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Searchable talk: The linguistic functions of hashtags in tweets about Schapelle Corby

Michele Zappavigna
University of New South Wales, Australia

Abstract

The drive to make our discourse readily findable by others has become a prominent social process, realised by a range of online communicative practices associated with social media. A key semiotic resource integral to microblogging is the hashtag, a form of social tagging that allows microbloggers to embed metadata in posts. This 'conversational tagging' (Huang, Hornton, & Efthimiadis, 2010) supports forms of ambient communion that arise out of the ability to find what other people are talking about in quasi-'real-time'. While popularly thought of as topic-markers, hashtags are able to construe a range of complex meanings in social media texts. This paper uses Halliday's (1978) concept of linguistic metafunctions to explore how hashtags enact three simultaneous communicative functions: marking experiential topics, enacting interpersonal relationships, and organizing text. Corpus-based discourse analysis of patterns in a specialized corpus of tweets about Schapelle Corby at the time she was released on parole from an Indonesian prison, is used to explore these linguistic functions and how they enact social processes of 'ambient affiliation' (Zappavigna, 2011, 2012).

Introduction

While metadata is a well-established resource in information management, this is the first historical period where we see text annotation so closely tied to enacting social relations, having extended its semiotic reach as an information-organising tool to a social resource for building relationships and communities. Social tagging, that is, the practice of adding metadata such as hashtags to online communication, is an important means by which searchability is enacted by social media users. This 'conversational tagging' (Huang, Hornton, & Efthimiadis, 2010) enables individuals to search social media discourse, supporting forms of ambient communion that arise out of the ability to find what other people are talking about in quasi-'real-time'. The connections are 'ambient' in the sense that other users are potentially co-present (Goffman, 1972) within the social network, but not necessarily linked together through explicit connections between user accounts, or by direct conversational exchanges. Instead social affiliation may be enacted via participation in large-scale practices such as hashtag memes (e.g. viral phrases and images marked with shared hashtags).

While often thought of as topic-markers, hashtags are linguistically multifunctional and able to perform different types of interpersonal meanings in social media texts. Annotating social media posts with these tags is an emergent, though rapidly pervasive practice and a form of linguistic innovation (Cunha et al., 2011). Hashtags emerged via microblogging, the practice of publishing short, character-constrained posts to ambient audiences, and have since spread to other forms of social media and mediated contexts such a television and advertising. These tags are marked with a # symbol and may include a word, initialism, concatenated phrase, or an entire clause. For instance:

> " It begins! 'Schapelle Corby's mother Rosleigh Rose hurls abuse at reporter' #boganlyf
>
> Nothing bores me more than the words Scahpelle and Corby! #channel7 #notnewsworthy #boring #SchapelleCorby #betterthingstotalkabout
>
> Just heard a Journo compare #shapelle to Princess Diana. #WTF "

As the above posts suggest, the context of the tweets explored in this paper is the release on parole from Kerobokan prison in February 2014 of Schapelle Corby, an Australian woman convicted of smuggling marijuana into Indonesia. I will explore the range of linguistic functions that are realised when users add hashtags to these posts. I will also explore the different kinds of relationship that the appended tags have to 'search'. This analysis will encompass hashtags such as #*Schapelle* that aggregate posts about a particular topic, and hashtags such as #*boganqween* that have the more interpersonal of enacting metacommentary. The latter are unlikely to be used as a search query, yet invoke the possibility of an 'imagined audience' (Litt, 2012; Marwick & boyd, 2011) of microbloggers who share the same attitude disposition towards Corby and other participants such as the Australian media.

Social Metadata

Social metadata refers to 'user-generated' tags that emerge over time within a community, a practice sometimes referred to as 'folksonomy' (Vander Wal, 2007) that is very different to the production of taxonomies by experts (for example subject classification in libraries). Hashtags operate as social metadata in the sense that they are a form of descriptive annotation produced by users, rather than assigned by the microblogging service. They are a novel form of metadata because, rather than simply operating in the service of information management, they also operate in the service of interpersonal social relations. While studies have approached hashtags as a form of topic marker, indicating the 'aboutness' of a social media text (Kehoe & Gee, 2011), some studies have noted that hashtags have the additional function of forming communities (Yang, Sun, Zhang, & ei, 2012; Lin et al., 2013) or 'publics' (Bruns & Burgess, 2011). Other studies also suggest they are involved in interpersonal dimensions of meaning making such as supporting visibility and participation (Page, 2012).

In addition to supporting user-generated annotation, social metadata affords 'real-time' search, an essential function of social media. For example, Twitter's search interface allows the user to query its databases for posts containing a particular hashtag. In addition a user may simply click on a hashtag in a particular post, and Twitter will return instances of other posts in the social stream using the same tag. For instance the posts below commenting on dimensions of Australian politics might be returned when clicking on the Auspol tag:

> " So get this. The media, who are going to pay Corby for her story, are now complaining that she is going to be paid for her story. #auspol
>
> Australia's preoccupation #Schapelle Corby is an imbecility without name. Shame on all of us. #auspol "

This aggregating function enables the user to track in real-time unfolding discourse about a specific event or issue. It is the essential technical affordance forming the basis of new media practices such as live-tweeting of television shows using a mobile device. These devices act as a parallel 'second screen' allowing the live tweeter to comment about the primary media as it is broadcast (Lochrie & Coulton, 2011). In this way hashtags support the creation of a 'backchannel' (McCarthy & boyd, 2005; Reinhardt, Ebner, Beham, & Costa, 2009) to a live event. However, the meaning of a particular hashtag may remain relatively opaque to those who fall outside its community of use since they typically involve forms of abbreviation or concatenation (Posch, Wagner, Singer, & Strohmaier, 2013). For example, '*auspol*' is not a transparent term and requires some knowledge of the particular context in which it is deployed to interpret it.

Research into hashtags spans disciplines such as natural language processing, information management, marketing, communication theory, media studies, and linguistics. This work typically considers their role in microblogging, and most studies focus on Twitter, a microblogging service founded in 2006. Many approaches to understanding hashtags are based on the notion that hashtags facilitate 'conversation' (Rossi & Magnani, 2012) or 'discussion' (Bruns, 2011; Bruns & Burgess, 2011). However, further work is needed that considers the particular linguistic structure of the conversation-like 'interchange' afforded by social media, since it is likely that it differs fundamentally to forms of turn-taking or 'exchange structure' seen in offline conversation (Berry, 1981; J.R Martin, 1992). Quantitative work has concentrated on propagation and diffusion, that is, how hashtags spread within social media networks (Bastos, Raimundo, & Travitzki, 2013; Cunha et al., 2011; Ma, Sun, & Cong, 2012; Romero, Meeder, & Kleinberg, 2011; Tsur & Rappoport, 2012). Cunha et al. (2011) found that short hashtags were more successful in propagating than longer tags, contrasting examples such as #music with #fatpeoplearesexier. However, as we will see in this paper, these kinds of tags enact very different linguistic

functions that need to be considered in any claim about their spread in social networks.

Microblogging corpus used in this study

The claims made in this paper about the various linguistic functions of hashtags are based on analysis of a microblogging corpus collected over the period 7-10 February 2014 (during which Schapelle Corby was released from prison). The Schapelle data is a c.7 million word Twitter corpus amassed using the Twitter Application Programming Interface (API). The Twitter API is the language that software tools use to communicate with Twitter's back-end database in order to gather subsets of posts from the public feed. It was created by collecting English language tweets made available by the streaming API that contained the search terms *'Schapelle'* and/or *'Corby'*, resulting in a corpus of 48,785 posts and 21534 hashtags. Non-English language tweets were automatically filtered. The 10 most common hashtags in the corpus are shown in Table 1.

N	Hashtag	Freq.
1	#schapelle	3391
2	#corby	2698
3	#shapelle	792
4	#auspol	566
5	#schapellecorby	471
6	#news	427
7	#9news	352
8	#inxs	324
9	#bali	288

10	#qanda	236

Table 1 : 10 most frequent hashtags in the Schapelle corpus.

The concordance software, Wordsmith (Scott, 2012) was used to explore the linguistic patterns in the corpus. This involved manual inspection of concordance lines by the researcher to investigate particular patterns of language in relation to their co-text. Concordance lines are samples of lexical or grammatical patterns presented together with a pre-defined amount of co-text (e.g. 5 words to the left and 5 words to the right of the search word). The concordance lines used in this paper differ from traditional concordance lines, which typically offer only limited windows of co-text, by displaying the entire text since tweets are so short. Concordance lines can be used to explore both paradigmatic patterns (e.g. the functions that a hashtag can construe) and syntagmatic patterns (e.g. the structural patterns a hashtag can realize) (Bednarek, 2010). This paper will consider both perspectives and, since the aim is exploratory, the focus is on detailed analysis of instances rather than generalisation about the most frequent linguistic functions, though some of the most frequent patterns will be presented. The functions of these patterns are categorized using Halliday's (1978) metafunctional framework that specifies three types of linguistic functions, *experiential*, *interpersonal* and *textual,* as explained in later sections.

The structure of hashtags

At a typographic level, the # symbol used to indicate the beginning of a hashtags acts a linguistic marker, indicating the tag's special status as metadata. It is related to:

> " … a history among computer programmers of prefacing specialized words with punctuation marks, such as $ and * for variables and pointers, or the # sign itself for identifying HTML anchor points' (boyd, Golder, & Lotan, 2010, 2). "

Rather than a predefined convention, this use of the # symbol, emerged organically in Twitter posts and may originally derive from Internet relay chat (IRC) conventions for naming channels (#channelname).

Hashtags are very flexible syntactically and can either occur as an adjunct to the lexis, clause, or clause complex constituting the main content of a post or, alternatively, can integrate themselves seamlessly into that content. In terms of positioning within syntactic structure, the hash symbol may mark tags at any point within a post, though is most commonly found at either the beginning or end of a post (Tsur & Rappoport, 2012: 2). Tsur and Rappoport (2012) term these three possible locations (middle, beginning, end) *infix, prefix* and *suffix* positions. The hash symbol may mark multiple hashtags in a sequence at each of these locations, without any intervening content between the tags, for example the following post shows tags in suffix position:

> " I love how the aus media keeps acting like they aren't part of the media #shapelle #idiots "

Another use, most commonly found when the hashtag is in prefix or infix position, sees the hashtag occupy linguistic roles of different functional kinds within the main content of a post, (as we saw in the section on experiential meaning) for example:

> " #noonecares about schapelle corby – who is a convicted drug smuggler. Can we please have TV stations return to normal programming ffs.
>
> To all the people who keep complaining about #Schapelle #Corby. Get over it. In a few days the front page will be fish'n'chip wrap. "

This ability for hashtags to work seamlessly inside social media texts is a novel property for metadata, subverting its traditional role in separating meta-information from primary content (e.g. form from content in HTML). Part of the novel flexibility may be explained in terms of a co-occurring evolution in the nature of punctuation itself beyond boundary marking towards more interpersonal functions (for example see Knox (2009) on emoticons as punctuation).

The functions of hashtags

The framework used to interpret the linguistic function of hashtags in this paper is grounded in an interest in

'meaning in context', in other words, a functional, social semiotic (Halliday, 1978) perspective on hashtagging as a social practice. This 'metafunctional' approach, developed within Systemic Functional Linguistics, considers three key functions that language construes in any communicative performance: an *experiential* function of enacting experience, an *interpersonal* function of negotiating relationships, and a *textual* function of organizing information (Halliday & Matthiessen, 2004). A linguist using this theory will attempt to consider these three functions when analysing any instance of linguistic meaning. Metafunctional diversification can be said to span across all linguistic strata from context, through discourse semantics and lexicogrammar, to phonology and graphology (Figure 2) (Matthiessen, 1995). In terms of structure, these three dimensions of meaning tend to be realized via different kinds of patterning, with *experiential* meanings having a constituent structure (e.g. a 'topic' realised by a single hashtag), *textual* meanings being concerned with the order in which the text unfolds as a cohesive structure, and *interpersonal* meanings tending to be realised more prosodically, 'colouring' other meanings in the text (e.g. as evaluative language). Halliday and Matthiessen (2004, 328) note that these are very general tendencies, 'worked out differently in every language but probably discernible in all'.
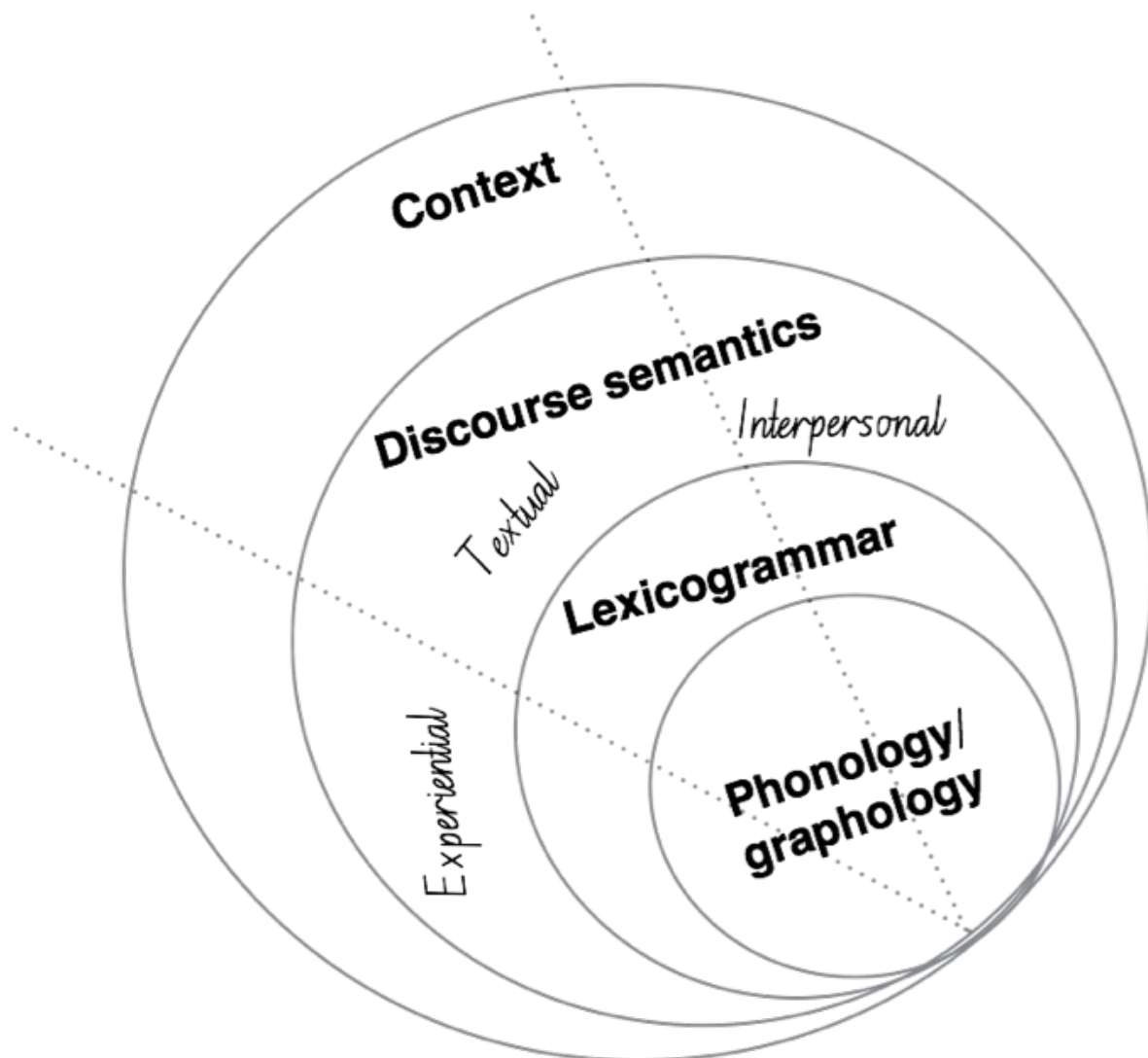
Figure 2 Metafunctional diversification across strata [adapted from (J.R Martin, 1992)].

It follows that if we adopt a metafunctional lens on hashtag use, hashtags can be seen to realize the following linguistic functions, which will each be explored in detail in the sections that follow:

An *experiential* function of classifying the post as being of a particular experiential kind, for instance the tag in the following indicates that the post is about Schapelle Corby:

> " Channel 7, reporting that it's alleged that channel 7 could be paying Corby two million for her story. #SchapelleCorby "

This topic-marking function is the most commonly observed function of hashtags and is related to the concept of subject classification used in information and library management.

An *interpersonal* function of construing relationships, for example by facilitating evaluative metacomment that resonates across an entire post to construe an evaluative stance:

> “ @User Schapelle Corby enough said #boganhalloffame ”

As a *textual* function for organizing the post at a typographic level, the # symbol functions as a special character that acts as a form of punctuation signaling that the tag is metadata. For instance in the post below it separates the tagged topic, 'Schapelle', from the rest of the post even where the tag is embedded in the linguistic structure of a particular cause in the body of the posts:

> “ After nine years in a roach infested hell hole #Schapelle Corby is entitled to a big pay day. Good luck to her. ”

While it is useful to isolate these functions for the purpose of analysis, they are in fact enacted simultaneously in any linguistic performance, and are not mutually exclusive. As we will see towards the end, these linguistic functions in turn work to realize a social function of enacting ambient community (at the level of social relations as opposed to the level of discourse).

Experiential hashtags: The cataloguing function of tags

As mentioned earlier, hashtags have been viewed as primarily having a classificatory function of indicating the topic of a post or its 'aboutness' (Kehoe & Gee, 2011). In other words they have been viewed as keywords or 'subjects'. For example it has been claimed that social tags provide 'access to the reader's view of aboutness in a way which was previously possible only on a small scale through elicitation experiments' (Kehoe & Gee, 2011). The most obvious tags of this kind were seen in the list of the most frequent hashtags in the corpus (Table 1) such as #*Schapelle* and #*Corby*.

In terms of experiential meaning at the level of lexicogrammar, hashtags can take up all of the experiential roles in clauses defined by Halliday and Matthiessen (2004). They can function as processes (e.g. verbal groups), such as the following command for the media to 'move on':

> “ Hey #Media, are you going to chase Corby forever?. Looks like it to me. Get over it morons, #MOVEON. Focus on more serious issues. ”

And as participants (e.g. noun groups) such as '#Media' in the above, they can also function as circumstances (e.g. prepositional or adverbial phrases), for instance as a circumstance of cause in the following:

> “ Sadly of course, in a tabloidised ABC, Schappelle Corby is precisely the story #thedrum thinks it should do. #becauseBestCommercialPractice ”

In infix position the hashtag takes on these experiential functions in a way that seamlessly integrates them into the clauses constituting the body of the post.

The semantic domain of a hashtag might be mapped as a line from tight to loose, where these dimensions impact on the likelihood that a tag may be followed or searched for. At one end of the spectrum are tags so specific that they are unlikely to be relevant to a broader audience, (e.g. #*boogieboardfullofbud*) or so loose that they too general to be used as a search term that would return useful results (e.g. #*politics*). The middle of the spectrum might include tags that are pertinent to particular events, for instance a live performance or conference, or tags relating to a particular TV show used for live-tweeting (e.g. #*QandA*).

Interpersonal hashtags: Tags as evaluative metacomment

While the experiential function explored above is very frequently realised in posts, microbloggers use language to do more than refer to 'topics'; they construe attitudes towards those topics, and enact relationships with the ambient audience. These are *interpersonal* functions, where interpersonal meaning is the region of meaning concerned with adopting stances and negotiating affiliations (Martin & White, 2005). Analogising with spoken discourse, we may also think of interpersonal meaning in the communicative context of microblogging as the microblogger's:

> “ … ongoing intrusion into the speech situation … his perspective on the exchange, his assigning and acting out of speech roles (Halliday 1979, 66-7). ”

Such 'intruding' metacommentary was observed in the Schapelle corpus to span most of the speech functions defined by Halliday and Matthiessen (2004). The corpus contained examples of hashtags realised as *statements* (giving information), for example:

> " #schapelleisguilty all this media attention is a disgrace "

And as *questions* (demanding information), most often functioning as rhetorical questions:

> " Anybody watch that new shapelle Corby show? Me neither…#shapellecorby #why? #wtf #pointless #whocares "

And *commands* (demanding goods and services):

> " I don't care about the Schapelle Corby #getoffmytv "

While *offers* (giving goods and services) are a potential function of hashtags (e.g. *#hereyougo*) they were not present in this corpus. The top three interpersonal hashtags are shown in Table 1 and Table 2.

N	Hashtag	Freq.
1	#Fail	102
2	#guilty	34
3	#soundfamiliar	18

Table 2 : 3 most frequent interpersonal hashtags in the Schapelle corpus.

In addition to these lexicogrammatical realisations, hashtags function in discourse to enact evaluative meanings. While it is beyond the scope of this paper to explore this model of evaluative language in detail, hashtags appear to possess cross-attitudinal capabilities, realizing all the systems of attitude, defined by (J.R Martin & White, 2005): affect (expressing emotion), judgement (assessing behaviour) and appreciation (estimating value). For instance, hashtags in the corpus construed affect in terms of emotional response to some event:

> " Schapelle Corby will leave jail with a lot of emotional baggage. Which is currently being checked by sniffer dogs. #madashell "

In the example above the negative affect is realised in the hashtag relating to the emotion of anger. There were also instances of hashtags that communicate negative judgement, for example the hashtag in the following judges the capacity of the speaker overheard by the microblogger:

> " I'm at a bus stop and someone said that Schapelle Corby is Matt Corby's sister, I'm laughing so much ahaha #idiot "

Similarly, the corpus contained instances of aesthetic appreciation such as the example below where *#fat* is an aesthetic assessment of Schapelle Corby:

> " Schapelle Corby. Escaped the death penalty. Did not escape the fat bogan penalty. #fat #bogan #fatbogan "

A particular subset of these metacomment hashtags, appear to subvert the overall collectivizing function of hashtags. The tags in this subset are usually evaluative and are often involved in humour and other forms of linguistic play. Many of these tags are so long or so specific that they are extremely unlikely to be replicated by other microbloggers and typically had a frequency of one in the corpus, for instance:

> " I used to have a dog called Corby #schapelleruinedmydogsname
>
> Ugh. So embarrassing the Corby's live in Queensland. #DontCareAboutSchapelle
>
> RT @User: How do I make my timeline a Corby Free Zone? #CouldntCareLessAboutConvictedDrugSmuggler
>
> Who gives a flying fuck about Schapelle Corby? Just fuck off already. #fuckoffyoudrugsmugglingmole
>
> Just heard on the news Mercedes Corby threatening to sue Channel 9 now & associated parties over #Schapelle tele movie #CashedUpBogan "

In this way they undercut the aggregating affordance of the hashtag, since no other microblogger is likely to explicitly search for these idiosyncratic tags. Instead these tags appear to be involved in supporting humorous observation by acting as a form of interpersonal emphasis. Clearly the main function of these interpersonally orientated tags has little to do with aggregating posts into searchable sets and much more to do with adopting particular attitudinal dispositions involved in enacting different kinds of microblogging identities (for a study of microblogging identities see Zappavigna (in press, 2014).

Textual hashtags: Tags as organisation

Having considered the experiential and interpersonal functions of hashtags, we will now focus on their textual function which can be thought of as coordinating these other two functions to form discourse that has 'the status of a communicative event' (Halliday, 1994, 37). Hashtags perform a range of roles in organizing posts. In addition to their role as punctuation explored earlier, hashtags also perform a function at the level of discourse in terms of organising the post into 'waves' of information (Halliday & Matthiessen, 2004). In general texts can contain little waves at the level of clause, that are organized into bigger waves in longer texts at the level of paragraph, and into even bigger waves at the level of whole texts (J. R Martin & Rose, 2007). Given that tweets are very small texts, these waves are likely to be little waves of Theme and New information – where Theme relates typically to information at the beginning of a clause, and New relates to information about what is contained in the Theme. Hashtags can function as either Theme or New, depending on whether it has a topic marking function or not. For example, when a hashtag has a topic marking function, it typically functions as the Theme about which some New information is given in the rest of the clause. For example (Theme shown in bold; New shown underlined):

> " **#SchapelleCorby** <u>is OUT…</u> "

Here the Theme is *SchapelleCorby* and the New is the information that she has been released from prison. When it has the evaluative function, the Theme may be found in the tweet and the hashtag may contain the New, for instance:

> " @User **Schapelle Corby enough said** <u>#boganhalloffame</u> "

Here the evaluative judgment made by the microblogger is the New. In other words, the salience of the tweet may be in two metafunctions – the interpersonal and the experiential – and, given the textual is the organizing metafunction, the function may be to orient the reader towards the experiential metafunction (i.e. the topic), or to orient them towards the interpersonal (when the hashtag is evaluative (e.g. *#boganhalloffame*) rather than indicating a topic).

Conclusion

The survey undertaken in this paper of the different linguistic functions that hashtags can enact in microblogging suggests their flexibility as a semiotic resource. As we have seen, the hashtag can take up a full range of experiential and interpersonal linguistic functions at the level of lexicogrammar, as well as enacting metacommentary at the level of discourse semantics. Hashtags can simultaneously act as a topic-marker, their most commonly recognized role, but also possess the linguistic versatility to construe more interpersonal and structural meanings. In other words, hashtags in the Schapelle corpus were observed to perform the communicative functions of construing experience (e.g. labeling content), enacting relationships (e.g. indicating evaluative stance) and organizing text (e.g. marking metadiscourse via the # symbol). These functions are also

all involved more generally in supporting ambient intertextuality in the sense that using a particular hashtag presupposes that there exists other texts that may contain the same tag, as well as putative listeners who might 'tune in' via the social stream.

In addition we have seen how hashtags, as a form of *social* tagging, afford a novel from of text annotation that has an interesting relationship to the concept of 'searching' the social network. On the one hand, hashtags are able to both mark precise and general experiential topics. For instance they can be used to search for information and resources in a particular domain, and can be used to track or coordinate conversations around that domain (e.g. political commentary during an election or backchannel conversation at a conference). At the same time, hashtags can be used more interpersonally, for instance, to issue commands to the ambient audience (e.g. *#moveon*.). They may also be used to invoke, often as a form of interpersonal emphasis, the notion that there are people who share the attitudinal disposition of the microblogger (e.g. *#idiots*), regardless of the fact that it is unlikely that anyone would ever use the tag as a search term.

The expansion of meaning potential seen in hashtag usage, that is, the extension of metadata from a topic-marking function, to encompassing additional impersonal functions, is the beginning of 'searchable talk'. This is online discourse where semiotic strategies such as social tagging are used to render the discourse findable. Hashtags signal the potential parallel presence of other users in the social network, and social metadata allows different dimensions of their discourse to be retrieved and aggregated (e.g. user, location, addressee, etc.). In this way social tagging amplifies the potential for microbloggers to ambiently connect with each other through search, or through participation in mass practices such a generating memes. The linguistic innovation seen in hashtagging is both a product of the reduced affordances of the character-constrained mode, and part of a 'multiplication of meaning' (Lemke, 1998), affording new kinds of meaning making with language. Searchable and aggregateable discourse affords the possibility of new forms of social bonding, such as those seen in mass meme participation, as well as smaller scale performances such as alignment with imagined audiences via hashtagged evaluative metacomment. It is hoped that the metafunctional framework applied in this paper will be useful in further research into understanding how social metadata supports this emerging searchable talk.

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About the author

Dr. Michele Zappavigna is a Lecturer in the School of Arts and the Media at the University of New South Wales. Her major research interest is in the language of social media. Recent books include *Discourse of Twitter and Social Media* (Continuum, 2012) and *Tacit Knowledge and Spoken Discourse* (Bloomsbury, 2013). Forthcoming in 2014, with R. Page, J. Unger and D. Barton, is *Researching Language and Social Media* (Routledge) and with J.R. Martin and P. Dwyer, *Discourse and Diversionary Justice: An Analysis of Ceremonial Redress in Youth Justice Conferencing* (Palgrave).

Email: m.zappavigna@unsw.edu.au

Personal webpage: http://www.socialmedialinguist.blogspot.com.au/