Complexity theory and conversational humour: Tracing the birth and decline of a running joke in an online cancer support community

Zsófia Demjén[*]

UCL Centre for Applied Linguistics, University College London, UK

ARTICLE INFO

ABSTRACT

This paper argues that a fuller understanding of conversational humour, in all its multi-functional, multifaceted, and heterogeneous nature, could be achieved by conducting at least some conversational humour research from the perspective of complexity theory (an umbrella term covering 'complex adaptive systems theory', 'dynamic systems theory', 'chaos theory', etc.). Complexity theory encourages questions that are not usually asked about conversational humour and provides ways of answering them. It 'aims to account for how the interacting parts of a complex system give rise to the system's collective behaviour and how such a system simultaneously interacts with its environment' making 'change central to theory and method' (Larsen-Freeman & Cameron 2008: 1). The 'objects of concern' are no longer entities or things (e.g. the joke, a pun, etc.), but processes, changes and continuities: how do particular jokes, puns or humorous lexemes come into being in a given discourse community, how do their uses and meanings develop? The paper demonstrates the potential of a complexity approach to conversational humour by applying it to one particular manifestation of conversational humour: 235 instances of a running joke centred around the lemma rolo*, in approximately 680,000 words of online peer-support data (2544 forum posts, 47 blogs and blog comments), produced by 97 contributors over a period of 13 months in 2011−2012.

1. Introduction

We already know a lot about conversational humour, yet there are still questions that are not being asked. In this paper, I argue that our understanding of conversational humour, the multifunctional, multifaceted, and heterogeneous phenomenon that it is, would be improved by a complexity theory perspective. I suggest questions that are not usually asked about conversational humour, arguing that complexity theory both encourages the asking of precisely these kinds of questions and provides ways of answering them. I demonstrate the potential of a complexity approach by tracing the appearance and disappearance of running joke involving the lemma[1] rolo*, a reference to a brand of chocolates available in the UK, on the forum and peer-to-peer blog of a UK cancer charity.

---

* UCL Centre for Applied Linguistics, 20 Bedford Way, Room 640, London WC1H 0AL, UK.
  E-mail address: z.demjen@ucl.ac.uk.

[1] The base form of a word, or a word stem. In corpus linguistics, lemmas are denoted by * at the end of the word to show that what is meant is not just one particular inflected form of a word, but all forms from the same stem.

Conversational humour (henceforth 'CH') is an umbrella term covering a range of linguistic manifestations of humour, e.g. humorous lexemes, puns, witticisms, irony, teasing, banter, put-downs, self-denigration, anecdotes, etc., which can occur in conversations (Dynel, 2009). It is well-established that CH is a co-constructed, context dependent, multi-functional and multi-formal, protean phenomenon, where 'punchlines turn into wisecracks, witty repartees grow into anecdotes, anecdotes develop into jokes, and so on' (Norrick, 2003: 1338, see also Dynel, 2009; Norrick and Chiaro, 2009).

What is much less well understood, is how specific 'punchlines turn into [specific] wisecracks' or specific 'anecdotes develop into [specific] jokes' or indeed how a particular lexeme or anecdote comes to be humorous in the way that it does for a particular group of interlocutors. What kinds of factors influence these changes? Why do specific anecdotes, jokes, phrases, even words end up running on, while others don't? Why do they eventually stop running? In an example such as the following, written by a contributor to an explicitly humorous thread on an online cancer support forum, why has 'hunt the Rolo action' come to refer humorously to a rectal exam, and why a 'Rolo'?

1. 'I am off to GC [Gorgeous Consultant] on Friday for hunt the Rolo action'. [HoneyBee]

In folklore studies, the notion of joke cycles (e.g. Dundes, 1987) captures the phenomenon of certain types of jokes (e.g. so-called 'elephant', 'sick' or particular kinds of political jokes) going through a period of popularity within a 'culture' (equated with country) and then being replaced by others. Dundes argues that these cycles are always meaningful and reflect contemporary anxieties and taboos: 'The joke typically provides a socially sanctioned outlet for talking about what normally cannot be discussed openly' (1987: 14). Although, this rationale certainly applies to the running joke discussed in detail below (see Demjén, 2016; Semino and Demjén, 2017 and Semino et al., 2018 for more on this function of conversational humour in a related data set), such a perspective does not easily facilitate the detailed examination of how and why the use and meaning of a particular running joke varies at the micro-level within conversations in smaller discourse communities.

Linguistic approaches to conversational humour are generally more suitable for micro-level analysis of such humour (for good overviews of linguistic approaches to conversational humour see Attardo, 2015; Dynel, 2009; Glenn and Holt, 2017; Schnurr and Plester, 2017) but even these tend to focus more on the functions of different manifestations of humour (e.g. chapters in Norrick and Chiaro, 2009). They do not tend ask the questions outlined above. This may, partly, be due to the kinds of data generally used to investigate CH. Especially when looking at face-to-face contexts, researchers often only have excerpts or snippets of interactions rather than multiple interactions between the same group of people gathered over time. Arguably, this is like trying to understand a film from one or more screenshots; a lot is missing. The reliance on this kind of data is, to some extent, a consequence of circumstance and access, and also a result of the traditions within which (conversational) humour research is usually conducted. Yet, the kinds of questions outlined above — regarding the how and why of micro-level change — have direct relevance for our understanding of humour functions, such as how in-group meanings develop, and the mechanisms by which humour bonds or creates a community (cf. Boxer and Cortés-Conde, 1997; Chimbwete-Phiri and Schnurr, 2017; Coates, 2007; Martin, 2007), and therefore deserve more focus. As I ague in the next section, adopting a complexity theory perspective facilitates the asking of such questions and organizes influencing variables and multiple layers of context into a coherent model of conversational humour, even when applied in a 'light-touch' manner.

2. Complexity theory

Following Larsen-Freeman and Cameron (2008) I use 'complexity theory' (CT) as a generic umbrella term covering various versions of what is sometimes called 'complex adaptive systems theory', 'dynamic systems theory', etc. They each emphasise slightly different aspects of systems (De Bot, 2017; Larsen-Freeman and Cameron, 2008), but all focus on systems that are 'dynamic, complex, nonlinear, chaotic, unpredictable, sensitive to initial conditions, open, self-organizing, feedback sensitive, and adaptive' (Larsen-Freeman, 1997: 142). CT originated in the natural sciences, where it has the specific purpose of mathematically modelling systems. Outside of the natural sciences, the purpose and indeed terminology are necessarily somewhat looser (cf. Baake, 2003).

Broadly speaking CT, acknowledges that not everything around us can be explained via cause and effect relationships; certain effects '*emerge* from random interactions, without any deterministic cause' (Kretzschmar 2015: 1, italics in the original). CT 'aims to account for how the interacting parts of a complex system give rise to the system's collective behaviour and how such a system simultaneously interacts with its environment' (Larsen-Freeman and Cameron, 2008: 1; see also Gibbs and Van Orden, 2012). A complex system[2] is one that has large numbers of heterogeneous interdependent and interacting elements, which, in themselves, can also be complex systems. As this suggests, the theory can be applied at different temporal scales and levels: from weather patterns, over the spread of diseases, to neural activation in response to a stimulus. In terms of language, everything from the evolution of language, over the language use of a specific discourse community, to the developments in meaning of a single word can be seen as complex systems and this view helps us to appreciate and account for language's inherent complexity and variability (Kretzschmar, 2015).

---

[2] This overview owes much to Larsen-Freeman and Cameron (2008: 25—41).

In fact, CT is not new in (applied) linguistics: over the last two decades it has been used to explore second language acquisition and development (e.g. Larsen-Freeman, 1997; De Bot et al., 2007, chapters in Ortega and Han, 2017); vocabulary development (Meara, 2006, see also Crossley et al., 2009); metaphor and metonymy behaviour in discourse (e.g. Cameron and Deignan, 2006; Gibbs and Cameron, 2008; Gibbs, 2017; Littlemore, 2015), among others. It has also been argued that language and human interaction are themselves complex systems (Beckner et al., 2009; Dale et al., 2013; Gibbs and Clark, 2012; Gibbs and Van Orden, 2012; Kretzschmar 2015). However, the theory is not commonly applied to CH (an exception is Semino and Demjén, 2017, which uses a CT approach to explore the development of a humorous metaphor in a related data set). This is a curious omission since '[a]ny complete description of talk-in-interaction must take humour into account' (Norrick, 2009: 261) and because some descriptions of CH are already reminiscent of complexity language, e.g. describing it as 'emergent' (e.g. Kotthoff, 2010; Davies, 2017).

An important characteristic of complex systems is constant dynamic change and CT therefore 'makes change central to theory and method' (Larsen-Freeman and Cameron, 2008: 1). The 'objects of concern' are no longer entities or things (e.g. the joke, a pun, etc.), but become processes, change and continuities: how do jokes or puns come into being in a given situation, how do they change, and what factors influence their development? CT has its own vocabulary to describe these processes. To review just a few that will be useful below: change can be both smooth and sudden, the latter of which can lead to a so-called 'phase shift' in a system, after which the system behaves markedly differently from before. The kinds of change or behaviours that are possible in a given system are determined by its 'initial conditions' and 'parameters'. 'Initial conditions' refer to certain core universals, or the state of a system corresponding to the beginning of a period of observation (Goldstein, 2008). 'Parameters' are variables that influence the behaviour of a system (Goldstein, 2008). Some parameters have much greater influence than others, making them 'control parameters'. Behaviours that eventually stabilise are called 'attractors' and they tend to emerge from 'the edge of chaos' (Kretzschmar 2015, citing Kauffman, 1995), or periods of random interactions of the components of a system, where certain behaviours are reinforced through probabilistic feedback loops. Though the term may be misleading given its everyday sense, in CT, 'attractor' simply describes 'regularity or ordered behaviour achieved by the elements being observed' (Kretzschmar 2015: 19). Attractors can be 'shallow' or 'deep', meaning that some forms of ordered behaviour are more, while others less, susceptible to small changes in the rest of the system and therefore more or less long-term. As the repeated use of 'behaviour' in this description of 'attractors' suggests, 'stability' in the CT sense does not imply stasis. Stability is still dynamic (e.g. continuing conversations), always reacting to changes in other conditions or parameters, but involves a particular <u>pattern</u> of behaviour that is orderly, at least temporarily.

My intention in proposing complexity as an approach to conversational humour is not to replace existing approaches and ideas. Rather, it is to suggest that it can bring together into a coherent whole, the various existing avenues of investigation. Although this paper does not focus on theoretical integration, CT's potential for such integration suggests that it could provide the kind of theoretical grounding that Attardo and Raskin (2017) argue is still missing in much humour research. As already outlined, CT also encourages questions thus far unasked: Why, for example, do some groups use one type of humour to accomplish solidarity and bonding, while others use completely different forms or styles? How can we account more holistically for what humorous terms mean for individual groups? Finally, because of its focus on dynamic change, CT is particularly good at accounting for both stability and variation in the meaning and form of particular humorous structures. In the following sections, I demonstrate what a complexity approach to conversational humour might look like, and what kinds of insights it might provide, even when CT is applied in a fairly light-touch manner, as a kind of 'dynamical description' (van Gelder and Port, 1995: 17). Larsen-Freeman and Cameron (2008), following van Gelder and Port (1995: 17), argue that such light-touch applications are still beneficial because they 'cumulatively amount to a whole new way of understanding'.

I begin by introducing my data, including some initial conditions, and method before moving on to tracing the birth and decline of a running joke centred around the lemma rolo*. The online context is a practical sandpit for playing with alternative approaches such as CT, because it often provides more (longitudinal) data and often more context than face-to-face interactions, even if it is not the online equivalent of the face-to-face (cf. Giles et al., 2015). Given the digital environment in which it circulates, rolo* can be seen as a 'comedic kernel' — a core element or module of humour (e.g. a humorous character like Charlie Chaplin's Tramp) which, as a result of its success, is reused, reconfigured and incorporated into other social situations and contexts, particularly in digital ones (Gurney, 2011).

3. Data: initial conditions and parameters

My sandpit, or testing ground, consists of 235 instances of rolo*, in approximately 680,000 words of data (2544 forum posts, 47 blogs and blog comments), with 97 contributors. The data, covering a 13-month period over 2011−2012, was collected by mass download in early 2013.[3] As I outlined above, the behaviour of a given system is dependent on its 'initial conditions', i.e. the initial observations, and its 'parameters' (the variables that influence it).

The initial conditions of the discourse community (aka 'system') include the following: contributors were mostly from the UK and the medium in which they interacted was a website hosted by a UK-based cancer charity. All contributors had direct or indirect experience of colorectal cancer and they used three related online genres: forum posts, blogs and blog comments. The forum posts were all added to an explicitly humorous thread entitled 'For those with a warped sense of humour WARNING-no punches pulled here' (henceforth Warped). The title of this thread, and indeed its first post, suggests an already established play frame (Coates, 2007; Goffman, 1974).

Some of the parameters are as follows: the UK-based nature of the website means that contributors share a certain (though variable) amount of cultural knowledge, specifically with regards to Rolos. Rolos are chocolates available in the UK since the 1930s. The packet is a long, thin tube and contains several truncated cone-shaped chocolates with a caramel core. These chocolates were advertised on television for many years using short stories of budding romance and ending on the slogan "Do you love anyone enough to give them your last Rolo?". Contributors posted with varying frequency and produced posts of different lengths; the majority of contributors moved across forum posts and blog comments, but only one contributor wrote the blogs as well as posting comments and writing on the forum. This same contributor, HoneyBee, set up the Warped thread. She has a high propensity for humour and creativity and therefore plays a key role as a kind of 'comedy nexus' in all genres (see Demjén, 2016; Semino and Demjén, 2017; Semino et al., 2018 for more). She also has an innocent crush on her oncologist, whom she calls 'Gorgeous Consultant' or 'GC'. HoneyBee contributes most frequently and produces the longest posts in all three genres and acts as a lynchpin for the discourse community − one contributor refers to the group as 'HoneyBee clan'. In this way, she can be described as a 'control parameter' of the system, i.e. with a particularly strong influence on how the system behaves.

The above, however, are just the immediately observable initial conditions and parameters acting on this specific system (it has to be acknowledged that outside of the physical sciences, initial conditions and parameters can sometimes be difficult to distinguish). In line with a complexity approach, understanding how a system behaves requires understanding how different parts of the system interact with each other and how the system interacts with its context (Larsen-Freeman and Cameron, 2008). To gain such an understanding, I map out below the appearance, changing usage and changing meaning of the comedic kernel rolo*, focussing on what might influence these, to identify further parameters acting on CH in the discourse community. CT-based research in other areas of communication has established that parameters can include, but are not limited to:

- enduring cultural and/or linguistic concepts (the Rolo ad could be an example of such a cultural concept)
- conventional expressions
- established norms of communication in the discourse community
- discursive and relational goals
- number, gender, occupation, hobbies, personalities of the different interlocutors
- social distance between interlocutors and mutual knowledge/assumptions
- what has been said or written before
- body movements and gesture, though these are less relevant for an online context
    (adapted and expanded from Gibbs and Cameron, 2008; and Gibbs, 2017; see also Gibbs and Clark, 2012).

Some of these parameters are macro-level, long time-scale parameters, acting downwards on the system (e.g. enduring cultural concepts, established norms of communication) while others are much more local, micro-level acting upwards on the system (e.g. previous utterances, occupation of individuals). In complexity theory, these can all influence the system equally. As outlined above, what follows should be seen as 'complexity theory light', i.e. using certain concepts and ideas from complexity theory as a new perspective from which to approach data (Larsen-Freeman and Cameron, 2008). What will become clear is that even CT 'light' is particularly good at encouraging questions and analysis that allow one to describe and explain both stability and variation over time in the different usages of a comedic kernel.

4. Analysis

I begin the analysis with an overview. Diagram 1 below is a mapping of the number and type of contributions over time that contain the lemma rolo*. Blue dots represent blog posts, green dots represent comments, and pink dots represent posts on the Warped thread. The height of these dots shows how many posts of a particular genre contain rolo* on a given day (not how many times rolo* is used).

Diagram 1 above demonstrates that the number and types of posts that contain rolo* vary over time. The lemma first appears in comments on a blog and, within a 24-hour window, is used in several different comments, as well as in a blog. After that, it moves into the forum space and is then used fairly regularly over several months in all genres, often in multiple different posts a day. Eventually, it is used less regularly, in fewer posts, with only occasional bursts of activity, before its use becomes very sporadic and then non-existent. This is interesting in itself, but the key questions that complexity encourages are how is rolo* used, why does its use change and why in the ways that it does? In fact, a complexity approach suggests an even earlier question that these: why is rolo* used in the first place? It is to these questions that I turn below.

The groupings of examples into the phases 'birth', 'flux', 'stability', 'decline' and 'death' relies on a combination of the changes in frequency of contributions using rolo* over time (as in Diagram 1) and on the different formal and semantic characteristics of
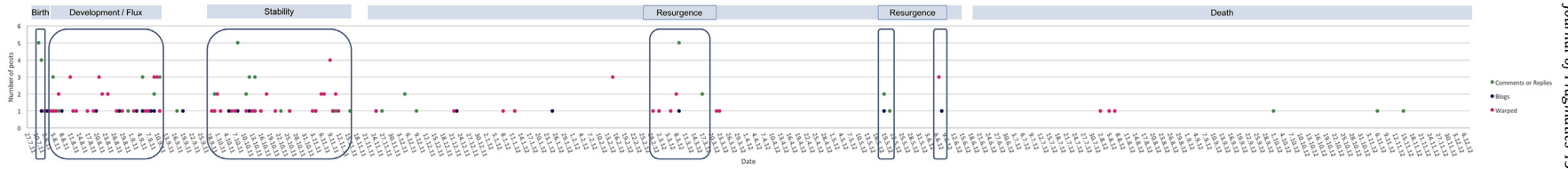
Diagram 1. Number of different types of posts containing 'rolo*' over time.

the comedic kernel in each of these periods (as explained below). The labels are inspired by terminology in complexity theory, as outlined above, i.e. 'birth' describes the emergence of a new behaviour in a system at the start of an 'observation'; 'flux' denotes a period of more random, chaotic interaction of various components; 'stability' denotes the further attractors that emerge out of this flux; 'decline' and 'death' denote how the system eventually moves on from the previous attractors.

4.1. Birth

The first appearance of rolo* in the data is preceded by a blog post by HoneyBee. She describes that she needs to go for her post-treatment check-up with her oncologist, GC, to see whether her cancer is 'going or staying?? Just what will the gorgeous consultant find when he sticks his finger up there?'. She then says the following:

2. 'I was thinking wouldn't it be funny if I stuck something really weird up there just to see his face … Oh sorry, Bee, I can still feel something … hmmm rummage..doesn't feel like your tumour … rummage … definitely something there … pulls it out … "oh, its a kinder egg toy rabbit … " ha ha ha' [HoneyBee, Blog, 31 Jul 2011]

The first comment on HoneyBee's post contains the following:

3. 'How about a rolo? Then you can say to him as a chat up line "I thought you might like my last rolo" I'm roloing all over the floor now' [Sunshine May, Comment, 31 Jul 2011]

As this example shows, the lemma rolo* first appears as a reference to the chocolate bar as something to be incorporated into the humorous fantasy scenario set up by HoneyBee. It is then immediately used in a humorous neologism 'roloing', which combines the name of the chocolate and the expression common on social media 'rolling on the floor laughing' (or 'ROFL'). There are other suggestions of course: someone suggests Polos because then it'd be 'minty fresh too'; Kinder eggs are also mentioned by a few others in reference to the original post. HoneyBee responds encouragingly to all suggestions, but rolo* emerges as the embodiment of what develops into extended joint fantasizing (Kotthoff, 2007). Mostly, at this stage, people comment on the effects of the rolo suggestion on them, providing further humour support (the arrows at the start of the examples indicate that these are direct responses to previous comments):

4. →'you nearly killed me with that rolo comment' [HoneyBee, Comment, 31 Jul 2011]

5. →'I'll never look at Kinder Eggs or Rolos in the same way again. EVER!' [Hannah, Comment, 1 Aug 2011]

But one contributor suggests that rolos could also be a cure for piles:

6. 'err anyone got a good cure for piles if I develop them, heard rolo's were real good' [Tom, Comment, 1 Aug 2011]

HoneyBee also responds to this suggestion appreciatively.

The next day, on 1st August 2011, HoneyBee writes another blog post. She mentions rolo* three times in the post, but without explanation, potentially assuming that people will have seen the previous day's exchanges. She suggests that her oncologist (GC) is being spoilt by presents of rolos; imagines how embarrassing it might be if GC read her blogs and how she'd blush and offer him rolos as consolation; and self-deprecatingly apologises to her audience for writing such long posts and offers 'Kinder egg or Rolo anyone?' as compensation. She also mentions that she is about to buy a new house, so some celebratory champagne might be in order. Four contributors, including HoneyBee, continue the use of rolo* in the comments to the blog post:

7. 'Would you really give him your LAST rolo? Must be extra special.' [mary, Comment, 1 Aug 2011]

8. →'Of course my last rolo has to be reserved for P (awww) but if he will give me good news, he can have the whole blo**dy packet!' [HoneyBee, Comment, 1 Aug 2011]

In this example, mary makes an intertextual reference to the Rolo advert again, using it to probe just how much HoneyBee likes GC. In her response, HoneyBee clarifies that the last rolo has to go to her partner ('P'), but that GC can have all the others. Here rolo* becomes the kernel of a form of banter (Norrick, 1993) and its meaning akin to a measure of affection. Sunshine May then makes a suggestion for an alternative chocolate that could be hidden in the rectum for GC to find, but HoneyBee disagrees:

9. 'Champagne at least is more upmarket, in which case you may want to rethink the rolo, in favour of a Ferrero Rocher. Oh, ambassador, with thees Ferrero Rocher, you are spoiling us' [Sunshine May, Comment, 1 Aug 2011]

10. →'Ferrero rocher.. all those crispy bits … ? ouch! Might stick to rolos' [HoneyBee, Comment, 1 Aug 2011]

In this initial phase, the usage of rolo* creates a 'phase shift' in the language system of the discourse community, which now behaves differently from before — jokes and banter involving this lemma did not occur prior to these posts. The new phase is characterised by repeated, interactive uses of rolo*, explicit praise for various contributions using the lemma and the emergence of several different, though mostly related, meanings for it: something in the rectum for GC to find, the chocolate that people may encounter in a shop, some kind of medication/suppository, a present or consolation prize (albeit not a very fancy one), and a sign of affection when premodified by 'last'. These emergent meanings may appear random at first, but there are conceptual connections between at least some of them, the initial conditions, and other parameters influencing their use. Where rolo* is to be hidden is clearly related to where one applies suppositories and where HoneyBee's cancer was located. Rolo as a present or consolation prize is related to rolo as a sign of affection, which in turn is intertextually linked to the Rolo advert. And the various uses and meanings of rolo* are not just influenced by preceding uses of the same lemma but also by other stories or anecdotes that are mentioned in the larger co-text and context. Celebrating a house purchase with champagne gives rise to the idea that a present perhaps should also be more upmarket than a Rolo.

At this early stage, there are still other candidates for the position of successful 'comedic kernel'. Kinder Eggs are still in play and there is a new suggestion of 'Ferrero Rocher'. Despite these, however, rolo* ends up sticking. This is not just because HoneyBee likes it. As indicated above, she explicitly responds to and appreciates (or challenges in the case of Ferrero Rochers) all suggestions that people make, which can be seen as an explicit kind of feedback loop. She herself uses 'Kinder Eggs' more than once. Yet rolo* is the kernel that establishes itself. In complexity terms, rolo* can be seen as an 'attractor' — a stable behaviour that emerges. Based on what we know about the initial conditions and parameters of this discourse community, this is the result of a combination of factors exerting different degrees of influence over the system. The romantic tone of Rolo adverts and the slogan are particularly appropriate to HoneyBee's crush on GC. The physical characteristics of the object — its shape, colour, the fact that it is not crispy or sharp — make it more appropriate as an item to insert into the rectum and reminiscent of what is normally in that location. These physical characteristics are more important (and therefore more influential on the system) than the context of purchasing a house, which mighte have favoured the use of 'Ferrero Rochers'. The potential for comedic exploitation both of the object and of its name result in a variety of productive uses in a short period of time (e.g. 'roloing'). These can all be seen as parameters influencing the system's behaviour, leading to stability around the attractor rolo* and not one of the other suggestions made. None of these parameters are deterministic — i.e. it is not possible to pinpoint cause and effect — but all of them interact to influence the emergent behaviour. The CT approach encourages us to shift focus away from cause and effect, to principles of influence. Similar principles, although motivated by different parameters and different in outcome, were noted by Semino and Demjén (2017) in relation to the use of the 'Cancer Card' metaphor in a subset of the current data.

4.2. Flux

After the initial 24-hour period, on 2nd August 2011, rolo* is mentioned by HoneyBee on the Warped forum thread. Similarly to the birth phase, this period of flux (roughly 2 August—11 September 2011) is characterised by multiplicity of form and interactivity, but an even larger variety of meanings and uses across all three genres. The use of rolo* is boosted substantially by uptake from HoneyBee and her spreading it across from the blog to the forum platform to the extent that there are often multiple posts per day containing rolo* in the different genres. Some of these uses are similar to the ones before: rolo* as a chocolate bar, rolo* as something to hide in the rectum for GC to find, but there are other meanings and usages in this period. For example, being a Rolo becomes a punishment for someone who has irritated HoneyBee in real life:

11. 'just thought … Karma for you mate … you'll come back as a rolo and I will take great delight in sticking you somewhere …' [HoneyBee, Blog]

The 'rolo moment' comes to stand for the rectal exam, which too many rolos prevent from being successful (so here it is an obstacle), and 'not getting to the rolo's' represents the unsuccessful execution of that examination:

12. 'then the rolo moment …. You know the phrase hurts like b*ggery? Well it did […] And I was thinking … swollen? It's not swollen mate, its full of rolos' [HoneyBee, Blog]

13. →'all appears to have gone like clockwork, apart from him not getting to the rolo's of course!!' [Stan, Comment]

Given the unsuccessful rectal examination, GC tries to reassure HoneyBee and when she asks questions he responds with 'All very appropriate questions'. In retelling this story on her blog, HoneyBee comments:

14. 'and anyway … what's an inappropriate question? 'Do you want to play hunt the rolo?' perhaps?' [HoneyBee, Blog]

Here 'hunt the rolo' is a humorous euphemism for sexual activity, which receives support from several contributors. A little later, the same form, 'hunt the rolo', becomes capitalised and used as a euphemistic reference for the rectal exam, while buying rolos becomes shorthand for preparing for medical check-ups.

15. 'second attempt at 'Hunt the Rolo' on the 9th September' [HoneyBee, Blog]

16. 'Don't forget to buy some fresh Rolos for when you see GM.' [smelly, Warped]

But rolo* also ends up being used as shorthand for something else, namely for the positivity and laughter that the whole fantasy scenario brings to individuals on the platforms:

17. 'Fantastic news about your results, Not sure who you should thanks first or most OK GC rank high, but reckon Gin and Rolo's played their part too. Maybe the most important thing, being positive' [Tom, Comment]

Rolo* is still used to mean a present or a sign of affection with the premodifier 'last':

18. 'it does depend on how gorgeous your consultant is or not whether you want to use your last rolo in that way … ' [HoneyBee, Comment]

However, it is also used in that way without premodification. In the example below it is a potential reward to congratulate someone who had been reading the posts for some time but had only just had the courage to post herself:

19. 'we are a quite nice lot really and we don't bite (often) and have plenty of chocolate on offer … though i would be wary of accepting rolos … ' [HoneyBee, Warped]

Although rolo* is a reward here, there is a recognition that it is now tainted.

Rolo* also intersects with other conversations, anecdotes and running jokes, both on the Blog and the Forum platforms. These act as further parameters influencing the behaviour of the system. In the first example below, rolo* intersects with a story about HoneyBee losing all her pubic hair as a result of chemotherapy. In that context, someone suggests using a merkin (a pubic hair wig), which HoneyBee says she could make herself using her cats' hairs. She links this with previous blog posts, suggesting that finding both a merkin and Rolos might just be too much for GC.

20. 'Thinking of collecting the cat's hairs … quite good with a needle and thread … tabby merkin sounds fun … Hey! that's another one for GC … (read 'brace again' blog if confused..) Can you imagine that … merkin made from your cat's hairs and a rolo … poor man … ' [HoneyBee, Warped]

In the next example, the shape and colour of Rolos becomes salient again, as the lemma intersects with a discussion about how embarrassing it is to always have to describe the shape and consistency of one's bowel movements to doctors at check-ups. Somebody mentions the existence of a 'poo chart' and HoneyBee says:

21. 'wish I had a chart …. are rolos on your chart?' [HoneyBee, Warped]

Finally, in the example below rolo* becomes something to be smuggled through airports. This is a result of an intersection with discussions around the use of the 'cancer card' (see Semino and Demjén, 2017) as a way of getting out of trouble, in combination with discussions around how embarrassing it is to go through airport security with medical paraphernalia such as colostomy bags (humorously referred to as 'designer bag' below).

22. 'a strip search and found the woman was carrying a designer bag and also was smuggling Rolos. The woman then tried to bribe the custom officials with cancer cards' [smelly, Warped]

Rolos are described as needing 'smuggling', which suggests that the item is now some sort of contraband.

In these examples, rolo* has a wide range of meanings and uses. HoneyBee plays an important role in the proliferation of this multitude, as would be expected of a control parameter. Although not all meanings and usages are independent of each other, there aren't as many clear links between the meanings as in the birth phase. Instead, different parameters influence the emergence of different meanings and uses. For example, the possibility that being a Rolo can be a form of punishment only arises because of where rolos are placed in the fantasy scenario. 'Hunt the rolo' as a sexual innuendo is

related to the romantic set-up in the Rolo ad and to HoneyBee's crush. 'Hunt the rolo' as shorthand for the rectal exam is related to this innuendo, but the sexual aspect becomes less salient over time, potentially due to more frequent uses of the lemma in its non-sexual senses and the serious medical context in which the interactions are situated. On the other hand, the placement of rolos in the rectum is related to charts of different types of bowel movements, as well as to the shape and colour of the chocolate itself. Other discussions and anecdotes, humorous or otherwise, influence various other meanings and uses of rolo* as does the immediate co-text (e.g. when rolo* becomes contraband) and these are also influenced by what people outside of the online community say and do (e.g. annoying guy who needs to be punished; or GC referring to 'appropriate questions').

The focus on change of a complexity approach encourages an exploration of these kinds of connections. These connections are the kinds of feedback loops that lead to the reinforcement of certain behaviours (i.e. certain meanings and usages) within a system. The variability and creativity in meanings identified here suggest that in this phase, the system is near the 'edge of chaos' (Larsen-Freeman and Cameron, 2008; cf. Cook, 2000) and this phase thus provides clues about the possibilities for the future change and development of the meanings of rolo*. While the lemma rolo* is an attractor when it comes to 'the kinds of things that could be hidden in the rectum for GC to find', these different uses of rolo* are potential attractors when it comes to what the lemma means for the specific discourse community.

4.3. Stability

Attractors, i.e. ordered behaviours, tend to emerge at the edge of chaos (Kretzschmar 2015, citing Kauffman, 1995) and the flux phase is followed by a roughly two-month period of relative stability where rolo* is used regularly, often more than once a day in more than one genre. Contributors still respond to each other's uses, albeit less frequently than before, but there is more stability in terms of meanings and uses, i.e. a narrower range of uses. As the examples below show, however, although I have labelled this phase 'stability', it is in fact, a kind of dynamic stability (i.e. change that is steady), rather than stasis. Contributors sometimes ask what rolo* is about and HoneyBee explains. Rolo* is often simply something hidden in the rectum for GC to find. Another key usage that crystallises in this phase is the use of 'hunt the rolo' and occasional variants in reference to going for a check-up:

23. 'I am going to GC in 2 weeks to play hunt the rolo as usual' [HoneyBee, Blog]

24. 'I am off to GC [Gorgeous Consultant] on Friday for hunt the Rolo action and to show off my new strong pants to him and my 3 pubes. He had better not find anything except a Rolo and that's all I am saying'. [HoneyBee, Warped]

25. 'you're sore in anticipation of the rolo hunt' [Chloe, Comment]

Even the activity of 'sticking Rolos up your arse', as well as just the lemma, can carry this same meaning, suggesting the rolo* in itself has become a useful and light-hearted shorthand for medical check-ups.

26. 'Sticking Rolos up your arse is all very well as an occasional pastime, but as a lifestyle choice - not so much.' [Valerie, Comment]

27. →'Valerie, I am hoping that the Rolos will become an occasional past time with GC rather than lifestyle' [HoneyBee, Comment]

This meaning only makes sense if one traces back the various parameters that influenced its development, as demonstrated in the previous phase.

Although this seems to be the most common use of rolo*, other meanings are also still active. It intersects once with other discussions on the platform. The example below comes after a contributor, Tom, describes having been invited to give a speech at a charity ball and suggests that Warped members might be interested in going too. Everyone is very enthusiastic, and smelly even suggests that there could be an auction at the ball to collect money for charity, where various precious items could be bid on, one of these being a Rolo:

28. 'What am I bid for Little Pube [HoneyBee's last remaining pubic hair] (could put it in a little photo frame! An interesting article here … a rolo as presented to G[C]!' [smelly, Warped])

29. →'I would be tempted to sacrifice Little Pube for the raffle … I think [charity name] is worth the sacrifice … but maybe I could hold her to ransom … for friends activity etc ha ha! If I am offering Rolos and Pubes, what about the rest of you??' [HoneyBee, Warped]

It still gets used simply to refer to the actual chocolate bar, with the acknowledgement that it is now tainted:

30. 'My 1st born loves Rolo's […] but I can never look at a packet of Rolo's now without smiling … Thank you' [julie, Warped]

It is also still seen as reward or a present, which can be withheld from people who are unhelpful, but as the responses show, this idea gets challenged and developed by HoneyBee and Valerie who, combining rolo*'s tainted nature and its potential as a sign of affection, indicate that perhaps withholding the item isn't punishment after all:

31. 'a tut-tut for over enthusiastic and dim-witted student doctor - no rolos for her today!' [Cerys, Comment]

32. → 'I could have offered the student the Rolo … snigger snigger if you think about it, you wouldn't actually want it would you?' [HoneyBee, Comment]

33. → 'love you as we do, nobody would want your last Rolo.' [Valerie, Comment]

There are a few other uses of the lemma in this phase, but these are the ones that appear repeatedly. These uses can be described as 'shallow cyclical' attractors as the meaning of rolo* moves repeatedly between them.

4.4. Decline with moments of resurgence

Birth, flux and stability are followed by a long period of decline in the usage of rolo* across all genres. From the second half of November 2011 to early June 2012 the lemma is used only sporadically, despite the fact that activity on the forum and blog does not drop in general. In some cases, other aspects of context are oriented to; in the example below for instance, HoneyBee's check-up is just before Christmas:

34. 'Off to the hospital tomorrow for my check up with GC or FC [Funny Consultant] so Rolos at the ready […] Oh and do I replace the Rolos with something festive? NO NO NO not a chocolate orange!!!!! Don't even think about it.' [HoneyBee, Warped]

In this decline phase, only a restricted range of meanings is apparent (e.g. something in the rectum for GC to find, euphemism for rectal exam, preparation for seeing GC, something valuable, a reward or present, and punishment because the Rolo is tainted). On multiple occasions people simply ask what rolo* means. While this occasionally happens in the earlier phases too, during the decline phase it is proportionally much more common. Above, HoneyBee reintroduces, or alludes to, discussions around whether Rolos are fancy enough from the flux phase, and what other objects might be hidden in the rectum, but the subsequent posts don't pick up these attempts at humour any more. In fact, it could be argued that in this phase, the lemma is barely humorous and the examples themselves do not necessarily generate fresh humour that can be picked up and exploited by others. Instead, rolo* carries some intertextual or allusive humour (Tsakona, 2018), in so far as it indexes the previously frequently discussed fantasy scenario, thus allowing contributors to use it as a light-hearted reference to the upcoming, anxiety-inducing medical check-ups. But it is no longer exploited humorously.

There is also little interactivity; the lemma is mostly used by HoneyBee with others occasionally using it to express support. There are occasional resurgences when the usage of the lemma clusters again, but these are generally precipitated by HoneyBee going for a check-up:

35. 'so only GC stands in my way now.. and if I bribe him with Rolos, he'll not find anything I am sure!' [HoneyBee, Warped]

36. 'it's your GC day today HB are your rolos at the ready, take care and a big hug.' [Sue2, Warped]

In fact, the parameter most influential in precipitating this phase of decline is likely to be HoneyBee's reduced need for frequent medical check-ups and therefore less frequent encounters with GC. As a control parameter, her activity (on and offline) has enough influence over the system to begin another 'phase shift', which sees rolo* drop out of the system's behaviour.

4.5. Death (of rolo*)

The final phase of the running joke is its death, lasting from mid-June 2012 until the end of the data collection period in December 2012. In these six months, only six posts (three on Warped and three Blog comments) mention rolo*. These are mostly mentions of rolo* rather than uses: rolo* gets used twice in reference to preparing for a medical check-up, but mostly people ask for an explanation of the lemma and HoneyBee provides it. There is no interactivity, mainly just references back to something that once was a productive comedic kernel.

5. Concluding remarks

In this paper, using 235 instances of the lemma rolo* as a case study, I hope to have demonstrated how a complexity approach might encourage us to focus more on the conditions and parameters that influence particular interactional phenomena − in this case conversational humour − forcing us to ask the questions of why and how did this develop? I traced the emergence and decline of a running joke represented by the comedic kernel 'rolo' through different phases over time, showing both the conceptual links between various meanings and uses, as well as the more random instances that occasionally surface. I discussed why this particular form and its particular variety of meanings emerge in the particular discourse community at hand.

In the data discussed above there are certain initial conditions and parameters that provide a suitable backdrop for humorous creativity: contributors have or have had some form of bowel cancer, which has a specific location and requires specific treatment and check-ups; there is a play frame, established both in the title of the thread and its first post. There are top-down, large-scale parameters such as cultural background knowledge, specifically about Rolos and their adverts, characteristics of the chocolate and its name, interactional norms on an online support forum, etc. Of equal weight are the more grass-roots or bottom-up parameters influencing the system: HoneyBee as a prolific contributor with high propensity for creative humour, her crush on GC, preceding turns in the text and other discussions, ongoing anecdotes, what happens or is said outside the online environment, etc. Considering these factors in combination allows us to understand why rolo* can be a sign of affection, a present or punishment, how it can then become a euphemism for a rectal exam, and so on. Online, comedic kernels emerge as a result of initial conditions affected by parameters and go through different phases of behaviour, settling, sometimes only temporarily in one or more (shallow) attractors (a particular lemma and a set of meanings for that lemma). Semino and Demjén (2017) describe such local and discourse community specific patterns in metaphor use as 'metaphoremes', following Cameron and Deignan (2006). Drawing on this research, in the current context, 'humuoreme' seems an appropriate label to capture the discourse community specific uses of a comedic kernel that emerge from mutually interacting initial conditions and parameters.

I hope to have shown that because of its focus on dynamic change, CT is particularly good at accounting for both stability and variation and that it has the potential provide a kind of theoretical grounding for various existing avenues and methods of investigation. While contexts such as the one I've described cannot be seen as the online equivalent of face-to-face interactions, there is no reason why the approach demonstrated here could not be used to explore face-to-face conversational humour. That kind of flexibility is, after all, one of key advantages of CT in language and communication. A very specific example of the advantage of applying a complexity approach to this data set has been the way in which it has reframed HoneyBee's role. In previous work (Demjén, 2016; Semino et al., 2018), the dominance of HoneyBee had been a disadvantage, something that made insights and interpretations less generalizable, something that needed to be hedged. Within a complexity approach however, her role is explicitly addressed as a control parameter that exerts great influence over the system. Instead of being 'a problem', her role becomes part of the explanation.

Based on this analysis, it is possible to begin adding to the list of parameters that are already known to influence communication (cf. Gibbs, 2017; Gibbs and Cameron, 2008), of which conversational humour is one example:

- time of year or seasons (e.g. proximity to Christmas)
- current life events (e.g. buying a house)
- the health or mental state of the interlocutors
- what is said or done by people outside the discourse community (and the explicit support that utterances elicit)

This is a rather eclectic list, which includes individual as well as shared experiences, and variables that act on different time-scales. A useful next step will be to begin to organize and categorize various parameters.

5.1. A word of caution

It will be challenging to design projects that set out from inception to investigate conversational humour from a complexity perspective. As a minimum, longitudinal data is required, and this can be difficult to obtain, especially in face-to-face contexts. Ideally, different types of data would be collected, including in-depth demographic information and post-analysis interviews with research subjects to check interpretations and expand on analyses of parameters. The variety of data again, will not be easy to come by. A thorough CT analysis will also require expertise in multiple disciplines and existing approaches to humour so that observed phenomena can be fleshed out and accounted for comprehensively. Such cross-disciplinary collaborations are fraught with their own sets of difficulties. Nevertheless, as this paper hopes to have demonstrated, even a mere 'dynamic description', or a light-touch application of complexity theory encourages a shift in focus from entities to processes of change and the asking of different types of questions. It is more holistic and can help us understand why conversational humour manifests in the specific ways that it does.

Acknowledgements

References

Attardo, S., 2015. Humor and laughter. In: Tannen, D., Hamilton, H.E., Schiffrin, D. (Eds.), The Handbook of Discourse Analysis, second ed. John Wiley and Sons, Chichester, UK, pp. 168–188.
Attardo, S., Raskin, V., 2017. Linguistics and humor theory. In: Attardo, S. (Ed.), The Routledge Handbook of Language and Humor. Routledge, New York, pp. 49–63.
Baake, K., 2003. Metaphor and Knowledge. In: The Challenges of Writing Science. State University of New York Press, Albany, NY.
Beckner, C., Ellis, N.C., Blythe, R., Holland, J., Bybee, J., Ke, J., Christiansen, M.H., Larsen-Freeman, D., Croft, W., Schoenemann, T., 2009. Language is a complex adaptive system: position paper. Lang. Learn. 59 (Suppl. 1), 1–26.
Boxer, D., Cortés-Conde, F., 1997. From bonding to biting: conversational joking and identity display. J. Pragmat. 27, 275–294.
Cameron, L., Deignan, A., 2006. The emergence of metaphor in discourse. Appl. Linguist. 27 (4), 671–690.
Chimbwete-Phiri, R., Schnurr, S., 2017. Negotiating knowledge and creating solidarity: humour in antenatal counselling sessions at a rural hospital in Malawi. Lingua 197, 68–82.
Coates, J., 2007. Talk in a play frame: more on laughter and intimacy. J. Pragmat. 39 (1), 29–49.
Cook, G., 2000. Language Play, Language Learning. Oxford University Press, Oxford.
Crossley, S., Salsbury, T., McNamara, D., 2009. Measuring L2 lexical growth using hypernymic relationships. Lang. Learn. 59, 307–334.
Dale, R., Fusaroli, R., Duran, N.D., Richardson, D.C., 2013. The self-organization of human interaction. Psychol. Learn. Motiv. 59, 43–95.
Davies, C.E., 2017. Sociolinguistic approaches to humor. In: Attardo, S. (Ed.), The Routledge Handbook of Language and Humor. Routledge, New York, pp. 472–488.
De Bot, K., 2017. Complexity theory and dynamic systems theory: same or different? In: Ortega, L., Han, Z. (Eds.), Complexity Theory and Language Development, In Celebration of Diane Larsen-Freeman. Benjamins, Amsterdam, pp. 52–58.
De Bot, K., Lowie, W., Verspoor, M., 2007. A dynamic systems theory approach to second language acquisition. Biling. Lang. Cognit. 10 (1), 7–21.
Demjén, Z., 2016. Laughing at cancer: humour, empowerment, solidarity and coping online. J. Pragmat. 101, 18–30.
Dynel, M., 2009. Beyond a joke: types of conversational humour. Lang. Linguist. Compass 3 (5), 1284–1299.
Dundes, A., 1987. Cracking Jokes: Studies of Sick Humor Cycles & Stereotypes. Quid Pro Books, New Orleans.
Gibbs, Raymond W., 2017. Metaphor, language and dynamical systems. In: Semino, E., Demjén, Z. (Eds.), The Routledge Handbook of Metaphor and Language. Routledge, Abingdon.
Gibbs, Raymond W., Cameron, Lynne, 2008. The social-cognitive dynamics of metaphor performance. Cognit. Syst. Res. 9 (1–2), 64–75.
Gibbs, R.W., Clark, N., 2012. No need for instinct: coordinated communication as an emergent self-organized process. Pragmat. Cognit. 20 (2), 241–262.
Gibbs, Raymond W., Van Orden, Guy, 2012. Pragmatic choice in conversation. Topics Cognit. Sci. 4 (1), 7–20.
Giles, D., Stommel, W., Paulus, T., Lester, J., Reed, D., 2015. Microanalysis of online data: the methodological development of "digital CA". Discourse Context Media 7, 45–51.
Glenn, P., Holt, E., 2017. Conversation analysis of humor. In: Attardo, S. (Ed.), The Routledge Handbook of Language and Humor. Routledge, New York, pp. 295–308.
Goffman, E., 1974. Frame Analysis: an Essay on the Organization of Experience. Harper & Row, New York.
Goldstein, J., 2008. Resource guide and glossary of nonlinear/complex system terms. In: Lindberg, C., Nash, S., Lindberg, C. (Eds.), On the Edge: Nursing in the Age of Complexity. PlexusPress, Bordentown, NJ, pp. 263–294.
Gurney, D., 2011. Recombinant comedy, transmedial mobility, and viral video. Velv. Light Trap 68, 3–13.
Kauffman, S., 1995. At Home in the Universe: the Search for the Laws of Self-organization and Complexity. Oxford University Press, New York.
Kotthoff, H., 2007. Oral genres of humour. On the dialectic of genre knowledge and creative authoring. Pragmatics 17 (2), 263–296.
Kotthoff, H., 2010. Joint construction of humorous fictions in conversation an unnamed narrative activity in a playful keying. JLT 3 (2), 195–218.
Kretzschmar Jr., W.A., 2015. Language and Complex Systems. Cambridge University Press, Cambridge.
Larsen-Freeman, D., 1997. Chaos/complexity science and second language acquisition. Appl. Linguist. 18, 141–165.
Larsen-Freeman, D., Cameron, L., 2008. Complex Systems and Applied Linguistics. Oxford University Press, Oxford.
Littlemore, J., 2015. Metonymy: Hidden Shortcuts in Language, Thought and Communication. Cambridge University Press, Cambridge.
Martin, R.A., 2007. The Psychology of Humor: an Integrative Approach. Academic Press, New York.
Meara, P., 2006. Emergent properties of multilingual lexicons. Appl. Linguist. 27 (4), 620–644.
Norrick, N.R., 1993. Conversational Joking: Humor in Everyday Talk. Indiana University Press, Bloomington.
Norrick, N.R., 2003. Issues in conversational joking. J. Pragmat. 35, 1333–1359.
Norrick, N.R., 2009. A theory of humor in interaction. Journal of Literary Theory 3 (2), 261–283.
Norrick, N.R., Chiaro, D. (Eds.), 2009. Humor in Interaction. Benjamins, Amsterdam.
Ortega, L., Han, Z. (Eds.), 2017. Complexity Theory and Language Development. In Celebration of Diane Larsen-Freeman. Benjamins, Amsterdam.
Schnurr, S., Plester, B., 2017. Functionalist discourse analysis of humor. In: Attardo, S. (Ed.), The Routledge Handbook of Language and Humor. Routledge, New York, pp. 309–321.
Semino, E., Demjén, Z., 2017. The cancer card: metaphor and humour in online interactions about the experience of cancer. In: Hampe, B. (Ed.), Metaphor: Embodied Cognition and Discourse. Cambridge University Press, Cambridge.
Semino, E., Demjén, Z., Hardie, A., Payne, S., Rayson, P., 2018. Metaphor, Cancer and the End of Life: a Corpus-based Study. Routledge, New York.
Tsakona, V., 2018. Intertextuality and/in political jokes. Lingua 203, 1–15.
van Gelder, T., Port, R., 1995. It's about time: an overview of the dynamical approach to cognition. In: Port, R., van Gelder, T. (Eds.), Mind as Motion, Explorations in the Dynamics of Cognition. MIT Press, Cambridge, MA, pp. 1–44.

Zsófia Demjén is Senior Lecturer in Applied Linguistics at the UCL Centre for Applied Linguistics and specialises in language and communication around illness and healthcare (humour, metaphor, narratives, etc.). She is author of *Sylvia Plath and the Language of Affective States: Written Discourse and the Experience of Depression* (2015, Bloomsbury), co-author of *Metaphor, Cancer and the End of Life: A corpus-based study* (2018, Routledge) and co-editor of *The Routledge Handbook of Metaphor and Language* (2017). Her work has appeared in the *Journal of Pragmatics, Applied Linguistics, Metaphor and the Social World,* and the BMJ's *Medical Humanities*, among others.