

The hidden influence of metaphor within rehabilitation



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Communication is a fundamental component of rehabilitation. The profoundly complex and idiosyncratic nature of pain experiences often requires the use of metaphoric expressions. In order to make sense of the world, many people in pain turn to metaphor. Healthcare professionals employ metaphor to transfer abstract scientific knowledge into meaningful cognitions. However, while some metaphors are explicit in their execution, many remain characteristically concealed. Through exploring the implicit nature of metaphor, clinicians, researchers and people in pain may develop strategies to bridge the communication divide. This article draws on the existing evidence-base while highlighting potential areas for future research.

Learning outcomes

- 1 Appreciate the influence that metaphors have on rehabilitation.
- 2 Explore the evidence surrounding the use of metaphor within pain reconceptualisation and behaviour change.
- 3 Recognise the importance of self-generated metaphor within healthcare.
- 4 Consider the cultural impact of metaphor within rehabilitation.

Introduction

Metaphors live a concealed existence all around us. On average, we articulate six metaphors a minute (Geary 2011). Metaphorical thinking is essential to how we communicate, learn, discover and create meaning. Metaphors are a fundamental part of human expression. A metaphor is something relatively more concrete or conceivable which stands for something more elusive (Lakoff & Johnson 1980). The word metaphor originates from the Greek words "meta" (to transfer) and "pherin" (to carry beyond). Within physical rehabilitation, people living with pain frequently resort to metaphor to try to express the challenges they face when confronted with a myriad of distressing thoughts and experiences. For clinicians, the process of facilitating a meaningful reframing of persistent pain often involves metaphoric expression. The complex and abstract scientific theories that underpin our current

understanding are frequently transferred into tangible cognitions to help us make sense of our experiences (Biro 2010; Bourke 2014; Casarett *et al* 2010). While, for some, metaphors can help the process of pain reconceptualisation, for others they can hinder the process (Stewart 2014). With this paradox in mind we must consider the impact that our metaphoric expressions have on our practice and how they might influence the rehabilitation process. We must also consider the potent significance of our patient's self-generated metaphors, and examine how best to use these for therapeutic gains (Loftus 2011; Tompkins & Lawley 2002).

This article explores the implicit influence of metaphor within healthcare and physical rehabilitation. Through a greater appreciation of the role of metaphors in healthcare, clinicians can gain a valuable insight into the lived experiences of people in pain. Equally, by enabling people in pain to express their frequently distressing, idiosyncratic perceptions, we can enhance communication and understanding. With a heightened awareness of the concealed influence of metaphor on physical rehabilitation, we may begin to move beyond a language of fear and isolation, and begin to develop a language of hope.

Science and metaphor

Metaphors are generally considered to be the domain of poetic, linguistic expression. However, it is short-sighted to contain metaphoric thinking to artistic expression alone. When considering the place of the metaphor in science, Albert Einstein remarked that combinatory play – playing with one idea as another through metaphor – seems to be the essential feature in productive

thought (Singer 2011). Clinicians and patients use metaphors in order to make sense of pain, for example, by playing with one idea of “being too busy to do exercises” with another metaphoric concept of “too much on my plate”.

Our desire to make sense of the world through metaphor encompasses scientific reasoning. Some of science’s greatest paradigm shifts have stemmed from metaphoric thinking; from Newton’s translation of a simple apple to express planetary gravitation to Max Plank’s inception of Quantum theory through vibrating cello strings acting like electron orbits, metaphor and science are intrinsically linked. Banville (1998) argues that art and science are fundamentally different in their methods and in their ends. Science involves a level of rigor unattainable to art. A scientific hypothesis can be proven or, perhaps more importantly, disproven, but a poem, a picture, or a piece of music cannot. Yet in their origins art and science are remarkably similar. He concludes that art and science are alike in their quest to reveal the world.

In order to promote understanding of abstract scientific models, scientists use metaphors as well as equations and graphs. Table 1 illustrates a range of metaphoric expressions that exist within scientific thinking related to the human body.

The process of metaphoric transfer extends to the science of rehabilitation and pain. Melzack and Wall’s (1965) *Gate Control Theory of Pain* provides an excellent example of how a metaphoric expression can help explain an otherwise impermeable and abstract model for much of the population. Rathmell (2006) describes Melzack and Wall’s 1965 paper as the most influential ever written in the field of pain. With this in mind, we can see how Melzack and Wall’s (1965) pain gate theory has transfused common consciousness regarding pain neurobiology. In a comprehensive, longitudinal analysis of pain gate theory’s adaptations within educational texts, Semino (2011) found that, despite an updated understanding through Melzack’s redefined “neuromatrix” and “neurosignature” metaphors, many texts continue to use pain gate theory (Melzack 1999, 2005). This poses a widely held and well-documented dilemma regarding the application of metaphor within science and healthcare. Although strong advocates of metaphoric expression, Lakoff and Johnson (1980) warn that metaphors may obscure other lines of

inquiry. Taylor (1984) argues that metaphors can be seductively reductionistic, while Paivio and Walsh (1993) see them as a solar eclipse which hides the object of study and, at the same time, reveals some of the most salient and interesting characteristics, when viewed through the right telescope.

Self-generated metaphors

Although they remain frequently implicit, metaphors influence how we facilitate others and how others attempt to reach out to make sense of their experiences. Metaphors are utilised when conveying experiences most resistant to expression (Geary 2011). Pain is one such experience, and we must consider how we can elicit self-generated metaphors from people living with pain. Shinebourne and Smith (2010) suggest that self-generated metaphors offer a “safe bridge” through which people express emotions that are too distressing to communicate literally. With a limited ability to detect when people are attempting to cross this bridge through metaphoric expression, healthcare professionals risk squandering opportunities for a meaningful reconceptualisation of pain and, ultimately, a safe and confident return to physical activities. As clinicians, we must strive to identify our patients’ self-generated metaphors in order to explore meaning and to foster empathetic and therapeutic connections.

As the pain gate metaphor highlights, the perpetual use of our linguistic expressions leads to their literalisation within common language. Gibbs (1994) argues that scientific metaphors are made to be overused. Such frequent and ubiquitous usage conceals the metaphor from view, for example, we don’t literally stand under something to “understand” it. While linguistically interesting, we should not fall into the trap of considering such points as mere trivia. Far from it, the literalisation of metaphor within healthcare can have profound consequences (Bourke 2014; Semino 2011). For some, the pelvic floor metaphor as shown in Table 1 generates images of a shattered building construction that requires structural repair and, as such, this person’s perception will be that physiotherapy cannot repair the damage and that only surgical intervention will help. With considered guidance towards a more realistic and optimistic cognitive reconstruction, however, this metaphor can be helpfully reinterpreted as a muscle that can, like any other, be developed through the process of physical rehabilitation (Price *et al* 2010).

It is essential that, while self-generated metaphors permit access to personal narratives, we remain aware of their intrinsic ability to obstruct and regress the therapeutic process (Haigh & Hardy 2010). Continual, Socratic exploration of the patient’s understanding of pain is an indispensable component of therapeutic pain reconceptualisation through metaphor.

When writing about his own experiences of pain, both as a doctor and a patient, Biro (2010) argues that pain is an all-consuming interior experience that threatens to destroy everything except itself and can only be described through metaphor. In her recent historical exploration of the language of pain, Bourke (2014) suggests that our commonly used vocabulary to express pain has, over time, become increasingly restricted. The emergence of the

Scientific Concept (body part)	Metaphor
Heart	Pump
Cell membrane	Wall
Brain	Computer
Eye	Camera
Immune system	Defence force
DNA	Blueprint code
Blood vessels	Highways
Nerves	Wires
Sound/light	Waves
Pelvic musculature	Floor

Table 1: Commonly used scientific metaphors

biomedical model brought with it a gradual containment of the fundamental role of the metaphor in human expression. Bourke (2014) argues that bodies are not pure soma, but are constituted by social interactions and linguistic processes. If we are to empower people in pain to express their experiences in order for them to move forward, healthcare must embrace and encourage their assorted and idiosyncratic self-generated metaphors.

When visiting healthcare professionals, however, many people in pain are expected to find a simple linguistic solution that both expresses and labels the myriad of distressing experiences that they live with. In order to measure the different qualities of the subjective pain experience, the McGill Pain Questionnaire (MPQ) uses three classes of words that aim to describe the sensory, affective and evaluative aspects of pain (Burckhardt & Jones 2003). Although the MPQ provides both healthcare professionals and people in pain with a valid, linguistic measurement tool, both Bourke (2014) and Biro (2010) argue that no matter which sense we use, all attempts to express our perceptual experiences fall short of the mark through constrained linguistic means, and Scarry (1985) adds that pain is outside of language, absolutely private and untransmittable.

The “unsharability” of pain (Scarry 1985) means that we must seek mediation of its ineffable nature through art, music and metaphor. Bras *et al* (2013) argue that, while striving to attain person-centered pain management, healthcare professionals must recognise the ability of art to communicate the range of distressing emotions that are so characteristic of pain experiences. In our desperate attempts to both understand, and to be understood, art provides a means of expression that words alone cannot accomplish.

Biro (2010) states that pain erects a wall between us and the outside world. At the same time, it prevents us from breaching that wall by communicating the experience to others. Art and imagery can equip clinicians, researchers and people in pain, with the necessary tools to break through pain’s perceptual barricades (Lankston *et al* 2010). Driven by her desire to move beyond the linguistic constraints of the MPQ, the artist Eugenie Lee merges contemporary pain neuroscience with artistic endeavour.

Figures 1 and 2 show Lee’s 2012 installation entitled McGill Pain Questionnaire.



Figure 1: McGill Pain Questionnaire 2012, installation by Eugenie Lee (published with permission)



Figure 2: McGill Pain Questionnaire 2012, installation by Eugenie Lee (published with permission)

In their recent qualitative study exploring patient perceptions about pain, Darlow *et al* (2015) found a variety of negative assumptions existed among those with low back pain (LBP). Feelings of vulnerability, protection and uncertainty were expressed by the participants. The authors concluded that clinicians need to approach consultations with an appreciation of these beliefs as people with LBP display an attentional bias towards threatening nociceptive information that supports their perceptions; as Eccleston and Crombez (2007) so eloquently stated, pain is an ideal habitat for worry to flourish. With a meaningful reconceptualisation of pain as a threat output (Moseley 2003), clinicians can begin to acknowledge the implicit threat contained within their words and metaphoric constructions.

Throughout their study, Darlow *et al* (2015) use direct quotes from people living with LBP. While these comments highlight a range of anxious and worrying beliefs, the words used by the participants to express their experiences of living with pain also unveil the frequent use of self-generated metaphors within healthcare. Table 2 highlights these comments and proposes the variety of linguistic safe-bridges (Shinebourne & Smith 2010) that might be in use.

Through the exploration of self-generated metaphors, and with an increased therapeutic detection of these subtle linguistic nuances, healthcare professionals may begin to make sense of the lived experiences of people in pain. They may also utilise people’s metaphoric safe-bridges by using guided, Socratic discovery to explore collaborative means of reconceptualisation, thus fostering self-determined methods of behavioural change towards self-efficacy. For example, those who express feelings of loss of control as those shown in Table 2 can, with skilled guidance, consider a range of strategies that they might develop to help regain control. This involves further exploration of their chosen metaphor with therapeutic facilitation (Kopp 1995; Southall 2012; Tompkins & Lawley 2002). What strategies might they use to turn the amplification down? Which methods might they consider when they are next frozen in one place?

Kopp (1995) argues that when utilising dialogical metaphors for therapeutic gain, clinicians should frame the discussion within a third person context. By asking the patient to consider what advice they would give to someone else in this situation, we can begin to

Self-generated metaphor	Expressive safe-bridge
"It feels like it's crumbling. Like my back is crumbling and it can't support me."	Body as a broken machine. Life is falling apart. Seeking support beyond biomechanical development.
"I have to think about how I get down, use my legs as opposed to my back as a winch, or else I will do myself an injury."	Body as an adaptable machine.
"The spinal part of my back, it can go as quick as sneezing."	Body as a broken machine. "Gone" and "Went" as an expression of loss beyond biomechanical failure (Stewart, 2014).
"I guess just the worrying about it just kind of amplifies that a little bit."	Desire to regain control through change in the "volume" of experience.
"I've finally come to a place where I can manage it, I feel rather good about that."	Pain experience as a learning journey. Optimistic cognitive reconstruction (Reisfield & Wilson, 2004).
"I couldn't sit, I couldn't stand, I couldn't bend, I was frozen in one place."	Loss of control Stalled journey metaphor. Strategies to "unfreeze" required.
"It's almost like it's whipping me, saying 'no, lie down'"	The language of agency (Biro, 2010). An external, insidious force inflicting harm.
"It was so sensitive that if I misbehave with my back... then, again my back will go rebellious."	Loss of control and resilience. Battlefield metaphor with the spine as an attacking, external entity (Bourke, 2014).

Adapted with permission from Darlow *et al* (2015) *Easy to Harm, Hard to Heal: Patient Views About The Back*. *Spine* 2015; 40 (11) 842-850.

Table 2: Self-generated metaphors and their safe-bridges

help them step outside the confines of their personal experience and facilitate change through a more comfortable and distant advisory scope. Loftus (2011) calls for a dialogical approach to metaphoric expression within pain management. He argues that a monological, didactic approach restricts perspective and narrows our vision.

Instead, conceptual thinking is needed for effective biopsychosocial management (Warmington 2012), although Tompkins and Lawley (2002) feel a more tailored, collaborative approach is needed and suggest training to help clinicians identify patients' own use of metaphors. Autogenic (self-generated) metaphors have been suggested by Hejmadi and Lyall (1991) and Southall (2012). Unfortunately, while these suggestions might facilitate patients towards a worthwhile pain reconceptualisation, they remain as speculative opinions and further research is needed to investigate their use within rehabilitation.

While patient-generated metaphors permit access to personal narratives, it is essential that we remain aware of their intrinsic ability to obstruct and regress the therapeutic process (Haigh & Hardy 2010). Continual, Socratic exploration of the patient's understanding of pain is an indispensable component of therapeutic pain reconceptualisation through metaphor.

Cultural diversity

Culture and language affect perception, thought and cognition. They also affect the experience of pain. If we accept that metaphors, when appropriately co-constructed, can help us make

sense of the world, we must also examine their sociocultural implications for pain reconceptualisation. The complexity of divergent cultural interpretations adds to the already challenging task facing clinicians when attempting to explain pain.

Most of the evidence-base regarding persistent pain management emanates from Western cultures (Waddell 1996) but, as Western societies face an expansion of multiculturalism, we must consider how we can facilitate all patients to make sense of their pain regardless of cultural background, and within their cultural comprehension (Moore Free 2002). Lakoff and Johnson (1980) argue that language is rooted in our cultural beliefs, and that our interpretations of metaphoric expression can easily be lost, so, if we are to fulfil our biopsychosocial aims for all people in pain, it is essential that we improve cultural competence (Narayan 2010). This is particularly true of metaphoric expression and will likely

Cultural Differences: The Metaphoric Language of Headaches (Bourke, 2014).	
WESTERN (Mechanistic and invasive)	JAPANESE (Natural and environmental)
Shooting	Bear headaches – resemble heavy steps of a bear
Stabbing	Deer headaches – like the galloping of a deer
Lancinating	Headaches with a chill
Pounding	Octopus headache – sucking
Burning	Crab headache – prickling
Crushing	
Pinching	

Table 3: Culturally different metaphors to describe headaches

become more prevalent with increasing global migration (Gurung 2013).

Bourke (2014) highlights the linguistic differences between Western and Japanese cultures when using metaphor to describe headaches (Table 3). Historically, germ theory ushered in invasive and mechanistic metaphors to describe pain and disease in Western civilisations and Bourke (2014) suggests that since the word "painkiller" was first used in 1845, pain has been viewed as an enemy which must be relentlessly fought and defeated.

Wiggins (2012) calls for an end to military metaphors that describe disease and prompt us to regard healthcare as a battlefield, by arguing that battle metaphors give the impression that the "war" can be won with biomedical escalation. The language of healthcare and physical rehabilitation speaks of analgesic ladders, bed blockers and failed back surgery syndrome. People in pain frequently experience an escalation of passive healthcare interventions that often leads to false hope, amplified worry and entrenched beliefs (Eccleston & Crombez 2007). People climb the analgesic ladder from paracetamol towards opioids. Unavailing attempts at physical rehabilitation (the ground troops) frequently leads on to steroid injections (the tank division), and epidurals (the fighter jets) before finally, the patient is facing the nuclear warhead option in the form of surgical intervention (Figure 3).



Figure 3: The escalating battlefield of pain management

This broad militarised metaphor lies at the heart of many healthcare models and drives passive dependency and an overreliance on interventional medicalised escalation (Wiggins 2012). Reisfield and Wilson (2004) believe that military metaphors lead us to assume that failure lies with the patient and not the treatment and that, equally, they might lead some clinicians to perceive themselves as incompetent soldiers.

Summary

The sheer prevalence and characteristic concealment that metaphors exhibit within day-to-day communication requires our attention. When viewed within the context of rehabilitation and pain reconceptualisation, metaphoric expressions can

provide helpful, communicative links between patients, clinicians and researchers. Through a greater appreciation of the hidden influence of metaphor in rehabilitation, we can begin to develop the necessary skills to facilitate behaviour change. Further research is required to determine the impact of metaphor training for healthcare professionals and to investigate if such training leads to improved clinical outcomes and reduced disability.

When using metaphors, as we all inevitably must (Lakoff & Johnson 1980), it is prudent to remember Arturo Rosenblueth and Norbert Wiener's warning that the price of metaphor is eternal vigilance. Metaphors provide a frame through which we paint unique cognitive landscapes (Bolton 2010) and we must remain mindful of our eagerness to impose our brush strokes on the canvases of others. Bakhtin (1981) argues that language which is not spoken by the individual exists in other people's mouths, in other people's contexts, serving other people's intentions; it is from there that one must take the word and make it one's own. As healthcare professionals, we need to recognise that the answers to people's problems often lie in their words and metaphors, not ours.

About the author

Mike is a physiotherapist and visiting university lecturer with more than 15 years' experience of managing complex, persistent pain conditions. In addition, he is a dedicated practice-based educator committed to providing evidence-based education to a wide variety of health professionals. His Know Pain workshops have provided clinicians around the world with practical and innovative pain education skills. He is currently studying an MSc in Physiotherapy and Practice-based Education at The University of Brighton and is planning a PhD focusing on pain and communication.

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References

- Banville J. Beauty, charm, and strangeness: science as metaphor. *Science* 1998;281(5373):40-41
- Bakhtin MM. *The Dialogic Imagination*. University of Texas Press, Austin 1981
- Biro D. *The Language of Pain*. W.W Norton and Company, New York 2010; ISBN 9780393070637
- Bolton G. *Reflective Practice. Writing and Professional Development* (3rd edn). Sage Publications, London 2010
- Bourke J. *The Story of Pain*. Oxford University Press, London 2014
- Bras M, Dordevic V, Janjanin M. Person-centered pain management Science and art. *Croatian Medical Journal* 2013;54(3):296-300
- Burckhardt C, Jones K. Adult measures of pain. *Arthritis and Rheumatism* 2003;49(55):96-104

- Casarett D, Pickard A, Fishman J, Alexander S, Arnold R, Pollak K, Clarke A, Anthony G, Gray D, Jones D, McNamee P, Schofield P, Smith B, Martin D. "I feel so stupid because I can't give a proper answer..." How older adults describe chronic pain: A qualitative study. *BioMed Central Geriatrics* 2010;12(1)
- Darlow B, Dean S, Meredith P, Mathieson F, Baxter G, David D, Dowell A. Easy to harm, hard to heal: patient views about the back. *Spine* 2015;40(11):842-850
- Eccleston C, Crombez G. Worry and chronic pain: a misdirected problem solving model. *Pain* 2007;132(3):233-236
- Geary J. *I Is An Other. The Secret Life of Metaphor and How it Shapes the Way We See the World*. Harper Collins 2011
- Gibbs RW Jr. *The Poetics of Mind: Figurative Thought, Language, and Understanding*. Cambridge University Press, Cambridge 1994
- Gurung RA. A multicultural approach to healthcare psychology. *American Journal of Lifestyle Medicine* 2013;7(4):4-11
- Haigh C, Hardy P. Tell me a story – A conceptual exploration of storytelling in healthcare education. *Nurse Education Today* 2010;31(4):408-411
- Hejmadi AV, Lyall PJ. Autogenic metaphor resolution. In: Bretto C *et al* (eds.) *Leaves Before the Wind*. Grindler, DeLozier and Associates 1991
- Kopp R. *Metaphor Therapy: Using Client Generated Metaphors in Psychotherapy*. Brunner, New York 1995
- Lakoff G, Johnson M. *Metaphors We Live By*. University of Chicago Press 1980
- Lankston L, Cusack P, Fremantle C, Isles C. Visual arts in hospitals: case studies and review of the evidence. *Royal Society of Medicine* 2010;103(12):490-499
- Loftus S. Pain and its metaphors: A dialogical approach. *Medical Humanities* 2011;32:213-230
- Melzack R. From the gate to the neuromatrix. *Pain* 1999;6:121-126
- Melzack R. Evolution of the neuromatrix theory of pain. *Pain Practice* 2005; 5(2):85-94
- Melzack R, Wall PD. Pain mechanisms: a new theory. *Science* 1965;150(699):971-979
- Moore Free M. Cross-cultural conceptions of pain and pain control. *Baylor University Medical Center Proceedings* 2002;15(2):143-145
- Moseley GL. A pain neuromatrix approach to patients with chronic pain. *Manual Therapy* 2003;8(3):130-140
- Narayan M. Culture's effects on pain assessment and management. *American Journal of Nursing* 2010;110(4):38-47
- Paivio A, Walsh M. Psychological processes in metaphor comprehension and memory. In: A Ortony (ed.) *Metaphor and Thought* Cambridge University Press, New York 1993:307-328
- Price N, Dawood R, Jackson S. Pelvic floor exercises for urinary incontinence. A systematic literature review. *Maturitas* 2010; 67(4):309-315
- Rathmell JP. Review of Wall and Melzack's Textbook of Pain (5th edn). *Anesthesia and Analgesia* 2006;102:1914-5
- Reisfield G, Wilson G. Use of metaphor in the discourse on cancer. *Clinical Oncology* 2004; 22(1):28-39
- Scarry E. *The Body in Pain: the making and unmaking of the world*. Oxford University Press, New York 1985
- Semino E. The adaptation of metaphors across genres. *Review of Cognitive Linguistics* 2011;9(1):130-152
- Shinebourne P, Smith J. The communicative power of metaphors: an analysis and interpretation of metaphors in accounts of the experience of addiction. *Psychology and Psychotherapy: Theory, Research and Practice* 2010;83:59-73
- Singer I. *Modes of Creativity. Philosophical Perspectives*. MIT Press, Cambridge 2011
- Southall D. The patient's use of metaphor within palliative care settings: theory, function and efficacy. A narrative literature review. *Palliative Medicine* 2012;1-10
- Stewart M. The road to pain reconceptualisation: do metaphors help or hinder the journey? *The Physiotherapy Pain Association* 2014;36:24-31
- Taylor P. Metaphors of Educational Discourse. In: W Taylor (ed.) *Metaphors of Education*, Heineman, London 1984;4-20
- Tompkins P, Lawley J. The mind, metaphor and health. *Positive Health* 2002;78
- Waddell G. Low back pain: A twentieth century health care enigma. *Spine* 1996;21(24):2820-2825
- Warmington S. Practicing engagement: infusing communication with empathy and compassion in medical students' clinical encounters. *Health* 2012;16(3):327-342
- Wiggins NM. Stop using military metaphors for disease. *British Medical Journal* 2012;345(7867):31