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A multimodal perspective on MCA

Cues of (possible) metacommunicative awareness

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Metacommunicative awareness (MCA) is proposed as a scalar phenomenon of being aware, to different possible degrees, that the form and/or content of how you are acting could communicate something to someone else. Observable signals of possible MCA that are based on greater use of effort are discussed on the verbal, prosodic, gestural, and other levels. Dynamicity in intensity is proposed as an important property of its nature, even if the quality of potential MCA differs between different registers and genres. The degree to which an expression, metaphoric or otherwise, is highlighted in a given instance by signals of possible MCA thus falls along a scale of saliency. This can be researched without delving into claims about supposed "deliberateness" of expression.

Keywords: attention, dynamicity, effort, gesture, metacommunicative awareness, metaphor, metaphoricity, English

1. Introduction

When using video recordings of people talking as data for linguistic research for the first time, one quickly becomes aware, if not even overwhelmed, by the complexity of what is involved in language use in face-to-face interaction. Whether it is spoken or signed language, multiple forms of behaviour are being used simultaneously and sequentially, and competent addressees are expected to be able to pick up a sufficient amount of these fleeting signals in real time in order to be able to understand them and respond with their own stream of audio and/or visual signals. Yet, despite the behavioural complexity of face-to-face communication, spoken and signed languages are primary, and written forms of them are derived – in terms of any individual's developmental experience with them as well as in terms of their historical development. In addition, live or video-recorded talk, whether spoken or signed, is contextually tied to the producer in a way that written language is not: speakers or signers can use their own body, its immediately

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seen vicinity, and knowledge about space that becomes shared with the viewer, for purposes of visual reference, e.g. through depictive gesturing, pointing, object manipulation, or eye gaze direction. In written language, especially in more formal genres, making reference and showing one's perspective must normally be accomplished in the context of the text itself, using the (static) means of expression that it allows. With these points in mind, we see that new light can be shed on communicative phenomena from the realm of written language (in whatever form it takes) if they are also examined in the realm of spoken communication.

Through the examination of video data in this chapter, the notion of metacommunicative awareness is presented, with special attention being given to it in connection with the use of spoken words and gestures in metaphoric ways. The chapter begins with a justification of the choice to focus on a multimodal perspective in this investigation. The concept of metacommunicative awareness is explicated, and signals of greater use of effort in the production of communicative action are argued as being key for researching it empirically. While MCA is a general phenomenon, its relevance in relation to metaphor use (and to the study of metaphor) is discussed, with particular attention to how it relates to metaphoricity as a graded property. Examples of metaphor use in speakers' words and gestures illustrate how they can relate to the use of signals of possible MCA. This leads to consideration of how MCA can operate in terms of different temporal perspectives, as anticipatory, emergent, or retroactive with respect to one's communicative behaviour(s). In conclusion, MCA is shown to be free of assumptions about the ability to determine speakers' or writers' intentions, which are a problem inherent with claims about possible "deliberateness" of metaphor use.

2. Background: Why begin with a multimodal perspective?

We will begin with what has been argued to be the most basic context of communication between people: the face-to-face encounter. As Clark (1973) characterises it, this situation is the canonical encounter for most human interaction. Nowadays, many aspects of the canonical encounter also are in place for certain contexts of mediated communication, such as in video chats ("many", but not all, due to factors such as lack of shared physical surroundings). For people who can see and hear, communication in the canonical encounter is variably bimodal or multimodal and polysemiotic.[1] Nevertheless, there is a predominant, implicit bias

1. *Modality* refers here to different media of production (oral, manual, or other) and means of perception (audio, visual, or other) and *semiotic* refers here to different modes or codes of communication (lexico-grammar, intonation, gesture, etc.).

(in linguistics, but also in academia more generally) towards viewing language as a written entity, as opposed to considering it in terms of ways of thinking and behaviours we engage in to express them (Linell, 2005).

However, one estimate is that 1/6 of the world's people do not use a written language (Clark, 1996, p. 8). This amounts to more than a billion people worldwide. In light of that, it is important to acknowledge the multimodal grounding of language in its most fundamental context of use (face to face talk) and to realise that written language is a derivative from this and entails a good deal of abstraction from that context (Chafe, 1994). Indeed, the development of easily portable forms of technology in recent decades has made it more feasible to capture the visual side of audio-visual communication. Digital video allows researchers not only to record data more flexibly and less conspicuously in different settings of language use than was possible with large movie cameras, but also to more easily edit and analyse the material afterwards through the use of various kinds of software. Some make the analogy that just as the microscope allowed for great leaps in research in biology, as it revealed previously unknown forms of life on a small scale not visible to the naked eye, so has digital video revolutionised the field of gesture studies (and arguably linguistics along with it) by helping make visible those forms of behaviour by humans as they speak which were previously difficult or impossible to research due to the rapidity with which they occur, often at a rate impossible for the human eye and brain to process on a conscious level.

Taking a multimodal perspective in one's research on spoken language use is justified by some important points. A fundamental one is that there is no known culture in which speakers never gesture. Another is that there is largely a consensus now among gesture researchers that gestures are produced not solely for communicative goals, but also can play a role in formulating one's thoughts. On the communicative side, studies have shown that listeners who see the person speaking can gain information from their gestures which is not even expressed in the accompanying speech (Beattie & Shovelton, 1999 and other studies). This could be information about the size, shape, or location of referents, or of the manner in which manual actions took place. On the cognitive side, McNeill (1992) has made the argument that speech and gesture arise from the same idea units, or "growth points" of ideas, as we are formulating utterances; the growth points get "unpacked" in the form of spoken lexico-grammatical forms and (sometimes, but not every time) gestures as we talk.

It is worth specifying what we will focus on as "gesture". We will follow Kendon's (2004) characterisation of it as visible, distinct, effortful movement of part of the body. Our prime concern will be outward oriented gestures, as opposed to self-touching actions, such as scratching one's head or adjusting one's hair; known as self-adaptors (Ekman & Friesen, 1969), these movements normally are

not considered part of one's utterance, but rather serve other functions, such as helping one focus one's attention, reduce anxiety, etc. (Freedman, 1977).

It is also worth noting that the claims being made here about analyses of audio-video recordings of people talking are based on the perspective of the researcher. This should be acknowledged as a perspective different from the one of the speakers themselves (we are not pretending to read minds) and different from that of anyone who was paying attention to the speaker in the same context, what I will call an "attender" (following Clark's [1996, p. 21] use of the term), a category broader than just the intended addressee. The researcher analysing video data is an after-the-fact attender from a different context.

3. (Possible) metacommunicative awareness: Signals of greater use of effort

The main phenomenon to be discussed in this chapter is what will be called (possible) metacommunicative awareness. As a preliminary to this, a category to be distinguished is that of *communicative* awareness. For our purposes, communicative awareness will be considered a graded and variable phenomenon (in line with Cleeremans, 1994), a scale of being aware that you are acting in a way that could communicate something to someone else (Goffman's [1963] "giving information", as opposed to "giving off information"). Examples would be speaking when one is awake and conscious, as opposed to talking in one's sleep or babbling when one is extremely intoxicated. Observable cues of communicative awareness could include coordination of eye gaze movement patterns with speech with eye gaze (see, for example, Goodwin, 1981) and the speaker's degree of carefulness of articulation (contrast the babbling mentioned above).

By contrast, *metacommunicative* awareness (MCA) is proposed as a condition that is scalar in nature, of being aware that the form and/or content of the way in which you are acting could communicate something to someone else. The observable signals for analysing it will be explicated below. It is worth noting at the beginning that signals of possible MCA are not claimed to be necessary indicators of intentionality to say/do something in a certain way. The proposal is that the signals are observable indicators in the realm of action that the producer may have been more aware of how they were expressing themselves (before doing, while doing and/or after having done so, as discussed below), and which an attender could also pick up on, and thereby give greater attention to the ideas so expressed.

I will argue that an observable signal of this by someone who is speaking, writing, or signing a given language is the exertion of greater effort in the

production of a given communicative action. An important starting point here is the work on effort by Rudolf Laban in relation to dance (Laban & Lawrence, 1947/1974), which, as will become evident, has important relations to the study of speakers' gestures. But in general, the idea is that if someone produces a communicative signal (spoken words or other sounds, written signs or images, signs of a sign language or gestures, etc.) that involves a greater use of effort, then they are more likely to be aware of having produced that communicative behaviour itself. Research in cognitive psychology and neuroscience has pointed out experientially qualitative differences and differences in neural activation in the brain between participants' awareness when exerting effort versus their effortless awareness (e.g., Demanet et al., 2013; Garrison et al., 2013). What kinds of cues of more effortful communicative signal production might we consider in this regard?

We will focus on spoken language use, but some connections to the written and signed modes will be pointed out as well. To illustrate, let us consider an example with several kinds of cues of the use of more effortful communicative signal production. Example 1 comes from a US American TV talk show,[2] in which the host (H) asks the guest (G) where a new talk show, that they will be co-hosting, will be broadcast from. In the speech transcription, each line indicates a new intonation unit, in keeping with the guidelines of Chafe (1994) and Du Bois et al. (1993). A period/full stop indicates utterance final ending of an intonation unit (with voice dropping), a comma marks an intonation unit with continuing transitional continuity (with a forward slash [/] noting a marked final rising continuing intonation), and a double hyphen mark (--) indicates a truncated intonation unit. A colon (:) marks lengthening of the vowel that precedes it, while bold face font indicates syllables with relatively louder volume of speech for that speaker. Longer pauses are marked with three dots (…) and shorter pauses with two (..). Overlapping utterances are marked in square brackets [ ], aligned vertically.

Example 1a: Speech example

01	H:	Are we doing it **here**/,
02		or in-- in New **York**.
03		What have we de**cid**ed.
04	G:	We haven't de**cid**ed yet.
05	H:	Alright.
06	G:	**We:** … [have]n't decided.
07	H:	[Yeah.]
08		Alright.

2. The example is courtesy of Suwei Wu and comes from a YouTube broadcast of the interview: https://www.youtube.com/watch?v=sM1yINb5ClU beginning at time code 2:15.

09 G: [**We:** .. didn't--]
10 H: [Cuz I--
11 I] **have**n't .. heard the **lat**est.
12 G: I **know**,
13 we haven't de**cid**ed yet.
14 H: Alright.

On the verbal level, we see an A-B-B-A utterance pattern with variations of the clause "we haven't decided yet" in lines 04, 06, 09, and 13. The "Bs" (lines 06 and 09) are reduced in terms of word length (omitting "yet"), but if we take into consideration the prosodic features with which they were uttered, they are noticeably marked: In both cases, the stress with greater volume moves to the pronoun ("we"), in which the vowel is also lengthened, followed by a pause.

To add another layer of analysis, we can consider the use of co-verbal behaviours. Gesture units are marked with curly brackets { } below the words they co-occurred with. Following Kendon (2004), the duration of a gesture stroke is marked by a variable number of asterisks "***" underneath it, and the retraction of the hand with interleaving dashes and dots "-.-.-.". (The gestures marked in 1b went immediately into stroke movement, without any hand preparation phase.)

Example 1b: Gesture examples added

01 H: Are we doing it **here**/,
02 or in-- in New **York**.
03 What have we de**cid**ed.
04 G: We haven't de**cid**ed yet.
{small head shake}
05 H: Alright.
06 G: **We:** … [have]n't decided.

{*****-.-.-.-.-.-.-.-.-.}
(left hand makes one circular rotation in the horizontal plane)
{*****}
(raising of both eyebrows)
07 H: [Yeah.]
08 Alright.
09 G: [**We:** .. didn't--]

{***-.-.**-.-.}
(left hand opens out, palm up, makes small movement downward; repeats it once)

10 H: [Cuz I--
11 I] **have**n't .. heard the **lat**est.
12 G: I **know**,
13 we haven't de**cid**ed yet.
{small head shake }
14 H: Alright.

The guest (G) makes the statement "we haven't decided yet" first with a small head shake (line 03); then with prosodic stress and lengthening of the syllable "we" along with a large circular hand movement outwards toward the host and back, almost at shoulder height (line 06), as if tracing a circle to include both the addressee and the speaker; then as a partial reformulation in line 09 with a palm-up open hand toward the host, a gesture known to serve as a highlighter of discourse content (Müller, 2004); then in line 13 repeating both the prosody, speed, and head shake produced in line 03.

In this regard, including relevant factors with respect to bodily movement, we can draw upon Laban and Lawrence's (1947/1974) characterisation of bodily effort in terms of four factors of exertion:

- weight (overcoming the body part's own weight)
- space (exertion according to the path of motion followed, e.g., flexible or direct)
- time (speed of motion), and
- flow (control of movement, as fluid versus bound).

The use of more space in producing gestures, and particularly of more peripheral space (such as at or beyond the height or width of the shoulders (as characterised in McNeill's [1992, p. 378] grid of gesture space), with greater dynamism, in conjunction with eye gaze, are the very factors that have been discussed in previous research as ones which entail greater attention by the producer, and which may also attract greater attention on the part of those attending to the producer (Cienki & Mittelberg, 2013; Müller, 2008b; Streeck, 2009). For example, if the

speaker-gesturer's eye gaze is directed at their own gestural behaviour, it means that it is then in the focus of their visual attention; if the gesture is in the line of sight with an interlocutor, and/or the producer's gaze follows a gesture's movement, this can also entail direction of the attender's attention to the gesture (Müller, 2008b; Streeck, 2009). In Example 1, an additional indicator of extra effort that can be noted is eyebrow raising, co-occurring with the "we" uttered in line 06. This combination is reminiscent of how Iverson and Thelen (1999) discuss gesture and speech production as the movement of coupled oscillators in the exertion of effort, that is: eyebrow raise going along with the use of louder volume and lengthening of the vowel in speech. Overall, in Example 1, we see a temporary increase in the speaker's use of several cues of more effortful communicative signal production that potentially signal metacommunicative awareness, then going back to a more neutral baseline level from which she began.

Though not found in Example 1, another potential signal of MCA found in some contexts is physical touch of the viewer/listener by the speaker. Touch is a unique sensory phenomenon in that it is the only sense that is shared to some degree between producer and receiver: the toucher and touchee share some form of tactile perception. This gives touch between producer and attender immediate relevance for transferring MCA. By contrast, you do not see someone else by virtue of them looking at you, and the same applies with the other senses (hearing, smell, and taste).

In terms of written language, the devices that can signal MCA are perhaps more familiar to readers, given the written language bias in academia mentioned above, and because use of these devices is taught as part of learning how to write or how to use text processing software. When reading, we are only left with the cues that the writer left in the text. We normally do not have access to cues from the writer that were either edited out, or which took non-written form (e.g., his exclaiming "Aha!" before writing a brilliant idea). In the age in which handwritten personal letters were the norm for long-distance communication, there were more options for variability in the ways and degrees to which such cues could be expressed. Digitised writing, reducing the process to discrete pressing of keys, results in options of a different nature, such as the use of emoticons and emojis in more informal genres of communication. But the use of italics, underlining, bold face, quotation marks, brackets, unusual spacing between or within words, or switching temporarily to a noticeably larger or smaller font size are all typographical conventions that mark greater attention being given to certain parts of a text. The nature of potential MCA also differs qualitatively between different genres; the use of italics in carefully prepared instructions for customers about dosages on an insert in a box of medicine, having been read and possibly edited by several authors of such texts, is different to the spontaneous use of smiling emojis around

some words in a text message, quickly sent off by one individual to another known individual. Even with written texts, MCA is inherently dynamic in nature, both on the part of the producer and the attender, varying in degree on different temporal scales, and varying qualitatively in experience across different types of genres.

The most encompassing view on the phenomenon that one could take would really be to talk about metabehavioural awareness – being aware of oneself and of what one is doing in the flow of a given period of time, including consideration of one's felt experience, as in proprioception. If metabehavioural awareness can be said to characterise the broader phenomenological category concerned here, MCA can be seen as a sub-category of that, concerning metabehavioural awareness when one is engaged in the activity of communication. We can also consider the use of cues of possible MCA when one is communicating and expressing elements of one domain of experience to refer to a topic from a different domain, making some comparison between them. This brings us to MCA in relation to the use of metaphoric expression.

4. The relation to metaphor

Let us begin the turn to metaphor by examining some of the claims made within what is arguably the most dominant approach to studying metaphor today, namely conceptual metaphor theory (CMT), which crystalised with Lakoff and Johnson (1980), even though the ideas therein have roots which go back much earlier (as discussed in Jäkel, 1999). Lakoff (1993, p. 207) characterises one of the basic premises of the theory, using the following example: "The LOVE-AS-JOURNEY mapping is a set of ontological correspondences that characterise epistemic correspondences by mapping knowledge about journeys onto knowledge about love." In answer to the question as to whether there is a general principle governing how linguistic expressions about journeys are used to characterise love and to reason about love, Lakoff (1993, p. 206) answers, "Indeed, there is a single general principle that answers both questions, but it is a general principle that is neither part of the grammar of English, nor the English lexicon. Rather, it is part of the conceptual system underlying English. It is a principle for understanding the domain of love in terms of the domain of journeys."

This suggests that there are different ways in which we can theorise about metaphoric mappings as being conceptual in nature. One is in terms of a conventional conceptual mapping pattern in a given culture. This would be a common way of thinking of one domain in terms of another among members of that culture. Whereas LIFE IS A JOURNEY appears from many studies to be a mapping common across many cultures and many eras, one also finds mappings become

conventionalised in the time frame of a given usage event (Langacker, 1988) of a genre, what can be called a genre event (Steen, 2011). For example, one could think up various potential ways of thinking/talking about LIFE in terms of a BANANA as a source domain. If used by the discourse community in question several times, it could become temporarily conventional among members of that group, or it could spread beyond them (think of the rapid means by which memes can become disseminated via social media). Kyratzis (1999) discusses a conversation between friends about sex and relationships in which one introduces the feeling of wanting to try out relations with new partners as being like that of wanting to try out different kinds of biscuits (cookies) for sale in a supermarket. The sustained talk within the source domain of biscuits in reference to potential partners becomes so conventionalised in the moment that it leads the originator of the metaphor to create the term "monobiscuitous" to refer to someone who is monogamous. (The original conversation was in Modern Greek, but the key words here were quite similar in the original, with Greek *biskóto* for 'biscuit'.) This can be seen as a kind of ad hoc conventionality in the use of mapping patterns.

However, another way in which we can theorise about metaphoric mappings as conceptual is in terms of neurological co-activation of brain regions associated with two concepts (Source and Target) in a particular moment. Such neural co-activation need not entail conscious awareness; experimental research also supports the view that metaphors can work on a sub-conscious level, thereby helping structure our reasoning implicitly (Gibbs, 2011; Gibbs & Matlock, 2008; Matlock, 2004, 2010; Matlock et al., 2011).

Some recent dynamic approaches involve theorising about metaphoric expressions and concepts as moving on various scales: not only from the creative (novel) to the conventional (entrenched), but also possibly from being used unwittingly to being used with greater awareness (Bowdle & Gentner, 2005; Kyratzis, 1997; Müller, 2008b). In light of this, we can rethink the two ways of theorising, mentioned above in terms of the issue of gradedness of metaphoricity.

1. There are different degrees of conventionality of a conceptual mapping pattern in a given culture, genre event, or context of use. Whereas LIFE IS A JOURNEY is a more conventional pattern for speakers of English (and many other languages), LIFE IS A BANANA is generally much less conventional, but can become more conventional among those taking part in a given context of use (such as readers of this chapter who have now invented possible expressions that would correspond to this mapping pattern). See Kyratzis' POTENTIAL PARTNERS ARE BISCUITS example above.
2. There are different degrees of possible neurological co-activation of brain regions associated with two concepts (Source and Target) in a particular moment. Whatever brain regions that are responsible for our thinking of LIFE

and JOURNEY can be more or less co-activated in a given context, and the same is true of whatever brain regions that are responsible for our thinking of LIFE and BANANA.

3. There are different degrees of conventionality of a metaphoric expression in a given culture or genre event. A phrase like 'he passed away' is a conventional metaphoric expression in English to say that someone died, whereas giving advice on how to live one's life by saying "peel it and savour every bite" (as with a banana) is less conventional for most speakers of English, but can be more conventional for the small number of people who (perhaps jokingly) have come to use this expression and perhaps other LIFE-AS-BANANA metaphoric expressions among themselves.

This overview can be summed up as in Table 1.

Table 1. Ways in which metaphoricity can be viewed as graded in nature

Degree of conventionality of a conceptual **mapping pattern** in a given culture, genre event, or…	LIFE IS A JOURNEY (more conventional)	LIFE IS A BANANA (less conventional, but could become more conventional)
Degree of neurological **co-activation of brain regions** associated with two concepts (Source and Target) in a particular moment	LIFE & JOURNEY (could be more or less co-activated)	LIFE & BANANA (could be more or less co-activated)
Degree of conventionality of a **metaphoric expression*** in a given culture, genre event, or…	"the end of the road" (more conventional)	"peel it and savour every bite" (less conventional, but could become more conventional)

*words, gestures, art, design, dreams, …

All of the above has just focused on metaphor as a matter of words. However, it is worth realising that this can be seen as a reflection of the written-language bias mentioned earlier: focusing on metaphor as it is objectified in verbal expressions, as opposed to how it appears in other behaviours we engage in. A more behavioural view of metaphor would perhaps be even more true to the basic tenet of conceptual metaphor theory, that "*The essence of metaphor is understanding and experiencing one kind of thing in terms of another*" (Lakoff & Johnson, 1980, p. 5, italics in original). This will be pursued in the following section.

5. A look at metaphoric expression in words and in gestures

This brings us to the expression of metaphor by speakers in ways other than just in the words they are uttering. We will focus here on metaphor in speakers' gestures, with a primary focus on their manual gestures. The topic actually has early roots,

e.g., Wundt's (1904, p. 157) consideration of pointing to indicate time in spatial terms (see Cienki & Müller, 2008b, for an historical overview). However, it was the work of McNeill (1985, 1992) and McNeill and Levy (1982) which first picked up on the relevance of Lakoff and Johnson's claims for the study of gestures as potentially revealing manifestations of speakers' metaphoric ways of thinking. This idea was subsequently developed in Calbris (1990), Cienki (1998, 2008, 2017a), Cienki and Müller (2008a, 2008b, 2014), Müller (1998b, 2008a), Sweetser (1998), and many other works since.

It is important to consider how gestures can be considered to constitute metaphoric expressions to begin with. First, we need to consider how gestures have been interpreted as representing concepts. The grammatical clause is often taken as the limiting scope of analysis for the relation between gesture and co-gesture speech, and indeed, the relevant verbal expression is often found within the same intonation unit with which the gesture unit was produced (see Kendon, 1972, 1980 and McNeill, 1992, on the alignment of speech and gesture units). Gestures can also represent ideas not explicitly verbalised in speech, as when gestures are made in two different spaces, usually left and right (Calbris, 2008), which can indicate the difference between the ideas themselves, even if the difference was not verbalised per se, e.g., "we can do X, or we can do Y". For simplicity, we will focus in this chapter on gestures that relate to the accompanying ideas that the speaker verbalised – even when the verbalisation occurs in clauses before or after the gesture.

The method of interpretation followed here (adapted from Bressem et al., 2013) involves identifying the form of the gesture and seeing if the form of the gesture bears an iconic relation to one or more ideas being expressed in the accompanying speech. The category of "accompanying" is taken here as one with the more protoypical centre being within the clause uttered during which the gesture was produced, but the boundary of which is flexible, and in more extreme cases extends to even more than one turn at talk. The forms of gestures are commonly analysed in terms of the parameters of hand shape, orientation of the palm of the hand, the manner and path of motion with which the gesture was produced, and the location in space in which the gesture was produced, in relation to the speaker (e.g., in front of the torso, to the speaker's left or right, in a more central or peripheral space). These parameters were originally developed for sign language research (Stokoe, 1960) and were later adopted in research on speakers' gestures (McNeill, 1992; Bressem, 2013). The determination of an iconic relation between a gesture's form and some element(s) in the accompanying speech can be made using the modes of gestural representation (Müller, 1998a, 1998b, 2014) or means of depiction (Streeck, 2009, Chapter 6). These help establish how the imagery in the gesture is to be understood as having come about, e.g., if the hands

- embody,
- appear to hold or touch an imaginary entity or space,
- trace a form or a path of movement, or
- act as if they are performing an action mentioned.

Gestures representing concepts of physical entities, relations, or actions can be represented partially in an iconic way through the forms and movements of manual (and other) gestures, that is: both in the hand shapes themselves, but also via the movements of the hands, which (via the modes of representation discussed above) are often to be understood as leaving traces in space whose form or movement contour constitutes the representation. The representation is always partial, due to the inherent nature of the limitations and affordances of manual representation. In this regard, all representational gestures necessarily employ metonymy (more technically, synecdoche), via part-for-whole depiction (Cienki, 2017b, Chapter 4; Mittelberg & Waugh, 2009; Müller, 1998b). The gestural representation is part of the same domain as that of the concept represented. However, if the idea being expressed is from one domain (for example, the process of THINKING) and the form represented with the gesture is from a different domain (e.g., CIRCULAR ROTATION of one's extended index finger), and the context of the expression affords comparison between the two domains, one has grounds for metaphorical interpretation of the target-domain idea in terms of the source-domain concept being iconically represented in gesture (here: THINKING IS LIKE SOMETHING IN CIRCULAR MOTION).

The context of expression includes background knowledge from the context in which the discourse is being produced and the previous co-text, particularly the speech accompanying the gesture either simultaneously or in temporal proximity, whose relevance is cued by factors such as the direction of eye gaze with speech. See Cienki (2017a) for detailed guidelines for the identification of potential metaphoric use of gestures (metaphor identification guidelines for gesture, or MIG-G). We will limit ourselves to cases here in which the target domain concerns concepts of the abstract (rather than the physical), as they are by far the most common in the literature on metaphoric use of gesture. These also provide the clearest examples for consideration here, with the abstract idea constituting a Topic being expressed by the Vehicle (to use terms from Richards' [1936/1965] approach to metaphor analysis) of a physical gesture.

We can return and add to the signals of possible MCA, discussed above, but can note now, in Table 2, that any of them that can be used with metaphoric expressions. Note here, in particular, the extant body of research pointing out the verbal cues that can highlight metaphor use.

Table 2. Signals of possible MCA with respect to metaphoric expression

- Verbal:
  - repetition, diversification, modification, extension, mixing, compounding of metaphors, literalisation, overdescription
  - "tuning devices/activation devices" highlighting metaphor use (Cameron, 2003; Cameron & Deignan, 2003; Goatley, 1997; Kyratzis, 1997, 1999; Müller, 2008a, 2008b; Stibbe, 1996, 1997)
- Prosodic:
  - stress, marked intonation, use of pauses
- Gestural:
  - use of more peripheral space, more space, more dynamism, in line of sight, gaze following gestures (discussed with respect to metaphor highlighting in Cienki & Mittelberg, 2013; Müller, 2008b; Müller & Tag, 2010; Streeck, 2009)
- Touch
- Typographical:
  - accompaniment of text with italics, bold, underlining, differing font size, brackets, quotation marks, extra spacing, emojis

Adding on to Table 1, we can note how the gradedness of metaphoricity can also be highlighted to different degrees by MCA cues, as in Table 1a.

Table 1a. Ways in which a producer's awareness of metaphoricity can be signalled to varying degrees

Degree to which a (metaphoric) expression is **highlighted** in a given instance of use	unstressed, no gesture, etc. (less salient)	with signals of MCA (more salient)

As noted in Cienki (1998, 2008) and in later literature, the speech accompanying the gestures may or may not be metaphoric itself. In my earlier research (Cienki, 1998), I found examples a speaker talking of engaging in morally questionable behaviour as "pushing moral limits" while gesturing with a fist moving forward, followed by use of a flat hand with the palm in the vertical plane moving away from the speaker, as if having been pushed by the previous fist gesture; but also speakers talking about abstract ideals, such as honesty or truth, while making illustrative gestures, such as a tense, flat hand in the vertical plane making a chopping motion downward, which can be interpreted as demonstrating something about the metaphorical solidity or severity of the nature of the truth or honesty being mentioned.

Cornelissen et al. (2012) presents an example that illustrates how a metaphorical way of characterising a Topic can move back and forth between expression in gesture and speech. The speaker, a British entrepreneur, verbally summarises how he understands a business developing by metonymically listing four stages in terms

of single words – "products, opportunities, invoices, cash" (which are themselves non-metaphorical expressions) – then repeating the list with a big circular gesture, then later mentioning "cycle" with a small rotating finger gesture, and ultimately explaining the steps of the cycle with conventional verbal metaphoric expressions of movement along a path ("from…", "to…"), spoken with marked prosodic emphasis, accompanied by exaggerated hand gestures moving and stopping around parts of a large circle. Not only does his expression of inter-related metaphors vacillate between expression in words and in gestures over time, it is also variably accompanied by more or fewer cues of MCA over time, which can be interpreted as dynamic variation in the degrees of highlighting of metaphoricity as the discourse plays out. Kolter et al. (2012) describe similar phenomena in their analysis of participants' verbal production and bodily movements in a dance/movement therapy context. Reflecting on the findings, Müller (2017, p. 301) writes,

> In an ongoing face-to-face conversation, metaphoric meaning appears anything but fixed to a lexical item: it may first show up in a gesture, then disappear in gesture and reappear in speech and eventually merge to a verbo-gestural metaphoric expression.

These points bring us to the issue that MCA, like metaphoricity itself, is not a property for language users that exists in an on-or-off, yes-or-no, dimension, but rather it has a graded quality, and even more, a dynamically variably graded quality, as discussed in the following section.

6. MCA as a dynamic phenomenon: Possible MCA in different time relations, with special attention to metaphor

The following temporal characteristics of MCA are offered here as observations of dynamic patterns found in the author's analysis of metaphor use in video data. These await confirmation from further follow-up research, but they suggest another parameter along which MCA appears to vary dynamically: it appears that the metacommunicative awareness itself can be anticipatory, emergent, or retroactive (these are not intended as mutually exclusive categories). Anticipatory MCA can be characterised as a plan of action, a strategy. The strategy can be more or less detailed – formulated in greater detail or more schematic in nature. The strategy can be planned well in advance (prepared, as with a speech written down in anticipation of delivery in a "speech genre event") or can come to the speaker's mind immediately before delivery ("oh, I will say it like *this*!"). Emergent MCA can be seen as a realisation and exploitation of what one is doing in the moment ("oh, given that I've just said/done that, I can now say/do the following"). Retroactive MCA involves an after-the-fact realisation of how one has said/done something;

this can emergently lead to new utterances that pick up on and highlight the behaviours that one has just used – from having done them without great forethought to indeed using them with greater attention to them. Emergent MCA may be seen as retroactive MCA on a very short time scale. Some examples of the use of MCA cues will serve to illustrate how these types may play out with respect to metaphor use.

In Example 2,[3] the speaker (Kenneth Branagh) is discussing decision-making processes during a talk show. He begins on line 02 with his two hands clasped together facing his stomach, fingers interlaced. He then separates his hands and produces a series of alternating hand movements, hands open but relaxed, palms facing each other and sometimes slightly turned upwards. He raises the right hand while lowering his left hand, then does the opposite, and repeats this. "RH" and "LH" thus indicate the points each time when the right or the left hand is being raised. Starting points of new strokes in the complex gesture sequence are indicated with a vertical line "|". Preparation movement of the hands leading to strokes are marked with tildes "~~~". Post-stroke holds, where the hands are held in position after a gesture stroke, are indicated by underlined asterisks "***".

Example 2

01 But on the **in**side,
02 **what is** it,
03 that al**lows** you to make--

{~~~~~|****
RH LH

04 <inbreath> **ba**- **ba**lanced/,
|RH**LH*****|RH******

05 if **that**'s what you think they should be,
|********
(beat downward, with both hands open and ¾ turned upward)

3. The example is courtesy of Eve Sweetser, who located it using tools from the Distributed Little Red Hen Lab (http://redhenlab.org/) to search the NewsScape Library of International Television News.

06 **judg**ments/,
|********
(beat downward, with both hands open and ¾ turned upward)

07 and dec**i**sions/,
~~~~~**-.-.-.}
(hands move towards each other and stroke once outward slightly before returning to rest position of hands together, fingers interlaced)

Using the form-based analysis of gesture (Bressem et al., 2013) and the metaphor identification guidelines for gesture (Cienki, 2017a), the combination of the hand forms and motions (two open hands, partly turned up, moving up and down in alternation) can be interpreted in terms of the metaphor CONSIDERING IS WEIGHING (Cienki, 1998; Grady, 1997; Johnson, 1987). In this example, the speaker also utters (what can be identified with the MIP procedure of the Pragglejaz Group [2007] as) a metaphorically used word, "balanced", in relation to the quality of judgments or decisions. But the metaphorically used gesture relating to this idea is already starting to be produced before this temporally, in line 03 in the transcript. The restart in speech on the metaphorically used word and the re-articulation of the gesture timed with utterance of the fully formed word after the restart can also be seen as signals of possible MCA, particularly given that post-stroke position of the hands in the air is then held after the utterance of the word, followed by an emphatic beat with both open hands during the subsequent parenthetical phrase that qualifies the meaning of the metaphor just spoken and gestured.

Sometimes the anticipation of a metaphorically used word through gesture production is even more conspicuous. Gestures during pauses before metaphorically used words can sometimes presage them, indicating through imagery the source domain that is about to be uttered verbally. It remains an open question as to whether the gesture may even prompt imagery that the speaker may exploit in subsequent verbal expression. In an example from a study I conducted on metaphors American university students use related to the notion of honesty in the context of taking exams (reported in Cienki, 1999), one student makes the observation in Example 3. The macron (¯) indicates a level, high-pitch intonation; the "at" symbol "@" represents a burst of laughter; the question mark (?) stands for a high rising final intonation. Parts not annotated for the right hand gestures are where that hand is not visible in the video, being hidden beyond the speaker's right leg, as she is seated. The speech transcription will be presented by itself first for easier reading.

Example 3
Transcription of speech alone:
01 Umm ¯, ..
02 See there's such a wi=de variation/ @,
~~~~~

03 of ho=w people,
04 y'know,
05 prepare for exams?
06 I -- ..
07 For example I know that I've, ..
08 y'know I'm –
09 **huge**ly dra=wn to procrastina=tion of any ty=pe,
10 and…

Transcription with gesture:

01 Umm ¯, ..
02 See there's such a wi=de variation/ @,
{|LH**|LH**|LH*******
{|RH**********-.-.-.-.-.-.
(both hands move out to sides, palm up)
(left hand stroke is repeated two times, smaller)
(right hand slowly retracts down on right side)

03 of ho=w people,
~~|LH**|LH****
-.-.-.-.-.-.-RH-.-.-.
(left hand, palm towards self, moves outward once, repeats)
(right hand, makes small stroke upward)

04 y'know,
******
******

05 prepare for exams?
~~|LH****|LH***
~~|RH**-.-.-.-.-.-.-.
(left hand, palm up, open, moves downward twice, further each time)
(right hand, palm up, makes small stroke out to right and down)

06 I -- ..
|LH*|LH***
|RH*-.-.
(left hand moves toward self, palm toward self, then back out, palm up)
(right hand makes small, low stroke up and out to right)

07 For example I know that I've, ..
~~~~~|LH*********~~~~~~
|RH**-.-.-.-.
(left hand retracts towards self and moves back out to left, then towards self)
(right hand makes small, low stroke up and out to right)
~~~~~

08 y'know I'm –
|LH****-.-.-.
|RH****-.-.-.
(both hands, relaxed, simultaneously move up and out to the sides)

09 **huge**ly dra=wn to procrastina=tion of any ty=pe,

|LH**-.-.-.-.-.-.~~~~~~~~~~|LH-.-.-.-.~~~~|LH-.-.
|RH**-.-.-.-.-.-.
(both hands move out to sides, left hand opening, palm up, left hand moves to centre space, open, palm up, small repeat)

10 and…

The transcription illustrates how the gestural movement of the two hands began in a rather asynchronous manner in relation to each other, and then came into alignment just before the speaker uttered what (according to the MIP procedure) can be considered two metaphorically used words ("hugely", meaning very much, and "drawn", meaning tending to do something). The gestures of the two hands synchronise in their movement out to the sides of the body,[4] crescendoing in intensity of effort in line 08 as the left hand opens up completely with the fingers extended. The repeated spreading of the hands in front of the body, directly in front of the addressee, can be interpreted (using MIG-G) in light of the subsequent speech as displaying a large ("huge") space in front of the speaker, leading up to the speaker's utterance of "hugely". Perhaps the effort involved in the gestural production goes along with the speaker's growing (emergent) awareness of the imagery she was producing; perhaps this even led to the metaphoric expression of the idea "really drawn to" in terms of the more hyperbolic, and metaphorical wording, "hugely drawn to".

Restarts and repairs in speech (about which there is an extensive literature in the field of Conversation Analysis) can be a cue of the speaker's awareness of their

4. Note the foreshadowing of this arrangement with the movement of the hands to the sides in line 2 when saying "wide", which is also metaphorically used here in reference to how extreme the range of variation can be.

own "trouble" in utterance production. But such repairs are not limited to speech, and can also occur in gesture, something known since at least McNeill's (1992) discussion of this phenomenon. Example 4, from the student data, shows restarting in both speech and gesture around the use of metaphoric imagery, illustrating MCA signals in both modes. The speaker is characterising how in analysing texts as part of an exam, for example for a literature course, students need to demonstrate that they can "process and apply theories and critiques from outside the text onto the text".

Example 4
Speech transcription:

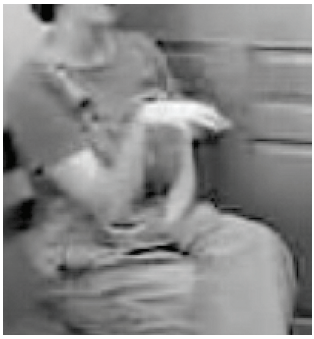
01 uh=m,
02 seeing how you can process and,
03 apply --
04 ap**ply** uh=m,
05 theories and

Transcription with gesture (all gestures were made with the right hand, loosely open):

01 uh=m,
(hand resting on leg)

02 seeing how **you** can process and,
{|******** |****** |******-.-.-.}
(|palm toward self, move toward self |palm up, move forward |palm turned down, move down)

03 apply --
{|****-.-.
(|palm toward self, hand in claw shape, move toward chest; retraction with palm turning down, hand turning to point away from body, held at chest height



04 ap**ply** uh=m,
|**********
palm-down hand raises to shoulder level and back down, flat hand held at chest height

05 theories and
|******~~~
hand raises slightly and moves to right

The application of theory becomes visualised in the gesture in terms of the loosely open hand and its relative orientation. Though starting with a hand facing herself and moving towards herself, the speaker reorients the gesture outward with a downward facing hand along with a restart in speech – a signal that, in retrospect, the first gesture needed reformulation. The new gesture correlates with one she repeats later (with the hand moving downward) when talking about applying theories onto a text to analyse it. The loosely open hand and direction of movement, as if pushing or placing something held in the palm of the hand, fits Müller's (1998a) description of the mode of representation whereby the hand moves as if acting in a certain way, possibly with an object, as here the hand might move to place something somewhere (as in applying one thing to the surface of another). Signals of possible MCA can be seen in the more effortful, relatively high position of the gesture in front of her body, the stopping and reorganising of the hand orientation, and the concomitant restart of the metaphoric expression in speech (regarding applying a theory), which becomes visualised in the gesture as the placing (palm down) of something (here, a theory) onto something even lower in front of the speaker (the imaginary text being analysed).

The above examples bring out another point, which is that cues of MCA sometimes require a researcher's sequential perspective on the discourse in order to determine their existence. A restart is only a restart with respect to an utterance that the same speaker produced just before the given one, probably in a

truncated form. A repeated reference, even cross-modally from gesture to word or vice versa, is only a repeat from a retrospective point of view. In general terms, speakers formulate their utterances against the background of what has been said by themselves and their interlocutors, with the built-up knowledge of what is in their environment and what topics have been engaged already in the interaction, etc. The degree of effort put into the production of the verbal or gestural part of an utterance is relative to what has recently been produced. Furthermore, from the researcher's point of view, seeing a single gesture or hearing a single word uttered from some data, we cannot determine whether, for that speaker at that time, the gesture involved the use of more or less space than usual, or whether the volume with which a word was spoken was greater or lesser, etc. MCA, probably like most phenomena related to consciousness, is dynamic in nature, and this has consequences for how it could be researched empirically.

7. Metacommunicative awareness is not necessarily deliberateness of expression

To sum up, we can say that possible MCA by a producer of communicative signals (a speaker, signer, or writer) can be cued when communicative actions involve the exertion of relatively greater effort on their part. The more effortful behaviour can be taken as a cue that the producer is/was more likely to be aware of that communicative behaviour itself, as compared to other preceding communicative behaviours produced in less perceptibly effortful ways. In turn, listeners/viewers (those attending to the producer, whether they were the intended addressees or not) could pick up on the use of these signals, thereby cuing them to be more aware of how the communication was produced and the possible implications of that; but the degree to which this is likely to happen depends upon many factors, such as the conditions in the environment for communication, the attender's degree of attention to the producer (in general and at a given moment), the cognitive load the attender is handling at the moment, etc. Furthermore, as researchers, we can only make inferences with varying degrees of certainty about a producer's MCA or an attender's perception of their MCA signals.

We can contrast this with the characterisation of deliberate metaphor given in Steen (2013, p. 180) as "an instruction for addressees to adopt an 'alien' perspective on a target referent so as to formulate specific thoughts about that target from the standpoint of the alien perspective". Whereas an MCA signal is argued to be a possible indication that the producer may have been more likely to have been aware of the production of the communicative behaviour, deliberate metaphor is presented as "an instruction", presumably by the producer of the communication. While in

the discussion of MCA above, it is noted that such a signal could be picked up by an attender, deliberate metaphor is claimed to be an instruction specifically for addressees to do something, namely "for addressees to adopt an 'alien' perspective on a target referent so as to formulate specific thoughts" (Steen, 2013, p. 180). Thus while metaphor use that is claimed to be deliberate entails an intention that someone else do something, no such entailment is claimed to be involved with possible signals of MCA: producers of such signals may or not have had some degree of MCA (though the argument here is that the greater effort involved in producing them makes it more likely that MCA would be connected with such moments), and if they did, it is a separate question as to whether they exploited it for the purpose of trying to get someone attending to them to think in a certain way – a question which may be impossible to answer empirically, since we cannot read other people's minds to know their intentions at any given moment, to the degree to which they are even aware of them themselves.

8. Conclusions

In conclusion, signals of possible MCA are observable phenomena that can be encoded in empirical research and do not entail attributing intentions to the producer about how others are to use these signals. In relation to the use of metaphor, metonymy, or other tropes, the use of accompanying MCA signals could be interpreted as cues that mark such expressions in a more salient way. But MCA is a broad phenomenon, and is not just related to metaphor use. In theory, any form of communication can be produced with more or less MCA and more or less signals of potential MCA.

It is conceivable that the use of some kinds of expressions, and the expression of some kinds of concepts, may inherently involve greater MCA than the use/expression of others. For example, in any given language, some grammatical categories are used less frequently than others, and some are used less frequently in spoken language than others. The employment of such a category in spontaneous talk may occur with a higher degree of awareness on the part of speakers, as they try to capture a particular framing of a concept that is at their linguistic disposal. Examples in English might be hypothetical constructions (e.g., "were it possible to do that, …") or the future perfect tense ("we will have already seen that by the time that…"). It is an interesting empirical question as to whether such grammatical forms are more likely to be produced with signals of MCA than other grammatical categories would be (one can imagine the use of marked intonation contours, increased volume of speech, accompanying raised eyebrows, etc. as possibilities).

It is also worth emphasising how central dynamicity is to MCA; MCA varies in degree and it varies in time. In terms of degree, producers of communication move in and out of degrees of greater and lesser awareness of how they are communicating what they are communicating. Any signals of possible MCA that they produce also vary in the degree of effort involved and in the degree of salience they may have relative to the ongoing discourse. MCA also varies dynamically in time, and indeed, along different possible time scales. Most of the examples above involved micro-analysis of talk that took place within a few seconds. But variations in MCA also appear to occur across longer stretches of discourse, or to be more precise: with moments of greater frequency over some stretches of discourse than others. For example, a dramatically-inclined stand-up comedian might be more prone to lapse into spells of MCA than someone engaged in a routine, low-energy interaction. It should be noted here that the central role of dynamicity has implications in relation to metaphor. It reminds us of the importance of studying metaphor (on the level of expression and as a pattern of conceptualising domains) in terms of its dynamic properties, rather than as a property that is present or not, in terms of binary categorisation.

In terms of the big picture of why one might study possible signals of MCA, it remains a question as to how useful it will be found to be in future research. One area of research could be the study of attention phenomena in communication. This could have relevance in the realm of human-computer interaction, such as in the production of more human-like conversational agents, particularly if they are embodied as avatars or robots. There could also be clinical applications, both in terms of diagnosis of attentional and communicative disorders and in contexts of communication therapy, for example, helping those at different points on the autism spectrum learn to become aware of and employ signals of MCA according to more culturally normative expectations in order to facilitate their engagement in interaction.

With respect to research on written texts, the study of MCA faces particular challenges worth acknowledging when it comes to texts in ancient languages. While some signals of possible MCA in writing may be found to be more widely spread cross-culturally (one possibility might be the use of more elaborate versus simpler verbal formulation for a given concept), others may be more culture specific. For languages without living speakers, it is much more difficult to know what some of those signals might be. In terms of the use of such signals connected with metaphoric expression, the task faces additional challenges. We may be able to identify cues of possible MCA, but it may often be very difficult, if not impossible, to ascertain when some of these actually related (for language users at the time) to metaphor, given lacunae we may have in relation to language users' target domain knowledge. This is especially true in the case of reference to specialised

knowledge, such as medicine. For example, is sickness as a manifestation of a god or dead person entering the body a metaphor or not if writers at the time may have believed that this was the cause of illness (Di Biase-Dyson, 2016)? These and related issues are the subject of a number of the chapters in the present volume.

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