also come up with very illuminating analogies. Recently a patient was struggling to describe a disturbance of vision, saying it was like double vision, but she was clearly dissatisfied with this description. After

some discussion she suggested that it was like looking at the ‘reflection from a broken mirror’ – a very evocative description of what was again a migrainous phenomenon.

## METAPHORS AND ANALOGIES FOR PATIENTS

### Helping patients understand or cope with their symptoms

Making the diagnosis is only a part of managing patients with neurological disease. Whilst the neurologist may think the patient has sought his or her opinion to make a diagnosis and advise on management, patients may well consider the referral was made to allow them to understand their symptoms – and preferably have them treated. Helping patients understand their symptoms, and the disease process that caused them, becomes even more important when treatment options are limited. We will explore these two aspects separately.

#### The dripping tap

When talking to patients with unpleasant sensory symptoms, or symptoms such as tinnitus, it can be helpful to talk about ways to come to terms with them. If you are in bed you sometimes can suddenly notice a dripping tap. If you then try to go to sleep you may find the drip seems to get louder and louder, despite being



Patients with impaired posterior column sensation may describe a limb as though it is in a plaster cast

the same volume as it always was. Listening to the dripping tap makes it louder, or by analogy, paying attention to the unpleasant symptoms makes them more intrusive. To get to sleep you need to stop listening to the dripping tap; stopping paying attention to the unpleasant symptoms will make them less obvious.

**Dental anaesthetic wearing off**  
Patients with sensory loss may find that as their sensation improves, they develop intrusive positive sensory symptoms. Unsurprisingly both they and some doctors involved in their care can become concerned that this reflects some sort of deterioration in their illness. This is usually not the case and simply reflects a phase of their recovery. Most patients, at least the older ones, have had a dental anaesthetic and most recall that as the sensation returns they move from a state where they cannot feel their lip if they touch it but otherwise notice little is wrong, to a situation where the lip feels very big and numb and abnormal. It seems to get worse as it recovers, before resolving. Patients may find it helpful to be reminded of this.

**Turning down the volume**

In many situations in neurology drug treatments have only a partial effect. So, for example, with patients who have tremor, restless legs, pain or positive sensory symptoms, it is often useful to describe attempts to improve symptoms with drug treatment as aiming to 'turn down the volume' of whatever symptom one is treating. This adjusts the patient's expectations to look for relative improvement rather than expect complete resolution.

**Echo (of a previous problem)**

It can be useful to warn patients with multiple sclerosis that they may experience a brief exacerbation or recurrence of their symptoms when tired, hot or unwell. When doing so it helps to explain that this occurs because the 'scar is not perfect' and that they should not be alarmed by these 'echoes' of their previous problems.

**Naked wires and leaking electricity**

Trigeminal neuralgia and hemifacial spasm are mostly caused by vascular compression of the trigeminal and facial nerve, respectively. In

explaining this to patients, it can be helpful to describe the pain or spasm as resulting from leakage of electricity from nerves that are like wires whose insulation has been rubbed off.

#### Carrying shopping

Some patients find it difficult to believe that pain arising within muscles and joints can radiate proximally or distally. By reminding patients of the discomfort they experience in, for example, biceps, when carrying shopping with sharp unpleasant discomfort radiating to the forearm and upper arm they seem more accepting of the way in which muscular pain from the neck, back and shoulders can radiate.

#### Tension headache

This analogy is used to describe a putative mechanism leading to tension-type headaches, which patients can use to explain their problems to themselves and to their friends. The occipito-frontalis muscle is described as a muscle with two bellies – one at the front and one at the back of the head – connected by a tarpaulin-like structure over the top. The proximity of the occipital belly of occipito-frontalis to the points of insertion of the neck musculature is then pointed out. It can then be suggested that if the muscles of the neck are tense or in a state of abnormal contraction, the tension can be transmitted into the occipito-frontalis producing a pressing sensation on the top of the head or a tight band effect. Involvement of the frontal fibres can be used to explain the frontal and temporal discomfort across the forehead and temples. Being able to connect up the neck and shoulders to headache experienced over the forehead seems to be an idea that patients find helpful.

#### Hardware and software

This analogy can be used in a range of clinical situations. The thrust of the analogy is that the hardware, the nervous system itself, is working normally, but the software, the thing that runs on it, is not working as it should. This can be used to explain the poor memory and other physical symptoms often experienced by patients with depression. It can be used in helping make sense of the frequently encountered medically unexplained symptoms of intermittent tingling or dizziness. It is particularly helpful because there is an implicit suggestion that a software problem is something that can get better – as we all know, simply turning the computer off and

starting it up again can be enough! The analogy is also useful with more clearly psychologically determined symptoms that occur in conversion disorders.

#### The car mechanic and medically unexplained symptoms

At a recent meeting of the Association of British Neurologists and the British Neuropsychiatry Association, Dr Mike Sharpe gave a presentation on medically unexplained symptoms. During questions he was asked how he explained the problem to the patient. He used the following analogy: 'If your car is not working properly you take it to the mechanic who opens the bonnet to look inside and see if there is anything wrong, but on first inspection everything looks fine. You can even drive your car away but it still doesn't seem to be working properly. But really what needs sorting out is the tuning. You are like that car. The doctors have had a look and everything is as it should be, but you still feel things are not right. You need "tuning"'. The enthusiasm with which the audience received this analogy highlights its power.

### Helping patients understand disease processes

#### Prematurely ageing nerve cells

In neurological practice there are many degenerative diseases that we need to explain to patients. One way of approaching this is by explaining that in one area of the brain, or spinal cord in the case of motor neurone disease, a particular group of nerve cells is 'ageing prematurely'. This is a useful description because we have a concept of normal ageing as being a process where function is lost and not regained. With increased understanding of ageing, and the pathological process in these diseases, this may prove to be more than an analogy.

#### Guy ropes

This analogy is useful when talking to patients with cervical dystonia. The explanation goes like this. 'The head, which is large and heavy, is balanced on top of the spine, which is narrow. To keep our heads steady we depend on two pairs of guy ropes, a pair at the front and a pair at the back. Cervical dystonia occurs when one or more of these guy ropes is pulled too tight. This leads to the altered head position, movements and pain'. This explanation fits neatly with the idea behind using botulinum

toxin to 'loosen' a guy rope and so correct the problem.

#### Inflammation

Some patients find it very hard to understand how an inflammatory disease of the central nervous system can produce dramatic symptoms that then may resolve. They may find the analogy of a 'rash' on the nervous system helpful in that they can appreciate that a rash can come and go but which, if severe, can cause dramatic swelling and which occasionally may leave scar tissue.

#### Head injury

The wide range of symptoms following head injury – headache, dizziness, loss of concentration, fatigue, and sensory symptoms – is often a source of concern to patients and relatives. This can be better understood if head injury is likened to 'dropping a computer', something that we can all readily appreciate as producing widespread changes in all its functions. Because head injuries often come to court, analogies in this area often appear in medical reports when the brain's susceptibility to trauma needs to be understood. For this purpose culinary analogies seem to be the rule: 'the brain is like a blancmange' or 'like yoghurt' often prefacing a description of the damage inflicted.

#### Plumbing and cerebrovascular disease

There are many analogies with plumbing that can be used in stroke medicine – narrowing of pipes, blocked pipes, unblocking pipes and so on. The analogies are so close to the pathology that they do not need further exploration here.

### TO HELP DOCTORS IN TRAINING, AND PATIENTS TOO

In training, one could argue that thought processes and strategies that the trainees develop for problem solving are more important than the facts they learn, that the framework of thinking is more important than the bricks of fact. Analogies and metaphors used in teaching seem to more directly access that 'framework'.

#### The butler and the cat

This is a story that helps thinking about communication skills. A rich man goes on holiday leaving his butler to look after his beloved cat. He is called halfway through his holiday to be told that his cat has died. On his return he tells

the butler that he should not spring news on him like that. He should say 'the cat is on the roof and won't come down', the next day that 'the fire brigade came but couldn't get the cat down, he's looking very poorly' and on the next day tell him 'the cat is dead'. The rich man goes on holiday again and halfway through his butler rings up and says 'Sir, your grandmother is on the roof'. This story highlights many important issues about how to approach breaking bad news, the need to build up the expectation of bad news to avoid surprise, and to ensure that the approach used is appropriate to the context.

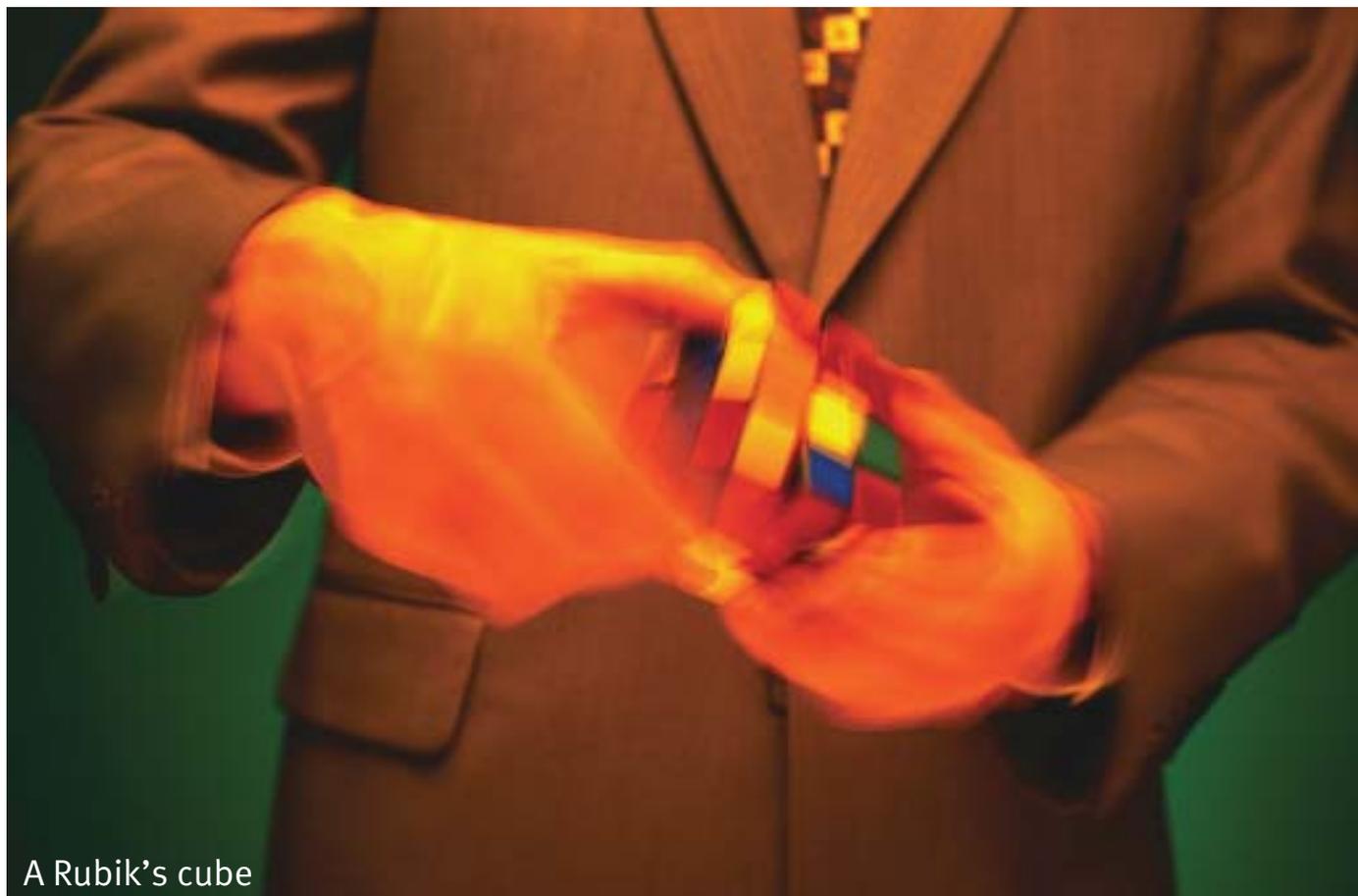
#### Canary in the coal pit

In a recent editorial the optic nerve was described as 'the canary in the coal pit' (Sadun 2002). This was used to illustrate how the optic nerve, because of its architecture and high-energy requirements, may be particularly susceptible to disease that does not manifest elsewhere. This analogy can be used to explain the susceptibility of part of the nervous system to particular metabolic insults, for example the sensitivity of the peripheral nerves to drugs or systemic diseases.

#### 'Kerplunk' and 'house of cards'

These two analogies are similar, although not everyone has heard of the children's game 'Kerplunk' (which we highly recommend).

'Kerplunk' is a game where about 50 glass marbles are held in the upper half of a cylinder above a bird's nest of plastic sticks. Players remove a stick in turn. Eventually a 'one stick critical' situation is reached and on its removal a dramatic decompensation occurs with the marbles in free fall through the nest and lower cylinder. Interestingly, if the critical stick is replaced it is not possible for the marbles to be poured back onto the nest – other sticks are required. This is an excellent image, particularly when dealing with chronically progressive neurological disease that eventually decompensates and then requires rehabilitation. Attending only to the critical stick will not allow the patient to return to their previous condition; a whole host of other factors will emerge, both physical and domestic, which require attention before a new equilibrium can be reached. This helps to explain to patients and staff why seemingly trivial and banal events such as an ingrowing toenail or minor infection can lead to such dramatic changes in patient care requirements.



A Rubik's cube

For those patients not familiar with 'Kerplunk', a 'house of cards' analogy can be used in a similar way. The 'house of cards' analogy has an additional advantage. The removal of a single card leads to the collapse of the whole house of cards. Recovery can be seen to depend on rebuilding the house of cards rather than an obsessional investigation to determine which card it was that led to the collapse.

### Rubik's cube

For a multidisciplinary team to be truly effective, its members must be able to focus on specific problems, but at the same time be mindful of the implication that changes may have for other professionals. The analogy with a Rubik's cube helps to explain how easy it is in isolation to solve one problem (i.e. one side of the cube), but how much more complex it is for a number of professionals to work collectively to find compatible solutions to a number of different but closely related problems. This analogy also helps individual patients to visualize how changes in one aspect of their problem, for example spasticity or sphincter function, can have knock-on effects for other features of their disease.

### AND FINALLY...

These metaphors and analogies are those that we tend to repeat. They are inevitably flawed in some way and other neurologists may feel uncomfortable about them. It would be fascinating to learn what other analogies neurologists use and believe that patients find useful. It would be even better if someone could be imaginative enough to develop a methodology to find out which ones patients find the most helpful.

### FOOTNOTE

We are aware that most of the examples we have given are analogies rather than metaphors. However, metaphors have a greater cachet and using the term makes the whole thing seem so much more intellectual that we persuaded the Editor, who smelt a rat (metaphor), not to make a mountain out a molehill (another metaphor) and let us play ball (a final metaphor!).

### REFERENCE

Sadun AA (2002) Mitochondrial Optic Neuropathies, *Journal of Neurology, Neurosurgery and Psychiatry*, 72, 423–425.