

## A variational approach to deliberate metaphors

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### Abstract

While Deliberate Metaphor Theory is controversial from a psychological point of view, its advocates propose that the communicative notion of ‘deliberateness’ is valuable for structural-functional analyses of metaphors in the social world. Nevertheless, the inter-relationships between the linguistic, conceptual, and communicative dimensions of metaphor highlighted by Deliberate Metaphor Theory, and how these may vary across different discourse contexts, remains underexplored. This paper examines deliberate metaphor across four contrasting discourse categories of psychotherapy talk, news articles, popular science articles, and political speeches. 800 metaphor units were randomly sampled and coded under the variables DIRECT (direct/indirect), NOVEL (novel/conventional), DELIB (deliberate/non-deliberate), and CATEGORY. In the first part of the study, a hierarchical log-linear analysis identified three significant interaction effects: DELIB\*DIRECT, CATEGORY\*NOVEL\*DIRECT, and CATEGORY \*NOVEL\*DELIB ( $\chi^2(7) = 0.0, p = 1$ ). While generally reflecting the inter-relatedness of the three dimensions, the three-way interactions point towards underexplored patterns of variation which are discussed with respect to contrasting discourse objectives. In the second part of the study, six categories of deliberate metaphor features were inductively identified: elaboration, signal, analogy, stark novelty, topic-triggering, and repetition. They demonstrate diverse strategic ways in which ‘deliberateness’ is constructed across the four discourse categories.

**Keywords:** deliberate metaphor, metaphor variation, log-linear analysis

### Bionote

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## Introduction

The notion of ‘deliberate metaphor’ has been advanced in recent years to distinguish metaphors which are not explicitly intended to be metaphorical, from those which “expressly change the addressee’s perspective on the target ... by making the addressee look at it from a different conceptual domain” (Steen, 2008a:222). Advocates of Deliberate Metaphor Theory generally agree with Conceptual Metaphor Theory on the cognitive and linguistic dimensions of metaphor, but assert the significance of the notion of ‘deliberateness’ by introducing an additional communicative dimension (Steen, 2011a). Consider the following made up examples where the speaker reflects on life.

1. I see my life as a series of experiences. I have come a long way.

2. I see my life as a journey. I have come a long way.

A typical conceptual metaphoric analysis would claim that both examples reflect the conventional LIFE IS A JOURNEY conceptual metaphor (Lakoff, 1993), differing only in terms of instantiating detail, with Example 2 having the additional source domain element of ‘journey’. There is also not much to choose between the two under a linguistic analysis since they are structurally almost identical. However, they appear to differ in communicative terms. While in Example 1 there is no obvious indication that the speaker is making explicit inferences about life based on journeys, ‘I see my life as a journey’ in Example 2 can be regarded as expressing a deliberate attempt to do so. Example 2 is thus a ‘deliberate metaphor’ while Example 1 is a ‘non-deliberate metaphor’. The contrast between these two types of metaphor is claimed to be psychologically real in terms of metaphor processing (Steen, 2008a, 2008b), and has practical implications in real life contexts such as teaching (Beger, 2011) and news reporting (Krennmayr, 2014).

There is heated debate over the claims of Deliberate Metaphor Theory (Deignan, 2011; Gibbs, 2011; Müller, 2011; Steen, 2011b, 2015), mostly on the grounds of whether deliberate metaphors are really unique in terms of underlying cognitive processes and communicative impact (Gibbs, 2015). The impasse seems to be epistemological in nature, and reflective of wider differences between experimental and discourse analytic paradigms; while critics of the theory insist that all claims about metaphors ought to be grounded upon how they work in the mind, advocates argue that the structures and functions of metaphors in the social world can

be studied on a different and potentially self-contained footing. For those in the latter position, an important research direction is to clarify not just the three dimensions of metaphor in language, thought, and communication, but their inter-relationships in real life discourse. The relationship between two of these dimensions, language and thought, lies at the heart of contemporary metaphor research and has been investigated in terms of both comprehension and production. Bowdle and Gentner (2005; 2001) have shown that linguistic properties of metaphors interact with conceptual properties in metaphor comprehension. People generally found novel metaphors easier to interpret if metaphoricity was directly expressed (e.g. ‘Science is like a glacier’), and conventional metaphors easier to interpret if indirectly expressed (e.g. ‘A gene is a blueprint’). In terms of production, Steen and colleagues report that the bulk of metaphors produced in real life discourse are conventional rather than novel, and indirect rather than direct (Steen, 2011a; Steen, Krennmayr, Dorst, & Herrmann, 2010). This leaves us with plausible but as yet unverified hypotheses about how the third factor of communicative deliberateness may interact with directness and novelty. There is general agreement that conventional metaphors tend to be non-deliberate, and vice-versa (Cameron, 2003; Semino, 2008; Steen, 2015). Also, while direct metaphors are deliberate “almost by definition” (Steen, Dorst, Herrmann, Anna A, & Krennmayr, 2010:786), “it does not follow that all indirect metaphor /conventional metaphor is not deliberate” (Steen, 2008b:14). Nevertheless, such associations have been proposed on the basis of a limited number of striking examples. More information is needed on the precise nature and strength of these associations across larger samples of discourse, especially for interactions between more than two variables which are difficult to intuit. We could then further ask whether and how the relationships between the three dimensions vary across different categories of discourse, and whether certain ways of expressing deliberateness are more common in certain categories than others.

This paper attempts to shed light on the above questions in two parts. The first part is an exploratory log-linear analysis of how the variables of deliberateness, directness, and novelty interact across four contrasting discourse categories: psychotherapy talk, political speeches, popular science articles, and news articles. The second part is a qualitative discussion of different signaling features of deliberate metaphors attested in these categories; i.e. ways in which discourse producers express their metaphors to communicate their intention of setting up a cross-domain mapping (Steen, 2008b). I begin by introducing the data, followed by methodological details regarding metaphor identification and coding. I then present the

results and discussion for both parts of the study before concluding with specific recommendations for future research. Generally, the present findings provide empirical evidence for the view that the three dimensions are inter-related, with genre differences being a noteworthy but underexplored source of variation.

## Data

The choice of the four discourse categories is motivated by the salience of metaphor across all of them, as well as the expectation of differences in discourse and metaphor patterns between them (Biber & Conrad, 2009). Table 1 summarizes their major characteristics and the data sources which represent them for this study.

Category	Characteristics	Data sources
Psychotherapy	Spoken; dialogic, spontaneous	Psychotherapy transcripts <ul style="list-style-type: none"> <li>• 8 hour-long sessions from 2 therapist-patient dyads</li> <li>• 19,596 words in total</li> </ul>
Political speech	Spoken; monologic, planned	CORPS corpus of political speeches (Guerini, Strapparava, & Stock, 2008) <ul style="list-style-type: none"> <li>• 30 randomly sampled speeches</li> <li>• 23,561 words in total</li> </ul>
Popular science	Written; explanatory	Popular science websites <ul style="list-style-type: none"> <li>• 30 randomly sampled articles from established popular science websites (<a href="http://www.livescience.com">www.livescience.com</a>, <a href="http://www.sciencedaily.com">www.sciencedaily.com</a>, <a href="http://www.howstuffworks.com">www.howstuffworks.com</a>)</li> <li>• 20,174 words in total</li> </ul>
News	Written; rhetorical	FACTIVA news database <ul style="list-style-type: none"> <li>• 30 randomly sampled news articles from a global search of all major news published from Jan – Jul 2015</li> <li>• 19,184 words in total</li> </ul>

**Table 1** Characteristics and data sources of the four discourse categories

Common across all four categories is the widely attested use of metaphor to conceptualize and communicate abstract, sensitive, and/or controversial information. In psychotherapy, therapists and patients often use metaphors to discuss attitudes, feelings, values, and behaviours which are difficult to describe literally (McMullen, 1996). In political speeches, politicians likewise use metaphors to communicate abstract and/or controversial notions in

more concrete and palatable ways to the general public (Fairclough, 2000; Musolff, 2006). Metaphors are also commonly used to present abstract scientific concepts and processes (Christidou, Dimopoulos, & Koulaidis, 2004; Duit, 1991) and controversial news topics (Kennedy, 2000) to general audiences. Metaphors across these four discourse categories might therefore be expected to reflect the range of values underlying the three dimensions – novel or conventional, direct or indirect, and deliberate or non-deliberate.

On the other hand, there are important discursive differences and thus reasons to expect differences in metaphor patterns across them. There is firstly the difference between spoken and written discourse, each represented by two categories. Psychotherapy talk and political speeches are examples of spoken discourse. However, a key difference is that while the former is dialogic and spontaneous, the latter is monologic and planned. Popular science articles and news articles are examples of written discourse, but while metaphors in the former may be expected to perform a more explanatory and informative function, those in the latter may perform functions such as attracting (Goatly, 1997) and influencing readers to adopt certain ideological stances (El Refaie, 2001). These expected differences may constitute an important but underexplored source of variation, in terms of how the three dimensions interact in metaphor use in the social world.

## **Method**

### *Identification of metaphor units*

Some identification procedures take lexical units as the key unit of analysis (Charteris-Black, 2004; Pragglejaz Group, 2007; Steen, Krennmayr, et al., 2010) while others identify metaphoricity across larger stretches of language (Cameron & Maslen, 2010). There is nevertheless general agreement on basic principles such as the criterion of contrast and comparison, allowing for the omission of very common verbs, nouns, and prepositions, attention to co-textual cues as metaphor-related signals, and use of dictionaries to support decision making. The present study applies these principles, using the MacMillan English Dictionary for Advanced Learners (Rundell, 2008) as reference, but employs the term ‘metaphor unit’ in place of the more standard ‘metaphorically used/related word’ or ‘metaphor vehicle’. A metaphor unit is some stretch of language which expresses one coherent metaphorical idea. It may span from a single word (as per MIP/MIPVU) to a phrase

(as per the ‘discourse dynamics’ approach), to entire paragraphs and across conversational turns. Two raters with postgraduate level training in metaphor and discourse analysis identified the metaphor units together, and resolved disagreements over problematic cases with close discussion (cf. Cameron & Maslen, 2010:114-115). Examples 3-6 are illustrative.

3. The North Waziristan Agency is considered a hotbed of terrorism

4. It’s like going into a restaurant, locking the door and starting to munch away

5. Therapist: So you’re kind of cycling between thinking about the past, thinking about today, thinking about the future.

Patient: Yeah.

Therapist: And you move between the three areas. And how long can you be stuck in that?

6. Singapore Prime Minister Lee Hsien Loong said the country should still see itself as a sampan (wooden boat), but an upgraded one. Speaking to reporters in France, he was responding to a newspaper article that said Singapore should abandon an old metaphor likening the country to a sampan, and see itself as a cruise ship instead. Mr Lee said: “...once you think you’re in a cruise ship, you’re on holiday and if everything must go swimmingly well...I think we’re in trouble!”

Example 3 is from a news article. The single word ‘hotbed’ constitutes one metaphor unit, where the more concrete sense related to germination is used to describe the more abstract sense related to ideological development. Example 4 is from a popular science article where bacterial activity is explained with a metaphorical simile – ‘going into a restaurant’, ‘locking the door’, and ‘munching’ combine to develop one single coherent metaphorical idea, expressed as one metaphor unit. Example 5 is an extract of psychotherapy talk where the therapist uses two turns to develop a single coherent metaphorical idea of thoughts as moving

in space. Example 6 is from a news article where the entire paragraph comprises one metaphor unit which develops the idea of a country on a metaphorical sea voyage.

Since the present focus is on the variation of metaphor patterns rather than disparity in metaphor frequencies between discourse categories, each category is equally represented by 200 metaphor units randomly sampled after the identification process, ensuring an adequate sample size for the subsequent log-linear analysis. These sampled metaphor units are then coded under the variables as explained below.

### *Variables*

The four variables are DIRECT (whether a metaphor unit is direct or indirect), NOVEL (novel or conventional), DELIB (deliberate or non-deliberate), and the straightforward CATEGORY (psychotherapy, political speech, popular science, or news). The two raters who identified the metaphor units proceeded to code them independently and resolved disagreements with close discussion afterwards. Cohen's Kappas prior to discussion were 0.751 for DELIB, 0.831 for DIRECT, and 0.89 for NOVEL, which range from 'good' to 'very good' (Altman, 1991).

For DIRECT, a metaphor unit is deemed indirect if its metaphoricity is not explicitly indicated, and understanding takes place via contrast and comparison between basic and contextual meaning. The reverse is true for direct metaphor (Steen, Krennmayr, et al., 2010). Examples 3 and 5 are hence indirect since there is no indicator of metaphoricity, while Examples 4 and 6 are direct. Example 4 is a typical simile where the metaphoric comparison is indicated with 'like', while Example 6 is an extended metaphor unit with phrasal indicators such as 'see itself as' and 'an old metaphor likening the country to'. A metaphor unit which extends over a word is considered direct as long as any of its parts is direct. According to Steen, Krennmayr et al (2010), there is a third category of 'implicit metaphors' which arise from substitution or ellipsis of (in)direct metaphors. They are not presently coded because they tend to display distributional properties similar to indirect metaphors (Steen, Dorst, et al., 2010), and almost always occur within the span of a metaphor unit, parasitic upon an antecedent (in)direct metaphor. For example, the implicit metaphor 'that' in 'how long can you be stuck in that' (Example 5) simply refers back to 'the three areas' within the same metaphor unit. Another more practical reason to omit implicit metaphors is their generally

low frequency (Steen, Dorst, et al., 2010) which may lead to sparsely populated cells and reduce the power of the subsequent log-linear analysis.

For NOVEL, a metaphor unit is deemed novel if the contextual meaning is absent from the dictionary (Steen, Krennmayr, et al., 2010:47). A metaphor unit which extends over a word is likewise considered novel as long as any of its parts is novel. Example 3 is hence non-novel (i.e. conventional) since the contextual meaning of ‘hotbed’ turns out to be the first dictionary sense: ‘a place where there are a lot of people involved in a particular activity’. Example 5 is novel because while the contextual meaning of ‘stuck’ appears in the dictionary, the contextual meaning of ‘cycling’ does not. Examples 4 and 6 are also novel because none of the contextual meanings of ‘restaurant’, ‘locking’, ‘door’, ‘munching’, ‘sampan’, and ‘cruise ship’ are in the dictionary.

DELIB is the least straightforward variable as there is no current consensus for identification, such that some researchers only speak of “potentially deliberate” metaphors (Beger, 2011). Furthermore, existing criteria for deliberateness tend to be parasitic upon criteria for directness and novelty, which undermines the supposed independence of the three dimensions of metaphor. Steen (2008b) proposes a broad definition of deliberate metaphor as containing some feature such that addressees have “no option but to consciously set up a cross-domain mapping”. Examples of such features include lexical signals (as in similes), direct linguistic expression of source concepts (as in ‘think of X as Y’), wordplay (as in topic-triggered metaphors where the source concept has semantic relevance with the target [Koller, 2004]), and repetition/extension of a source concept for an obvious discourse purpose. Deliberateness is thus presently identified based on the above features, as well as other emergent ones discussed in greater detail later in the paper. Example 3 is therefore non-deliberate, while Examples 4 to 6 are all deliberate due to lexical signaling (Example 4) and extension (Examples 5, 6).

## **Results and discussion**

Table 2 is the four-way contingency table showing the cross-classified frequencies of the four variables. Expected frequencies are in brackets beside observed frequencies.



CATEGORY	DELIBERATENESS	NOVELTY	DIRECTNESS	
			Indirect	Direct
News	Non-deliberate	Conventional	132 (132.0)	0 (0.0)
		Novel	16 (16.0)	0 (0.0)
	Deliberate	Conventional	22 (15.2)	0 (6.8)
		Novel	14 (20.8)	16 (9.2)
Psychotherapy	Non-deliberate	Conventional	82(82.0)	0 (0.0)
		Novel	34 (34.0)	0 (0.0)
	Deliberate	Conventional	22(18.0)	6 (10.0)
		Novel	32 (36.0)	24 (20.0)
Popular science	Non-deliberate	Conventional	106 (106.0)	0 (0.0)
		Novel	6( 6.0)	0 (0.0)
	Deliberate	Conventional	20 (11.5)	2 (10.5)
		Novel	26 (34.5)	40 (31.5)
Political speech	Non-deliberate	Conventional	122 (122.0)	0 (0.0)
		Novel	18 ( 18.0)	0 (0.0)
	Deliberate	Conventional	16 (12.0)	2 (6.0)
		Novel	24 (28.0)	18 (14.0)

**Table 2** Four-way contingency table

A hierarchical log-linear analysis<sup>1</sup> with backward elimination yielded the following three significant effects: DELIB\*DIRECT, CATEGORY\*NOVEL\*DIRECT, and CATEGORY\*NOVEL\*DELIB. The likelihood ratio of the model comprising these effects is  $\chi^2(7) = 0.00$ ,  $p = 1.0$ , indicating a good fit between the model and the data. Overall, the significant permutative associations between the variables support the idea that the three dimensions are inter-related. However, while DELIB\*DIRECT does not vary across discourse categories, NOVEL\*DIRECT and NOVEL\*DELIB do. All three effects are separately discussed below with more detailed information including standardized residuals and chi-square statistics.

<sup>1</sup> It was necessary to decide whether zero frequencies were to be considered sampling zeros (i.e. where no instances happened to be found in the data) or structural zeroes (where instances in the data are impossible), as the method of analysis would differ. Since structural zeros only apply to cases where occurrence is ruled out by definition, and there is no compelling reason to assume that direct metaphors *must* be deliberate, the present zeros are treated as sampling zeros.

DIRECTNESS	DELIBERATENESS		Chi-square
	Non-deliberate	Deliberate	
Indirect	516 (446.3)	176 (245.7)	$\chi^2(1, N = 800) = 226.85, p < 0.001$ , Cramer's V=0.533
Std. Residual	3.3**	-4.4**	
Direct	0 (69.7)	108 (38.3)	
Std. Residual	-8.3**	11.3**	

\*significant at  $p < 0.01$ , \*\* significant at  $p < 0.001$

**Table 3** DELIB\*DIRECT

Table 3 shows the expectedly strong association between (non)-deliberate and (in)direct metaphors in the data [ $\chi^2(1, N = 800) = 226.85, p < 0.001$ , Cramer's V=0.533]. This association does not vary significantly across the four discourse categories, lending support to the view that it is “almost true by definition” (Steen, Dorst, Herrmann, Anna A, & Krennmayr, 2010:786). Nevertheless, while deliberate metaphors are very likely to be expressed via some form of direct metaphor marking, the present findings highlight the underexplored ways in which deliberateness is expressed by other means. These will be elaborated later in the paper when discussing the different features of deliberate metaphor observed in the data.

CATEGORY	NOVELTY	DELIBERATENESS		Chi-square
		Non-deliberate	Deliberate	
News	Conventional	132 (114.0)	22 (40.0)	$\chi^2(1, N = 200) = 47.75, p < 0.001$ Cramer's V=0.489
	Std. Residual	1.7	-2.9*	
	Novel	16 (34.0)	30 (12.0)	
	Std. Residual	-3.1*	5.2**	
Psychotherapy	Conventional	82 (63.8)	28 (46.2)	$\chi^2(1, N = 200) = 27.47, p < 0.001$ Cramer's V=0.371
	Std. Residual	2.3*	-2.7*	
	Novel	34 (52.2)	56 (37.8)	
	Std. Residual	-2.5*	3.0*	
Popular science	Conventional	106 (71.7)	22(56.3)	$\chi^2(1, N = 200) = 103.73, p < 0.001$ Cramer's V=0.720
	Std. Residual	4.1**	-4.6**	
	Novel	6 (40.3)	66 (31.7)	
	Std. Residual	-5.4**	6.1**	
Political speech	Conventional	122 (98.0)	18 (42.0)	$\chi^2(1, N = 200) = 65.3, p < 0.001$ Cramer's V=0.571
	Std. Residual	2.4*	-3.7**	
	Novel	18 (42.0)	42 (18.0)	
	Std. Residual	-3.7**	5.7**	

\*significant at  $p < 0.01$ , \*\* significant at  $p < 0.001$

**Table 4** CATEGORY\*NOVEL\*DELIB

Table 4 breaks down the three-way interaction in terms of how the NOVEL\*DELIB association varies across the categories. While novel metaphors do tend to be deliberate (and vice versa) across all four discourse categories, the effect size of this association varies considerably. It is strongest in popular science articles (Cramer's  $V=0.720$ ) and weakest in psychotherapy talk (Cramer's  $V=0.371$ ), with news articles (Cramer's  $V=0.489$ ) and political speeches (Cramer's  $V=0.571$ ) between the two. This difference can be explained from a communicative perspective – in popular science articles, metaphors are often deliberately used for the focused purpose of providing an inferential structure for complex concepts. ‘Constructed’ sources are particularly apt for this task, since “existing (i.e. conventional) events and entities often lack the right structure that can easily be mapped onto the target, whereas the construction of their own sources allows authors to have structures homologous with that of the target” (Wee, 2005:363). Example 7 is illustrative.

7. Just as the remains of the water thrown from a glass into a pond will quickly merge with the pond water, the stars in the infalling galaxy merge in with the very similar stars of the bigger galaxy leaving no trace

Here, the constructed scenario of ‘water thrown from a glass into a pond’ provides an apt metaphorical image and structure for comprehending the abstract behavior of stars and galaxies, for which no conventional source seems adequate. Conversely, where metaphors are not serving this explanatory function, the need for novelty is much less apparent. Consider Example 8.

8. We're a step closer to understanding the microbial community that inhabits the ocean

Here, the conventional metaphor describes scientific progress as a journey, without explicitly requiring addressees to pay attention to its image and structure.

In psychotherapy, there are of course cases which resemble popular science where deliberateness dovetails with novelty to describe complicated target domain situations. In Example 9,

9. I see it this way. You are the officer on deck and you are the only person in my life right now that has special training. I gave you navigational charts

The client explicitly draws attention to a novel naval metaphor to describe and discuss his relationship with his therapist. There is likewise an emphasis on the inferential structure afforded by this naval metaphor – just as an officer on deck is responsible for the ship’s safety and relies on navigational charts to do so, the therapist is seen as responsible for the client’s well-being and has been given the necessary information to do so. However, deliberate metaphors also figure in other situations such as lending descriptive emphasis and outlining practical problem solving strategies – situations where novelty does not necessarily possess a clear discourse advantage over conventionality. In Example 10,

10. I think that these thoughts can be kind of at the back of your mind. They’re still there, you’re still conscious of them but your attention, your focus is somewhere else.

The therapist relies on a conventional spatial metaphor to analyze and communicate the client’s situation, deliberately making use of its inferences to provide a clear explanatory framework; i.e. one’s subconscious thoughts and conscious attention can be disjoint and at different metaphorical places, creating potential problems. Novelty seems unnecessary and even potentially distracting since the conventional spatial metaphor is able to meet the communicative objective. Relatedly, in Example 11,

11. it’s kind of like they go round and round and round and round and round and round and round and round and round and round for you and it feels like it just goes round in circles

The deliberateness of this metaphor is evident from the blatant repetition of ‘round and round’, which extends a strong invitation to the client to imagine his unresolved issues with this cyclical imagery. Novelty in such cases is neither necessarily important nor ideal, since the main discourse objective is to emphasize the intensity rather than clarify the structure of the target experience.

CATEGORY	NOVELTY	DIRECTNESS		Chi-square
		Indirect	Direct	
News	Conventional	154 (141.7)	0 (12.3)	$\chi^2(1, N = 200) = 58.22, p < 0.001$ Cramer's V=0.540
	Std. Residual	1.0	-3.5**	
	Novel	30 (42.3)	16 (3.7)	
	Std. Residual	-1.9	6.4**	
Psychotherapy	Conventional	104 (93.5)	6 (16.5)	$\chi^2(1, N = 200) = 17.47, p < 0.001$ Cramer's V=0.296
	Std. Residual	1.1	-2.6*	
	Novel	66 (76.5)	24 (13.5)	
	Std. Residual	-1.2	2.9*	
Popular science	Conventional	126 (101.1)	2 (26.9)	$\chi^2(1, N = 200) = 80.97, p < 0.001$ Cramer's V=0.636
	Std. Residual	2.5	-4.8**	
	Novel	32 (56.9)	40 (15.1)	
	Std. Residual	-3.3**	6.4**	
Political speech	Conventional	138 (126.0)	2 (14.0)	$\chi^2(1, N = 200) = 38.09, p < 0.001$ Cramer's V=0.436
	Std. Residual	1.1	-3.2*	
	Novel	42 (54.0)	18 (6.0)	
	Std. Residual	-1.6	4.9**	

\*significant at  $p < 0.01$ , \*\* significant at  $p < 0.001$

**Table 5** CATEGORY\*NOVEL\*DIRECT

Table 5 breaks down the three-way interaction in terms of how the NOVEL\*DIRECT association varies across the categories. Again, while novel metaphors do tend to be direct (and vice versa) across all four discourse categories, the effect size of this association varies in similar fashion – strongest in popular science articles (Cramer's V=0.636) and weakest in psychotherapy talk (Cramer's V=0.296), with news articles (Cramer's V=0.540) and political speeches (Cramer's V=0.436) between the two. A similar explanation can be offered for this variation. Since novelty is a salient feature of explanatory metaphors in popular scientific discourse, it follows that such explanatory efforts would be explicitly marked to maximize the likelihood that audiences will perform the required metaphorical mappings for understanding. Example 12 is typical, where the author explicitly indicates that a particularly dissimilar concept or entity is to be juxtaposed with the target concept or entity of interest.

12. Just like in an airplane, the movement of fluid under the fins creates lift, which pushes the fish upward

Similar convergences of novelty and directness can also be observed in psychotherapy talk. In Example 13,

13. I will go through some analogies with you. So there's a school bus and you are the driver. On this bus we have a bunch of school kids...

The therapist explicitly calls for the novel image of a school bus, driver, and noisy school kids to be analogously compared with the client's mental state. However, since there is a relatively less salient discursive contrast between novel and conventional metaphors in psychotherapy talk as discussed earlier, there is relatively less pressure to mark novel metaphors, and conversely, more latitude to mark conventional metaphors. Examples 14 and 15 are illustrative.

14. Unfortunately I don't have my magic wand. So many times I wish I had but yeah

15. So this is kind of a way of kind of thinking about where might I be at the continuum here. And if you are further down this end...

Example 14 is a novel metaphor which is nevertheless indirect. The client describes his ability to resolve his issues as a magic wand, but does not find it necessary to signal this metaphoricity explicitly. Example 15 is a conventional metaphor which is nevertheless direct. Similar to Example 10, the therapist draws explicit attention to the fact that the familiar spatial metaphor is a useful way of thinking about the client's situation.

In summary, the significant effects discussed above support two important conclusions about the nature of deliberate metaphors in discourse. Firstly, they provide empirical evidence for the inter-relatedness of the three dimensions of metaphor, in that deliberateness, novelty, and directness mutually correlate with strong effect sizes. Furthermore, they show that while some aspects of this inter-relatedness remain constant across discourse contexts, others vary in ways which could be explained with reference to salient objectives of metaphor use in these different contexts – as exemplified with discussions of popular science and psychotherapy. The next part of the study further explores the theme of variation by

examining different features of deliberate metaphor found in the data; i.e. different ways by which deliberateness is expressed and communicated to audiences.

### **Different signaling features of deliberate metaphor**

Deliberate metaphor is characterized as requiring some signaling feature which gives addressees “no option but to consciously set up a cross-domain mapping” (Steen, 2008b:14). From the 284 units of deliberate metaphor in the data, it was possible to inductively identify six such features which have been discussed to varying extents in the literature. Table 6 shows the features and their distribution across the discourse categories. While it is quite possible for any deliberate metaphor unit to possess more than one feature, the raters attempted to determine the most salient and distinctive feature for each unit. The inherent subjectivity of this decision process does not pose any problems since the present focus is on the features themselves rather than their relative frequencies or associations with discourse categories. Each of the features is discussed in detail below.

CATEGORY	SIGNALING FEATURE OF DELIBERATE METAPHOR						Total
	Elaboration	Discourse signal	Analogy	Stark novelty	Topic-triggering	Repetition	
News	26	10	2	0	12	2	52 (18.3%)
Psychotherapy	26	34	8	10	0	10	84 (29.6%)
Popular science	18	32	10	12	12	0	88 (30.9%)
Political speech	28	8	6	4	2	12	60 (21.1%)
Total	98 (34.5%)	84 (29.6%)	26 (9.2%)	26 (9.2%)	26 (9.2%)	24 (8.5%)	<b>284 (100%)</b>

**Table 6** Features of deliberate metaphor

#### *Elaboration*

This feature describes instances where discourse producers observably exploit the inferential possibilities of a certain source concept, using different lexical items to profile its various aspects and thereby inviting audiences to consider its link with the topic at hand. In many cases, we can observe salient semantic relationships between these different lexical items

which underscore the deliberateness of the metaphor unit. Two such semantic relationships are *complementation* and *contrast*. Consider Examples 16-18.

16. Talk of ... may have sent shockwaves through Welsh rugby and put social media in meltdown

17. We swallow the travel pill willingly, believing that it will flood our veins with personal growth

18. They're all singing the same old song: A song called *Yesterday*. You know the one. All our troubles look as though they're here to stay, and we need a place to hide away. They believe in yesterday

In Example 16, the consecutive and complementary metaphorical use of two different types of disasters, 'shockwaves' and a 'meltdown' to describe some events in the rugby world clearly reflects the author's intention to highlight their surprising and perhaps upsetting nature. Example 17 metaphorically describes travel as some form of medicine, with the action of 'swallowing' and the consequent event of 'flooding our veins' complementing each other to provide a coherent logic and perspective on traveling. Example 18 is a rather unique instance of elaboration, where a politician accuses her opponents of metaphorically 'singing the same old song'. She elaborates this semi-conventional idiom, possibly inspired by 'same old story', by providing an actual example of a song whose lyrics happen to resonate well with actual ongoing events. This extends a strong invitation for audiences to pay attention to the source of song singing vis-à-vis the target of governing, transferring inferences such as being cliché, impractical etc. Now consider Examples 19-21.

19. It took us nearly a decade to dig ourselves into a very deep hole. And so I'm here to tell you that it's going to take us some more time to dig our way out of that hole.

20. Do we really want to go back to that? Or do we keep moving this country forward?



21. Congress is supposed to be the watchdog for the American people, not a lapdog for any President.

All three examples come from political speeches, where elaboration of deliberate metaphor via contrast may be particularly strategic for creating (falsely) dilemmic situations and urging audiences to take sides.

Example 19 presents a direct logical contrast between ‘digging ourselves into a very deep hole’ and ‘out of that hole’, as does Example 20 where two contrasting metaphorical directions are presented to the audience. Besides fundamental logical contrasts at the image-schematic level of space, directionality etc, Example 21 illustrates a more connotative contrast between ‘watchdog’ and ‘lapdog’, used deliberately to emphasize the speaker’s negative evaluation of congress.

### *Discourse signal*

This feature describes instances where a metaphor unit comes together with some explicit indication of its metaphoricity. It is essentially synonymous with direct metaphor. The following examples show a range of discourse signals other than the oft-discussed simile marker ‘like’ and its variants (e.g. ‘just like’, ‘almost like’, ‘a little like’). Note that only the signals are underlined, not the metaphor unit.

22. If economic development were a seed, it would only germinate in soil rich in democratic principles and values

23. That plasma attracts the spark and guides it along, as though the electricity were traveling through a tunnel

24. This reduction of visual processing is akin to opening a camera's aperture and slowing down its shutter speed to photograph something under dark conditions,

25. Most fish rise and sink in the water the same way a helium-filled balloon or a hot air balloon rises and sinks in the air

Example 22 is the typical ‘if X then Y’ counterfactual construction where Y is the imagined consequence of a condition X which is absent in reality. When a counterfactual construction is used to express a metaphor, the unreal condition X corresponds to the source-target pairing (‘if economic development were a seed’) while the consequence Y corresponds to some imagined metaphoric entailment (‘it would only germinate...’). The metaphor is thus expressly deliberate since the construction expressly invites counterfactual thinking. ‘As though’ in Example 23 is similar in that it explicitly presents an actual situation in terms of an unreal but more concrete and analogous one. Examples 24 and 25 are closer to the traditional simile marker ‘like’ – ‘akin to’ and ‘the same way’ synonymously express two different situations as similar, with the source situation not presented in a counterfactual way. Besides these, there are also interesting examples of ‘orthographic signals’ which indicate deliberate metaphor in written discourse.

26. The planet will need some serious “redecorating” through a process called terraforming

27. Scientists working in Thailand’s Mae Klong River made a *big* find last week

In Example 26, quotation marks around ‘redecorating’ draw attention to its peculiar and non-literal use in the given context, inviting metaphorical interpretation. Likewise, in Example 27, ‘big’ is deliberately italicized to draw attention to the fact that both its literal and metaphorical meanings are presently relevant – the scientists caught a physically large fish which is also a scientifically important find (cf. topic-triggering below). These examples raise the question of non-verbal or paralinguistic cues of deliberate metaphor for future research.

## *Analogy*

This feature describes instances where mappings between source and target are detailed by discourse producers usually for explanatory purposes, as seen from examples in popular science articles and psychotherapy. It differs from ‘elaboration’ in that cases of analogy involve close juxtaposition of source and target, while cases of elaboration do not always involve explicit mentioning of the target. Cases of analogy are often also (but not always) accompanied by the types of signals previously discussed – what Wee (2005a), following Gumperz (1982), calls ‘contextualization cues’.

28. So we are going to talk about maybe three types of ways of observing our thoughts. One of them I think fits really well um with the idea of attention. So when, ok, this is us, me, you, a person driving a bus. And here is an analogy or a way of fitting things into where they need to be. So people or kids or something on the bus here. This is an old hurt. This is mood symptoms, so feeling tired yeah?

29. An elongated, rocky core could create a wobble in a similar way but without affecting Mimas's orientation. So could a subsurface ocean lying between a normal, spherical core of rock and a shell of ice perhaps 15 or 20 miles thick, say the paper's authors. "If you spin a raw egg and a hard-boiled egg, the boiled egg spins faster,"

Examples 28 and 29 are respectively from psychotherapy talk and a popular science article. In Example 28, the therapist explicitly signals (‘here is an analogy’) and presents an analogy for the nature of psychological difficulties, drawing attention to the mappings between the source concept of bus driving and the target concept of one’s state of mind. In Example 29, the writer does not formally signal the analogy, but conveys it by juxtaposing the target topic of Mimas’s (a moon of Saturn) observed wobble with the explanatory source of spinning a raw versus a hard-boiled egg.

### *Stark novelty*

This feature describes instances where the deliberateness of the metaphor unit can be attributed to novelty or creativity *eo ipso*. That is to say, even where there is no other indication of metaphoricity (e.g. by elaboration, signaling, analogy), the stark novelty of a particular metaphor unit alone seems sufficient to compel audiences' consideration and potential reflection of its metaphorical import. Examples 30 and 31 illustrate two cases which are neither direct (i.e. signaled) nor otherwise elaborated. In the data, stark novelty appears to be more common in psychotherapy talk and popular science articles.

30. Patient: Again I tried to block them out with my attention diversion device

Therapist: Yeah. And what happened when you blocked it out with this device?

31. A panoramic view of electric pulses pinballing across the brain could lead to major new understandings of how we think

In Example 30, the patient describes his means of coping with obtrusive thoughts as an 'attention diversion device'. He neither signals nor elaborates the metaphor, but the therapist evidently picks up his metaphorical intention and attempts to further clarify the nature of this metaphorical device in the next turn. In Example 31, the writer describes a 'panoramic view' of electric pulses as 'pinballing' across the brain. No further elaboration seems necessary to conjure a vivid image of a pinball machine, and the attendant inferences that these pulses are erratic, unpredictable, chaotic etc.

### *Topic-triggering*

This feature describes instances where explicit attention is directed to the source because it has both metaphorical and literal relevance in the prevailing context; in other words, the metaphor is 'topic-triggered' (Koller, 2004b) in that it is (partly) motivated by some direct semantic link with the target. Topic-triggered metaphors in the data are often presented as

witty and humorous puns. They are far more common in the written categories of news and popular science and not attested in spontaneous psychotherapy talk, presumably because a greater measure of planning is required to produce them (but see Tay & Jordan, 2015). It should be noted that because the source needs to be literally true to some extent, topic-triggered metaphors tend not to be overly novel or creative.

32. Just like her tattoos, this might be one phase the fashion designer is keen to erase

33. The rain managed to keep Download Festival soggy all weekend but did little to dampen the spirits

34. It's a good paper on a hot topic

Example 32 is from a news article where the metaphor of 'erasing' a particular phase of a fashion designer's life resonates with the literal erasing of her tattoos. Likewise, 'dampen the spirits' in Example 33 coheres with the literal situation of rain during the reported festival. Example 34 is from a popular science article where a 'hot' topic refers both to its state-of-the-art quality, as well as the fact that the topic is literally about aspects of heat. In these examples, the puns profile both literal and metaphorical meanings as well as the link between them, making the metaphors deliberate.

### *Repetition*

This feature is similar to elaboration and analogy in that there is repeated mentioning of the source concept. However, while different aspects of the source concept are explored in cases of elaboration and analogy, the same lexical item(s) are repeated verbatim in cases of repetition, often for emphatic effect. In contrast with topic-triggering, instances of repetition are more common in spoken than written discourse due to their relative spontaneity and informality. The repeated lexical item(s) reflect producers' communicative intention to emphasize the source concept, and increase the likelihood that audiences pay attention to its metaphorical import.

35. here's why we're going to keep going and going and going and going and going, just like the Energizer Bunny

36. let's examine that idea of kind of turning stuff over in your mind, over and over and over and over and over again

Example 35 is from a political speech. The speaker describes the audience as the 'Energizer Bunny', a famous marketing mascot known for its energy and endurance, and repeats the metaphorically used 'going' five times to emphasize these positive qualities. In Example 36, the psychotherapist metaphorically describes the patient's compulsive attention on his distress as 'turning stuff over in your mind', repeating 'over' numerous times to emphasize its unceasing and discomforting quality.

## **Conclusion**

It is hoped that the present findings have shed more light on the nature of deliberate metaphors in discourse, in terms of how deliberateness as a key feature of the communicative dimension interacts with novelty and directness as key features of the conceptual and linguistic dimensions of metaphor. The present methodological approach has allowed for empirical clarification of intuited associations which are furthermore limited because of their bivariate nature (e.g. between deliberateness and novelty, and deliberateness and directness). It has also allowed us to examine if and how such associations vary across contrasting discourse categories. It was found that while deliberateness and directness are universally associated, the links between deliberateness and novelty, as well as novelty and directness, vary significantly across the categories of psychotherapy talk, news articles, political speeches and popular science articles. Additionally, six different ways in which deliberate metaphors were constructed across these categories were discerned and presented in the paper. Discourse producers were found to make use of elaboration, signals, analogy, stark novelty, topic-triggering, and repetition as strategies to increase the likelihood that their metaphors will be processed by explicit cross-domain comparison, with noteworthy differences in the prevalence of these strategies across discourse categories.

Some future research directions can be suggested from the limitations and findings of the present study. The first concerns the operationalization of deliberateness, novelty, and directness as variables for future quantitative analysis. While these have been treated as dichotomous categorical variables on the basis of existing theoretical discussion, it is quite likely that they manifest in discourse to various extents and degrees – as seen in the present discussion of the difference between ‘novelty’ and ‘stark novelty’. Future attempts to investigate the inter-relationships between these variables would therefore be more precise and informative, contingent upon correspondingly more precise theoretical articulation of the possible values defining them. Secondly, while the present study has been confined to proposing different linguistic expressions of deliberateness, future work can begin to explore non-linguistic and/or paralinguistic expressions not only of deliberateness, but also of novelty and directness, which could be expected to typify discourse categories such as advertising, art, and so on. This would represent an exciting extension of the present work, as well as the three dimensional model of metaphor in general.

## Funding

This work is supported by a HKSAR Research Grants Council grant (PolyU 256005/15H) and Central Research Grant (G-YBB9) of the Hong Kong Polytechnic University

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