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# Machines, journeys, prisons and yo-yos: Metaphors of pain, illness and medicine in consultations with chronic pain patients

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ABSTRACT

*Introduction:* This paper examines pain, illness and medicine metaphors as used in consultations between chronic pain patients and anaesthesiologists, physiotherapists and psychologists in a Belgian pain clinic. As metaphors frame and highlight aspects of understanding and experiences of life events, including illness, they can provide insight in how health professionals and patients construct illness, pain and medicine in interaction.

*Materials and method:* 16 intake consultations (collected in Belgium in April–May 2019) between 6 patients and 4 health professionals were qualitatively coded twice ATLAS. TI by a team of 3 coders, using an adjusted form of the Metaphor Identification Procedure. Each metaphor was labelled for source domain, target domain and speaker.

*Results:* A number of metaphors that have been previously documented in past research were frequent in our data too, such as journey and machine metaphors, although sometimes also used differently, like war metaphors. Our data set also contained many few-used and sometimes more novel metaphors, such as ILLNESS IS A YO-YO. Many metaphors highlight particular aspects of living with and talking about chronic pain, such as its duration and persistent presence, a lack of agency and feelings of powerlessness, and a dualistic perspective on body and mind.

*Discussion and conclusion:* The metaphors used by health professionals and patients give insight in the lived experience of having and treating chronic pain. In this way, they can contribute to our understanding of patients' experiences and challenges, how they recur in clinical communication, and how they are related to wider discourses on health, illness and pain.

## 1. Introduction

This paper studies the metaphors of pain, the body, illness and medicine that health professionals and chronic pain patients construct in consultations in a Belgian pain clinic. Research has extensively evidenced the importance of metaphors in general, and in health care specifically (Casarett et al., 2010; Macagno and Rossi, 2019; Munday et al., 2021; Semino et al., 2017a,b). Metaphors structure our reasoning and understanding, including experiences such as illness. They act as framing devices that highlight and background aspects of such experiences (Gallagher et al., 2013; Hendricks et al., 2019). For instance, war metaphors occur frequently in health discourses, in utterances like "we will attack the cancer cells and fight this battle", or "nurses and doctors are soldiers at the front". These examples highlight the violent nature of illness and of treatment; the acute and urgent nature of the situation; and the high level of agency, courage and willpower that the people involved (health professionals or patients) can or need to have (cf. Semino et al., 2017).

In health care settings, metaphors are a potential source of confusion and shared understanding, and of empowerment and stigma (Casarett et al., 2010; Macagno and Rossi, 2019; Olsman et al., 2014; Semino et al., 2017). For instance, in the case of war metaphors, patients are often framed as winners or losers, and thus as having an important role in getting better, while in reality they often may not have a lot of impact on their illness and treatment. While some patients do not take issue with this war framing and may even benefit from it, it is shown it can reinforce negative feelings in some patients, and in this way can disempower them (Semino et al., 2017). However, this is context- and person-dependent, and metaphors cannot simply be erased from a discourse (Parsi, 2016). They are ingrained in our language and culture, and individual speakers may use them without being aware of their language being metaphorical, or the metaphor being potentially problematic for the hearers (Gibbs, 2014). Consequently, researchers have argued that the goal of metaphor research should be increasing awareness, rather than linguistic regulation in terms of the use of particular metaphors (Semino et al., 2017). As

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Loftus (2011) also indicates, whether metaphors are useful or harmful requires precise contextual assessment, as it depends "on who the various stakeholders are, who might be affected by the medical encounter, and how the metaphors are used in such encounters" (217).

It thus is relevant to look at metaphors in health communication. This is also the case specifically for chronic pain care, for several reasons. Chronic pain is a complex illness that is often seen as primarily physical, while a clear physical cause, as in a form of traceable tissue injury, is not always found (Van Wilgen and Keizer, 2012). This can complicate talking about it. Moreover, chronic pain is currently seen and treated as an issue that is also psychosocial: the physical experience of pain, in terms of possible causes, but also a patient's mental state and character, their work and family life and the sociocultural context, are all seen as factors that are related to the lived experience of chronic pain (Cheatle, 2016; Jull, 2017). For instance, it has been shown that the assumptions that health professionals and patients have about pain, and how they are shared in (clinical) interaction, impact the patient's well-being and pain experience (O'Sullivan et al., 2016). These assumptions are embedded in personal beliefs, but also in how society constructs the body, pain and medicine. As metaphors co-construct and reflect such beliefs, analysing them can provide insight in how being a chronic pain patient is socially constructed. Consequently, this paper addresses the following research questions:

- Which metaphors relating to health, illness, pain and medicine are constructed in Dutch-language consultations between chronic pain patients and anesthesiologists, physiotherapists and psychologists?
- What can they tell us about the experience of being a chronic pain patient, and underlying assumptions on pain, the body, illness and medicine?

To answer these questions, 16 consultations in a Belgian pain clinic are analysed, using the qualitative Metaphor Identification Procedure as developed in the field of Metaphor Theory (see section 3). First, the state of the art on metaphors is discussed.

## 2. Metaphors in health communication

A metaphor is defined as talking/thinking/understanding a concept, an experience or domain in life, in terms of another concept, often because of some perceived similarity (Semino et al., 2017). This understanding of metaphors was initially mainly developed in Conceptual Metaphor Theory (Lakoff and Johnson, 2003), but in the meantime has been developed further and used empirically (see Table 1). However, the basis remains the same: metaphors are seen as establishing mappings between a *source domain* and *target domain*, in which the source domain is typically a (more) concrete, familiar domain used to think or say something about the target domain, the (more) abstract, unfamiliar domain. This is best explained with an example, as borrowed from Munday et al. (2021). In the utterance "she is going places in life", the concept of a journey is a source domain (SD) used to say something about the target domain (TD) of life.

Scholars from several disciplines have studied metaphors in general and in health communication, and found diverse metaphors on pain, illness, the body and medicine. Table 1 lists a number of well-documented health- and pain-related metaphors, based on SDs, which TDs they co-occur with, and which authors have reported them. This list is not exhaustive, but illustrates common metaphors across contexts and methods, mainly in English-language data.

Many of these metaphors come with specific underlying assumptions on illness, patienthood and treatment, which are essential to how we socially construct illnesses in a community or society. For instance, journey and war metaphors are used frequently in health communication and pain discourses. While war metaphors can highlight the violent nature of treatment and of being ill (see introduction), journey metaphors rather emphasise the duration, the fact that undergoing illness and treatment can happen with the support of a companion (such as a health professional or loved one), or construct the illness itself as a (travel) companion. PAIN/ILLNESS/THE BODY IS A MACHINE is also found in several contexts and data sets. According to Loftus (2011), this metaphor stems from and reflects a biomedical understanding of the body consisting of parts that can be fixed; it thus also constructs the body as detached from the patient or patient's self, and can come with a narrow focus on the physical in illness contexts. In the prison metaphor, the reduced agency of being ill is highlighted; the sports metaphor evokes that being ill and getting better often is hard work and can drain your energy; the object metaphor reflects and constructs that being ill or being in pain is part of a patient's everyday life. PAIN IS CAUSES OF PHYSICAL DAMAGE occurs often as many terms we use to describe pain have a metaphorical grounds in referring to actions or objects that can lead to physical damage, that then can lead to pain, e.g., stabbing, piercing, hammering.

Many of the metaphors in this table are considered conventional (at least in the English spoken in the UK and the US): they occur frequently and are (therefore) easy to understand for most interlocutors. However, the question arises whether this is true for other languages and cultural contexts, such as the Dutch-speaking part of Belgium, in our case, for which health-related metaphors are less studied. Kövecses (2010) provides some relevant insights on cultural variation in metaphor use. He argues that metaphor use not only depends on what metaphors are available in a culture or community, but also on the setting and topic; on personal history and 'or what our long-lasting concerns or interests are' (p. 206). He advocates for not just focusing on cross-cultural variation, but also intracultural variation, for which he formulates five dimensions: the social (e.g. gender, class), regional, style (audience, topic, setting,

**Table 1**
Overview of illness-related metaphors in state of the arts.

| Source domain | Target domain | Example | Found in |
|---|---|---|---|
| Journey/travel and transport | Illness, life, medicine | A long way to go<br>Going into the right direction | Delbaere (2013), Gibbs and Franks (2009), Hanne and Hawken (2007), Hommerberg et al. (2020); Semino et al. (2017) |
| War/violence | Illness, life, medicine, health professional, patient | Fighting cancer<br>Attacking cells<br>The nurse is a soldier | Coveney et al. (2009), Delbaere (2013), Flusberg et al. (2018), Gibbs and Franks (2009), Hanne and Hawken (2007), Hommerberg et al. (2020), Periyakoil (2008), Semino et al. (2017) |
| Sports | Illness, life, treatment | It's not a sprint, but a marathon | Coakley and Schechter (2013), Delbaere (2013), Munday et al. (2020), Periyakoil (2008) |
| Mechanics/machine | Body (parts)/tissue | The heart is a motor<br>Our batteries need recharging<br>We will repair your back | Coakley and Schechter (2013), Delbaere (2013); Loftus (2011), Periyakoil (2008), Scheper-Hughes and Lock (1987) |
| Object | Pain, illness | I carry it with me (own example) | Loftus (2011) |
| Prison | Body, pain | I am in a prison | Hommerberg et al. (2020), Lascaratou (2007) |
| Causes of physical damage/torture | Pain | Barbed wire around my feet, head on fire | Lascaratou (2007), Munday et al. (2021), Semino (2010), Söderberg and Norberg (1995) |

medium), subcultural (e.g. depressed people), and individual. In that sense, (especially chronically ill) patients, their health professionals and personal networks often form a specific community or subculture that develop idiosyncratic language and discourses, and thus also idiosyncratic (uses of) metaphors. Consequently, there may be congruence between Dutch and English (and other languages) in their use of health-related metaphors, as they are cultural neighbours and Belgium/Dutch is strongly influenced by Anglosaxon culture. So, with this paper, we want to explore similarities and differences between this body of literature and our data.

Additionally, metaphors can also be more creative, or novel, which means that language is used metaphorically in a way that diverts from how it is conventionally applied. In that case interlocutors have to actively work out the meaning of the metaphor (Lakoff and Johnson, 1980). Novelty (and conventionality) is a gradable concept and can be observed both on a conceptual level (i.e., the chosen SD) and on a linguistic level (i.e., the chosen wording)[11]. For instance, one could use the uncommon SD of SWIMMING to describe the target domain of illness ("being ill is like swimming in the ocean"), or use uncommon linguistic expressions from the commonly used SD of WAR ("my body is under siege"). Metaphors in health and pain discourses also include more diverse and novel ones, such as MEDICINE IS A GAME, ILLNESS IS A FLUID IN THE SELF CONTAINER (Gibbs and Franks, 2009), PAIN IS CRAWLING INSECTS and PAIN IS MORTALITY (Munday et al., 2020), PATIENT IS ATHLETE or PAIN IS AN OLD HOUSE (Coakley and Schechter, 2013).

In sum, this multitude of metaphors conveys a diverse, complex understanding of illness and pain, of which some are well-known and often shared in a community or society, and thus more conventional, while others are more unique in both linguistic expression and the use of a source domain, and in what they highlight. In any case, the literature shows that metaphors come with particular perspectives on pain, illness, and medicine, which are socially constructed through language. These perspectives have also been shown to influence illness and pain experiences (Macagno and Rossi, 2019). For instance, Munday et al. (2021) found a connection between the type of metaphor and patients' diagnoses, as well as to how much their pain interfered with daily life. Moreover, people reading about fictional characters with cancer are more likely to report that characters will accept their situation when being exposed to journey metaphors, than when exposed to war metaphors (Gallagher et al., 2013). Additionally, the use of particular metaphors has a priming effect: participants used language consistently with the metaphors they were exposed to. Furthermore, metaphors can also help patients in reconceptualising pain, and reducing catastrophizing. Most importantly, Gallagher et al. (2013) found that educational materials for pain education can assist reconceptualization of pain, and reduce catastrophizing, arguing that metaphors can be used in other interventions to target functional capacity. In sum, the literature provides an overview of the importance of metaphors in health communication, common and less common metaphors used in this context, and how they co-construct and reflect illness experiences.

## 3. Method

### 3.1. Data and background

This paper is based on 16 12- to 75-min audio-recorded consultations in a Dutch-language, Belgian pain clinic, collected in April–May 2019 by the first author. 6 patients (see Table 2), 3 anaesthesiologists, 1 psychologist and 1 physiotherapist participated. 4 patients were already known in the clinic; 2 were newly incoming patients. All of them had been in some form of care or treatment for chronic pain before. Patients all were informed about the study through an information letter that was also orally discussed with them by the first author, and signed an informed consent form. As this study is part of a larger project on talking about chronic pain, the information letter stated that the project is about how health professionals and patients talk about chronic pain and the body in clinical settings. The study was approved by the Committee for Medical Ethics of the Ghent University Hospital.

**Table 2**
Overview of participants and data points.

| | Diagnosis | Age | Anesthesio | Psych | Physio | #/patient |
|---|---|---|---|---|---|---|
| P10 | Failed back surgery syndrome, neuropathic radicular pain | 49 | X | X | X | 3 |
| P11 | General pain | 35 | | X | X | 2 |
| P24 | Fibromyalgia | 57 | X | X | X | 3 |
| P25 | Central neuropathic pain | 47 | | X | X | 2 |
| P26 | Fibromyalgia | 41 | X | X | X | 3 |
| P27 | Fibromyalgia | 53 | X | X | X | 3 |
| **TOTAL** | | | | | | **16** |

### 3.2. Method

To identify metaphors, we used an adjusted version of MIPVU, the Metaphor Identification Procedure Vrije Universiteit (Steen et al., 2010). The procedure involves determining whether there is incongruity between the contextual meaning of words and their more basic meaning, based on a corpus-based dictionary such as MacMillan. If the incongruity can be resolved through some kind of comparison, the word is considered metaphorical (Steen et al., 2010).

We did not do a complete MIPVU, analysing each lexical unit, because we were not interested in the level of metaphoricity of the interactions, but rather in the SDs that were mapped upon the TDs we selected. In our adjusted method, we only coded the parts of the consultations that concerned health, illness, pain and medicine. In accordance with the biopsychosocial model (Cheatle, 2016; Engel, 1977; Jull, 2017), we took a broad perspective on illness and pain, also including psychological and social dimensions. Also, we only coded content words (verbs, nouns, adjectives, adverbs) and entire clauses or sentences. Since no corpus-based dictionary exists for Dutch, we used a regular Dutch dictionary (VanDale) and sometimes MacMillan dictionary if words had English equivalents (Steen et al., 2010). MIPVU can be applied to Dutch without many problems, especially since we used this adapted version in which we focused on content words and did not code for every single lexical unit, preventing problems caused by grammatical differences between English and Dutch. However, since there is no corpus-based dictionary for Dutch, the entries also contain archaic meaning descriptions. The analysts then had to decide intuitively on the basic and contextual meaning of words in the corpus (see Pasma, 2019).

We also needed to develop an approach to the in- or exclusion of metonymy. In contrast with metaphor, metonymy is described by using another entity from the same domain. The relation between these entities can be for instance the part for the whole (e.g., 'head' to refer to 'person' as in 'headcount'). Many scholars argue that metonymy frequently co-occurs with metaphor or is an underlying process of a metaphorical mapping (Kövecses and Radden, 1998; Barcelona, 2003). This is because a number of central metaphors may be based on bodily sensations which are caused by particular experiences or emotions. For instance, when feeling afraid one can experience a low body temperature and this may be an explanation for the term 'cold' being conventionally used in English to refer to the emotion of fear (Deignan, 2005). Since the relation between metonymy and metaphor can be placed on a continuum, we have excluded the clear-cut metonymic cases for our corpus, and we have included the dubious and more complex cases such as the 'cold' example. Metonymic mappings were not included (e.g. "I cannot turn back the clock").

Once we identified a metaphor-related word, we coded for speaker

(patient, HP or both), underlying SD and TD and, if relevant, simile. We developed a list of labels to code for TDs, such as PAIN, BODY, SYMPTOMS, and TREATMENT, but also RELATIONSHIP and WORK, to code when they bore a relationship to the patients' health and/or well-being.

### 3.3. Implementing analysis

Once the set-up above was developed during project meetings and exploratory reading and coding, all consultations were qualitatively coded twice in ATLAS. TI, with a team of 3 coders. During the first coding round, we developed our shared understanding of when we deemed something metaphorical, of which exact TDs to include, and which labels we would consistently use for the TDs and SDs. We had broadly demarcated which TDs we were interested in, but exact inclusion criteria and labels were inductively developed. Demarcating and determining the name/label for TDs and SDs happened inductively, based on the Dutch linguistic expression in the data. Of course, initially, the TD and TD codes labels, and sometimes its understanding, differed per coder. Consistency was built through project meetings, an inventory of difficult cases in Excel, and by iteratively going back to the existing literature. Based on available overviews of domains (Mohler et al., 2016; Semino, 2010), if relevant, various labels were later added, merged or adapted, and the final list of SDs and TDs was then used in new coding rounds.

Difficult cases were documented in an inventory for discussion during project meetings, and adapted when necessary. For each difficult case, we documented our input and reasoning, as well as our final decision. After this coding round, a cleaning round was done by the first author, in which for instance similar codes were merged, and a number of small but structural decisions taken during project meetings were implemented. The second coding round entailed that a different coder reviewed all the coding of the first round and made adaptations where necessary. Here, all changes were documented (whether it concerned a deletion, addition, or change in labelling, and which one), and difficult cases marked for discussion with the other coders, and adapted when necessary. After this, one final cleaning round was done. A more extensive overview of our approach can be found in Declercq and van Poppel, 2023.

## 4. Results

This section discusses trends in our data and explores their relation to the existing literature and context of our data. We listed the most common metaphors (Table 3) and the most common SDs and the TDs they co-occur with (Table 4). As this last list (Table 4) provides a relatively wide overview of the metaphors in our data, the first part is structured around this one (section 4.1), exploring the top 7 in more depth. However, as prevalence does not tell us everything, we also discuss more unique metaphors, and what the occurrence of these implies (section 4.2).

**Table 3**
Overview of 7 most common metaphors.

| | Metaphor | # | (Literal) translation | Example Dutch |
|---|---|---|---|---|
| 1 | Pain as causes of physical damage | 32 | Stabs/stabbing<br>Beating feeling | *Steken*<br>*Kloppend gevoel* |
| 2 | Pain as (un)movable object | 28 | Pain is moving away<br>I get up with it and go to bed with it | *(pijn) begint weg te trekken*<br>*Ik sta ermee op en ga ermee slapen* |
| 3 | Treatment/ medicine as journey | 18 | First the non-medicated path | *Eerst het niet-medicamenteuze pad* |
| 4 | Life as journey | 17 | It's going into the right direction | *Het gaat de goede richting uit* |
| 4 | Body as machine | 17 | Put everything back in motion | *Alles terug in werking stellen* |
| 4 | Emotions as (un) movable object | 17 | You will keep carrying that with you | *Ge gaat dat altijd blijven meedragen* |
| 5 | Body as person | 16 | Your body says stop at some point | *Uw lichaam zegt op den duur stop* |

### 4.1. Top 7 most frequent SDs

The most commonly used SD is (UN)MOVABLE OBJECT, which is also the SD of the second most frequent metaphor in our data set (PAIN IS (UN)MOVABLE OBJECT). In our data set, the main TDs PAIN, EMOTIONS and SYMPTOMS are seen as objects carried by the patient, stuck with or to the patient, creeping up on the patient, etc. Generally, two factors seem to explain the prevalence of this SD: first, many of these metaphors are highly conventional both in terms of their cognitive

**Table 4**
7 most commonly used source domains.

| | SD | # | Co-occurs with | (Literal) translation | Example Dutch |
|---|---|---|---|---|---|
| 1 | (Un) movable object | 75 | Pain (43), emotions (17), symptoms (10), illness (2), future (1), trait (1), medication (1) | [PAIN] pain is moving away<br>[EMOTIONS] then the thoughts come | *(pijn) begint weg te trekken dan komen de gedachten* |
| 2 | Journey | 49 | Life (17), treatment/ medicine (18), recovery (11), diagnosis (1), sleep (1), illness (1) | [JOURNEY] you want to move on/ forward<br>[TREATMENT] first the non-medicated path | *gij wilt vooruit eerst het niet-medicamenteuze pad* |
| 3 | Person | 35 | Body (16), pain (6), nervous system (7), time (1), problem (1), body part (1), symptoms (1), emotions (1), brain (1) | [BODY] your body says stop at some point<br>[PAIN] whining | *uw lichaam zegt op den duur stop zeurend* |
| 4 | Machine | 33 | Body (17), person/human being (6), emotion (2), nervous system (2), mind (2), relationship (1), mental state (1), memory (1), brain (1) | [BODY] put everything back in motion<br>[PERSON] increase your functionality | *alles terug in werking stellen*<br>*uw functionaliteit verhogen* |
| 5 | Causes of physical damage | 33 | Pain (32), symptoms (1) | [PAIN] stabs/ stabbing<br>[PAIN] beating feeling | *steken*<br>*kloppend gevoel* |
| 6 | Weight | 23 | Work/job (5), pain (4), symptoms (4), illness (4), emotions (3), treatment/ medicine (1), moving (1), life (1) | [PAIN] I hope to make the pain lighter<br>[WORK] that whole day is heavy | *ik hoop met de pijn toch wel een beetje te verlichten*<br>*die hele dag is echt zwaar* |
| 7 | War | 20 | Relationships (6), pain (4), illness (4), symptoms (3), familial situations (2), social interaction (1) | [RELATIONSHIPS] fighting divorce<br>[PAIN] I had an attack | *vechtscheiding*<br>*ik had een aanval* |

mapping (Loftus, 2011) and in their linguistic expression. Second, the context is important: how the pain and other symptoms are long-term companions for the patients is a recurrent topic in the consultations, especially in the intake context in which medical history is discussed, and how long and where the pain is and has been present. When participants discuss mental states as objects, including TD EMOTIONS, they often reflect on psychosocial challenges relating to their life as a chronic pain patient.

The object metaphors are interesting as they often separate the pain, as an independent entity, from the patient's self/subject, similar to machine metaphors (Loftus, 2011). This can allow for distancing oneself from the pain. This too is typical in the context of a medical consultation, as the pain becomes an object that can be subjected to research and treatment. In line with this, it can also be a way of demarcating a self without the pain for the patient.

However, the object code turned out to be diverse, and did not always capture all the nuances of pain/illness/emotions as an object. Consequently, we did more fine-grained analyses of this SD in the second coding round, with subcodes for two parameters: 1) moveability, and 2) who was moving the object, if moveable. This resulted in a more precise breakdown, shown in Table 5. This shows that only in a minority of the cases, the object is moveable by the patient or by people/factors surrounding the patient (category 2, 21/75 occurrences). In the majority of the cases, the object is not mobile/moveable at all ("I am stuck with this pain"), or moving on its own initiative ("the pain follows me/comes and goes"), outside of the patients' control. So, these SDs constitute a lack of agency in, and thus potentially control over, living with pain and symptoms, and emotions, in the discourse of the participants.

The second largest SD is JOURNEY, co-occurring mainly with TDs LIFE, TREATMENT/MEDICINE and RECOVERY. As discussed in Section 2, this is a much-used metaphorical mapping (Delbaere, 2013; Gibbs and Franks, 2009; Hanne and Hawken, 2007; Hommerberg et al., 2020; Semino et al., 2017). In our case, the type of patients and the context of the pain clinic likely amplifies its use: the patients are in long-term care trajectories in which full recovery often is not possible. Additionally, we analysed intake consultations, which discuss past and future treatment plans. As mentioned before, journey metaphors have been proposed as an alternative to war metaphors in illness discourses, based on the advantageous connotations of journeys, such as the various ways one can go and exits one can take, allowing patients to adjust their outlook on their illness (Reisfield and Wilson, 2004; Semino et al., 2017). In our data set, journey metaphors are actually much more prevalent than war metaphors (see below).

The third largest SD is PERSON, mainly combined with TDs BODY, PAIN, and NERVOUS SYSTEM. In the BODY IS A PERSON metaphor, the body is mapped as independently communicating ("the body says stop"), as being the boss, or having its own will. In the PAIN IS A PERSON, the pain is described as gnawing or whining; in the case of NERVOUS SYSTEM IS A PERSON, the nervous system is mapped as oversensitive or in need of being calmed down. Consequently, this SD also is internally diverse, with different traits and aspects of PERSON being evoked, while at the same time the meaning evoked seems to be restricted to the specific TD it co-occurs with. In the case of PAIN IS A PERSON, these linguistic expressions ("gnawing" and "whining'') are conventional in Dutch, and related to the use of PAIN IS CAUSES OF PHYSICAL DAMAGE (see below). NERVOUS SYSTEM IS A PERSON is more context-specific for chronic pain discourse, and seemingly also conventional in this specialised context, as it occurs mainly in the health professionals' explanations of nociception and chronic pain.

However, the SD PERSON reveals a particular understanding about the patient's body/bodily system. The person in these metaphors is constructed as having their own needs and wants (e.g. to be calmed down), with a certain degree of agency and capacity of personal initiative (e.g. being the boss, telling the patient to stop). In this sense, the body/bodily system is hierarchically superior to the patient's self or mind and, similar to some of the object metaphors, reduces the patients' agency and control over themselves/their body. It also constructs the body and mind/patient as separate entities.

Another salient SD is MACHINE, mostly combined with TDs BODY and HUMAN BEING. As mentioned in Section 2, Loftus (2011) reports that the BODY IS A MACHINE metaphor reflects the biomedical model on illness and pain; pain signals something is wrong with the body, "the mechanics", which needs to be fixed by health professionals. Slatman (2014) similarly argues that this metaphor entails that the body is something that can be tinkered with: parts can be replaced or repaired. Just like the metaphors with SD PERSON, this metaphor thus also is an expression of mind-body dualism (Slatman, 2014): the body is an inanimate object that exists separately from the mind. This has particular implications in the context of our data set. The repairability that this metaphor evokes is not a given for chronically ill bodies or persons, as some of them remain ill for the rest of their lives. Moreover, in the case of chronic pain like fibromyalgia or neuropathic pain and other pain diagnoses that come with or are caused by some of deregulation of or damage to the nervous system, (body) parts are not easily replaced or repaired by for instance a stitch, a new organ or tissue, et cetera. In some cases, there even is no traceable tissue injury or physical cause that can be pointed to at all; if the metaphor is used for these patients, it may result in the presentation of potentially contradicting (albeit implicit) perspectives on pain.

The fifth most frequent SD is CAUSES OF PHYSICAL DAMAGE (also the SD of the most common metaphor, with TD PAIN). In these cases, pain is described by referring to properties or objects that can cause damage to the body (Semino, 2010), such as knives or fire. We expected to encounter these, because 1) in Dutch, like in English, they are highly conventional both in their mapping and linguistic expression (to the extent there are no alternatives available), and 2) in these intake consultations, a lot of time is spent on getting insight into the kind of pain the patient has, and thus in describing the pain.

The next common SD is WEIGHT, paired with a range of TDs such as WORK/JOB, PAIN, SYMPTOMS, ILLNESS, and EMOTIONS. In most cases, the linguistic expression is that the TD that is being mapped is "heavy" ("zwaar" in Dutch), or relating words and expressions like "it weighs"/"make lighter" making this the most homogeneous SD in our data set. It is both in English and Dutch conventional in both its mapping and in its linguistic expression. Its prevalence suggests these intake consultations leave room for discussing not just the technical aspects of pain and treatment (PAIN and SYMPTOMS and ILLNESS IS WEIGHT), but also the emotional and social illness experience (with TDs EMOTIONS, WORK/JOB).

Finally, WAR is a relatively common SD in our data set. In our data, it occurs mainly with TDs relating to social life (relationships, family). These were only included in the analysis when they were discussed as part of the patient's quality of life and well-being and thus (indirectly) related to the patient's life as a chronically ill patient. However, they are not the typical war metaphors from illness discourses, in which illness is an enemy or competitor that needs to be beaten or killed. In this mapping, patients, health professionals, treatments or body matter (e.g. white blood cells) are soldiers and/or war heroes that bravely fight, and sometimes lose battles/wars. This form of war metaphor is remarkably absent from our data set. The fact that the patients' chronic illness has no

**Table 5**
Breakdown of different object codes.

| | Source domain | Frequency |
|---|---|---|
| 1 | Object movable, moving by/on itself | 29 |
| 2 | Object movable, moved externally by patient/health professional/treatment/others | 21 |
| 3 | Object, unclear status regarding movability | 13 |
| 4 | Object unmovable | 10 |
| 5 | Object movable, unclear actor | 2 |

clear end point/point of recovery, or often no demarcated, phased treatments (e.g. chemotherapy or surgery), and that we observed intake consultations, may explain this. Moreover, the more general SD VIOLENCE did also occur 9 times in our data set, in utterances describing physical movement, emotions or pain as torture or as being hit (with a hammer). These did not have a clear war scenario in which weaponry and allies are used to defeat enemies through injury and death; however, they do also highlight the violent nature or illness and pain, and the lack of agency and control in undergoing this violence.

### 4.2. Less frequent and unique metaphors

While the table with the most frequently occurring SDs and metaphors give us some insight in the discursive construction of chronic pain, it would be reductive to just focus on the biggest trends in our data. There are many more fewer used metaphors that provide equally insightful perspectives on how HPs and patients construct illness and pain. For instance, 58 SDs occurred less than 5 times in the entire data set. Some of these were more conventional, others relatively novel.

Two examples of conventional conceptual metaphors are ILLNESS IS A TUNNEL and EMOTION IS DARK/LIGHT, which each only occur once in our dataset. The first one is used by a patient talking about their illness: *I see light in the tunnel* ("er zie licht in de tunnel is"). The metaphorical phrase seeing light at the end of the tunnel is a very common way of indicating that "a difficult situation will improve" (MacMillan dictionary). In this case, the illness is conceptualised as a tunnel, which can be understood as a specific kind of journey metaphor with a clear and (more) positive end point; it implies that there is the potential for structural improvements that would positively impact the patient. In that sense, it is an important modification of the understanding of illness and treatment as found in other metaphors that stress duration: it still highlights chronicity, including that full recovery may not be possible, and that fact that treatment takes time, but within that frame, conveys that improvement is possible.

The second very conventional metaphor is EMOTION IS DARK/LIGHT, in utterances like *those black thoughts* ("die zwarte gedachten"). This metaphor occurs when the health professional refers to the patient's story about depression and suicidal tendencies. The contextual meaning of black as pessimistic is included in the Dutch dictionary Van Dale. It exemplifies a very common way to talk about pessimistic emotions in terms of darkness or dark colours, allowing to address the emotions without having to be explicit about the exact content of those emotions.

At the same time, the TD of EMOTION is also talked about once in terms of the less common and more novel SD FOOD: *you don't just swallow that* ("ge slikt dat niet weg"). The patient here was talking about negative experiences and emotions in the personal sphere, and how it affected their wellbeing. Interestingly, this metaphor draws on physiology to discuss a mental state or process (as many conventional metaphors are assumed to do; see Gibbs et al., 2004), in this case the sensation of having a lump in one's throat when feeling stressed or sad. This metaphor has a metonymic element to it, as the expression draws on a cause-effect relation between the sensory experience and the emotion (cf. Deignan, 2005). In this sense, it also resonates with the object metaphors as discussed in Section 4.1, which also present a difficult mental state as so persistent it cannot be removed.

Another interesting case is PAIN IS A PRISON, occurring 4 times. The use of the SD of PRISON is quite conventional in illness discourses (Hommerberg et al., 2020; Lascaratou, 2007). The Longman online dictionary also includes as a third meaning of prison "an unpleasant place or situation which is difficult to escape from". However, the actual linguistic expressions in Dutch cannot be found in the Dutch dictionary and do not contain the noun prison, but the words "bevrijd"/*freed* ("ik wil gewoon **bevrijd** zijn"/*I just want to be **freed***) and "gevangen"/*imprisoned* ("ge zit een soort van **gevangen** eigenlijk he"/*you are actually kind of **imprisoned** right*). The first expression in particular is not very conventional and can thus be seen as a more creative linguistic metaphor that is based on the conventional conceptual metaphor PAIN IS PRISON. Regardless of the variety in linguistic expression, it is an interesting metaphor as it also highlights duration, especially in relation to the lack of agency and control over daily activities, and the negative emotions that can come with being chronically ill.

> The dataset also contains metaphors that are novel conceptually, for instance ILLNESS IS A YO-YO and ILLNESS IS A FIRE, both used by HPs to describe aspects of the patient's illness. The SD YO-YO demonstrates how chronic pain can differ from one day to another, in an unpredictable way ("dan gaat de van goede naar slechte dagen lik een **jojo** op en af"/*then you go from the good to the bad days like a **yo-yo** up and down*). This metaphor is marked as such with the words "like a", which function as a metaphorical flag (Steen et al., 2010). The SD FIRE is used in a consultation where the HP uses several formulations to explain that the symptoms the patient experiences do not go away even now the event or circumstance that evoked the symptoms is over (e.g. "dat niettegenstaande dat hetgeen […] die het (.) **vuur** aan het lont gestoken heeft weg is, dat de klachten meestal gewoon blijven"/*although that which […] has lit the **fire** to the fuse is gone the symptoms usually remain*).

These examples clearly show how particularly novel metaphors can be deliberately used to elucidate medical information in non-medical terms. In line with this, a number of SDs are specifically used by health professionals, to explain how a patient's pain works, often in longer explanations on the patient's condition and diagnosis. For instance, to explain that the nervous system is overactive in the case of fibromyalgia, HPs refer to the nervous system as a filter or (guitar) amplifier that is broken, or a nervous person that needs to be calmed down. Although the SDs (FILTER, GUITAR AMPLIFIER and PERSON) here are from quite different domains in life, they evoke a shared trait: having a standard setting that can get deregulated and oversensitive, and consequently are sometimes used interchangeably in an HPs' explanation on fibromyalgia.

## 5. Discussion

This paper explored metaphors constructed by chronic pain patients and HPs. In what follows, we reflect on what they tell us about living with and talking about chronic pain in clinical contexts; their clinical implications; and limitations and future directions.

### 5.1. Living with chronic pain

A number of trends regarding patients' and HPs' construction of pain, illness and treatment emerged in our data. First, a section of metaphors construct and reflect living with pain as an experience that often comes with little agency, and potentially even powerlessness. In SDs OBJECT and PERSON, the illness, symptoms or pain are in control, rather than the patient's self or mind, or the medication or HPs. In metaphors like the PAIN/BODY AS PRISON, the patient is similarly constructed as being limited in their agency or being forced to do something. However, there is some counterevidence for this as well, for instance in the use of the ILLNESS IS A TUNNEL metaphor, and some PAIN IS OBJECT metaphors in the patient or HP is able to move the pain as object.

A number of these and other metaphors, e.g. BODY IS MACHINE, some of the PAIN/EMOTION IS OBJECT metaphors, and PAIN IS PERSON come with a clear dualistic construction of the self/mind and body (Slatman, 2014, Declercq, 2023). Other metaphors do not specifically evoke a dualistic or embodied perspective on illness and pain, like the PAIN IS WEIGHT metaphors. Others are difficult to categorise because they may be very implicit in their dualism: consider the journey metaphor in 'you want to move forward'; this phrase can imply that the pain or illness as an external being or object is holding the patient back,

which would entail a dualistic understanding of illness/the body. But the state of not being able to move forward may be caused by other factors, which remains unclear here.

However, those metaphors that do clearly construct a dualistic perspective are important ones to consider in health care communication. Dualistic perspectives can be impactful in the social construction of illness and pain, because this dualism is often seen as diametrically opposed to the biopsychosocial model, while the latter is the basis for the understanding and treatment of chronic pain in biomedicine in general, and also in the pain clinic under scrutiny. Moreover, studies have shown that a dualistic understanding of the body and mind potentially negatively affects health behaviours (Burgmer and Forstmann, 2018).

This does not mean that patients or health professionals consistently construct mind and body as dualistic - research has shown that discursive perspectives on illness/the body can shift rapidly, even in one and the same consultation (Declercq, 2023). In that sense, this analysis does exhaustively document how individual patients or HPs construct illness and what factors play into it. However, it does show that mind-body dualism is engrained in illness discourses as part of the metaphors that are used, and thus can reinstate it as they are used.

Another trend is how several metaphors and SDs highlight the duration (and the burden) of being chronically ill: the fact that the pain is always there and requires daily management over a long period of time. Finally, the context of the intake consultations, and the recurrence of certain themes and questions are visible in our results; the many PAIN IS CAUSES OF PHYSICAL DAMAGE metaphors are related to the extensive descriptions of the kind of pain patients provide in each consultation.

### 5.2. Theoretical implications

Some trends in our data are consistent with other research, such as the use of journey and machine metaphors, and the metaphor PAIN IS CAUSE OF PHYSICAL DAMAGE. However, some trends diverged: for instance, war metaphors seem to be less prevalent and used differently, and we did not find a high prevalence of sports metaphors. The prevalence of the SDs PERSON and (UN)MOVABLE OBJECT as reported in our analysis has not been extensively reported before, to our knowledge. As far as we can tell, the differences we found do not seem to point to fundamental cross-cultural differences between Dutch and other languages, but mainly reflect the specificity of the context: the subculture of its participants of chronically ill patients and their health professionals (Kövecses, 2010), and the topic of living with chronic pain, as explored in the previous section.

However, this comparison requires caution, for several reasons. First, metaphor analysis has been implemented in a range of ways, and requires interpretation and may come with cultural bias (see 5.4). Due to differences in approaches, languages and in cultural backgrounds of both data sets and analysts, comparing must be done carefully. Second, and more importantly, our data showed that many different metaphors were used, which were diverse in the conventionality of both their mapping and linguistic expression. While we used frequency as a way of structuring our findings, less frequent metaphors also produce rich perspectives on illness and pain that are worth exploring. The perspectives underlying these metaphors sometimes are similar to those of metaphors we know well, while others offer new constructs and insights.

We therefore want to argue that in research on metaphors in health discourse, it is insightful to take a bottom-up, inductive approach in looking at which SDs occur in a data set, and have a broad understanding of health and illness, and, when relevant, pain. That being said, an iterative approach in which directories or papers with lists of TDs and SDs remains relevant to be able to reflect on the findings in light of the existing literature.

### 5.3. Clinical implications

With this kind of qualitative, interpretative understanding of health communication relating to pain, we mainly want to build awareness and empathy around communication and illness experiences. We do not take a prescriptive approach to using metaphors with this analysis, as some researchers do - which can be valuable when experimental research has been done on how metaphors affect certain target groups (Hendricks et al., 2019). However, our analysis does not allow for such conclusions, and we follow Loftus (2011) in his argument that most metaphors have the potential to be helpful and confusing in a given context, and believe that experimental research is a prerequisite to determine this. For this paper and this analysis, we thus do not take a position on which metaphors are productive, and/or whether more or less metaphor use would be desirable. We see the value for clinical practice mostly in understanding the patients' experience and the health professionals' interpretation of that experience. This paper has highlighted a number of aspects relating to agency, mind-body dualism and dealing with the duration and constant presence of chronic conditions.

### 5.4. Limitations and future directions

Our analysis has its limitations in its specificity of the sample in terms of age, culture, language, and pathologies. Further research could both broaden the scope regarding these factors, and look into how they play a role in metaphor use. Similarly, while we have sometimes included some information on this based on our qualitative analysis and understanding of the data, we have not done systematic separate analyses for health professionals and patients. Furthermore, metaphor analysis requires extensive interpretation and in this way, is sensitive to cultural bias (Armstrong et al., 2011; Koro-Ljungberg, 2001). We mitigated this by doing 2 coding rounds with 3 coders, with different backgrounds (Dutch/Belgian, present/not present during data collection), and by using extensive documentation. However, further analysis specifically in Dutch-language health communication contexts or comparative research across languages and cultures could be helpful to address this challenge, as current evidence in this language area or comparative evidence remains limited.

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## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The authors do not have permission to share data.

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