Digitizing Sacks? Approaching social media as data

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Abstract

During the course of this article, we explore ethnomethodological principles in relation to approaching social media as data. More specifically, we consider the extent to which the work of Harvey Sacks and his rich intellectual legacy might inform this nascent field of empirical inquiry. This exploration is realised in the context of interdisciplinary research at the interface of social and computational science. Drawing from an extensive range of empirical projects into social media we reflect on the efficacy and limitations of these principles (Sacks, 1992) for understanding social media interaction as open data and practical action in the digital age.

Keywords:

Digital, social research, interaction feature identification, interdisciplinarity, Harvey Sacks, social media

Digitizing Sacks? Setting the Scene

In this article we explore the challenges and possibilities surrounding the application of principles and ideas developed and associated with the work of Harvey Sacks to the study of social media. In doing so we take a broad reading of Sacks, whilst acknowledging that the legacy of conversation analysis remains his most prominent and high profile contribution. However, due to the particular affordances and character of networked, platform configured, open social media communication, we identify a number of ideas inclusive, but not restricted to, sequential organisational matters. With the advent of social media communications, Sacks' focus on the social organisation of text and talk finds a new resonance and relevance. Consequently, we adopt a position that moves beyond 'armed camps' (Silverman, 1998) and draw from a number of Sacksian ideas in order to make sense of some of the features of specific forms of social media interaction in the digital age.

Sacks' interest in social life was grounded in the discipline of sociology. However, he rejected certain mainstream sociological trends of the time, which emphasised 'data free' theory and large scale quantitative analysis, in favour of Harold Garfinkel's ethnomethodology and the works of Erving Goffman and the Chicago School (Silverman, 2004). These approaches highlighted ethnography and the careful, contextual examination of everyday practices as a necessary means to understand the complexities of naturally occurring behaviour. To Sacks therefore, sociology should aim to be naturalistic and observational and its key method should be to record actual events and analyse them. This allows significant analytic benefits in enabling the content of recorded data to be observed on repeated occasions. As we shall see in this article, repeated scrutiny can be enabled through the deployment of various forms of technology; for Sacks and his collaborator Emanuel Schegloff this took the form of audio-recorded spoken interactions. In the 1960s, Sacks and Schegloff undertook work to explore the possibility of a natural, observational social science of social action (as documented by Silverman, 1998 and Schegloff, 1992). As part of the study, they began analysing recordings of telephone calls made to a suicide prevention call centre, of importance here was the recognition that this technology enabled repeated scrutiny of empirical materials and interaction in real time. A focus on the content of the calls led to an interest in the achievement of interaction and the development of the conversation analytic approach.

Sacks subsequently outlined his major methodological concerns during his recorded lectures at the University of California (1992 and Atkinson and Heritage, 1984: 21–27). In one lecture he described his focus of work as follows:

So the work I am doing is about talk. It is about the details of talk. In some sense it is about how conversation works. The specific aim is, in the first instance, to see whether actual single events are studiable and how they might be studiable, and then what an explanation of them would look like. (Sacks, 1967 fall lecture, quoted in Atkinson and Heritage, 1984: 26)

Following Goffman (1983), Sacks positioned interaction as a domain of research in its own right and perceived the practice of conversation as regular and ordered. Interactions between social actors can be seen to take place in the 'interaction order' (Goffman, 1983) – a domain of activity with its own internal conventions and mechanisms. The interaction order provides the rules, rights, obligations and (moral) motivations, which shape and constrain social encounters. Consequently, these encounters tend to unfold in an orderly fashion across space and time and the interaction order itself is able to resist external threats to its existence (Rawls, 1987). Sacks' interest lay in the 'machinery' of interaction and the practices through which talk unfolds – rather than, for instance, the subjective/rhetorical 'meanings' of talk. These interactional practices can be seen as universal and normatively organised. This means that their analysis can reveal recurring patterns of behaviour and highlight ways in social solidarity is achieved in daily life (Heritage and Sorjonen, 1994).

According to Sacks the analysis of interaction requires an empirical approach. Whilst Goffman (for instance, in his analyses of talk in Felicity's Condition 1983) referred to simulated examples, Sacks argued against any 'hypothetical, or hypothetical-typical versions of the world' (Atkinson and Heritage, 1984: 25) in favour of naturally occurring data. One part of Sacks' legacy therefore is to highlight the value of drawing on 'real world' data in order to identify what particular instances of interaction can tell us about more general practices.

Recent work has highlighted the possibilities for conversation analysis in relation to online communication (Giles et al., 2015). However, to date there is little on the application of these, and related ideas, to social media communications, although there are some notable advances in this direction that are set to multiply (Tolmie et al., 2015, Zubiaga, 2016). There are a number of reasons for this that include technical issues surrounding the harvesting of tweets, the challenges, limitations and

opportunities of how one operationalises these rich ideas to understanding social media interaction-as-data and ethical issues surrounding their reproduction in academic fora[1]. This article builds on this work and in ways that draw on other strands of Sacks' thinking that is inclusive of a concern with sequential organisation; for example the categorical and accountable features of social media interaction (with specific reference to the micro-blogging site known as Twitter). We outline this broader reading of Sacks' ideas in relation to the treatment of social media as data below.

In order to explore the opportunities, dilemmas, and methodological limitations of approaching social media through the lens of Sacks' thinking we draw from ethnomethodology, membership categorisation and conversation analysis (Sacks, 1992) in order to identify interactional features associated with Twitter interaction. More specifically we make reference to antagonistic and other forms of exchange within multi-party interaction sequences and content of social media posts. We make specific use of established ideas surrounding accounts, formulations, topic organization, turn taking, recipient design, alignment and the reconsidered model of membership categorization analysis (Fitzgerald and Housley, 2015) in order to explore the interactional organisation of social media exchanges and content in ways that help account for the specific situated features associated with interaction on public social media platforms. We also note some of the particular affordances and features of this form of distributed, networked, multi-agent interaction and conclude by exploring how analysis of this sort can inform social and computational science research agendas and workflows via 'interactional feature identification'. In doing so we aspire to furnish an understanding of the interaction associated with different forms of exchange in social media environments that builds on recent literature (Tolmie et al., 2015; Zubiaga et al., 2016) and thus overcome the limitations of previous approaches. This understanding, we conclude, may be of use in order to inform future fine-grained analyses of social media interaction and the development of computational tools that support them, whilst at the same time, inform pragmatic forms of intervention through social media training and the development of educational resources.

Technical innovation, operationalisation and data

This article explores the application of Sacksian principles to the study of social media interactions through the example of Twitter. Twitter is a free social networking platform that allows registered users to produce short tweets, or 'micro-blogs'. These posts are limited to a maximum length of

140 characters and may include images or URLs. All users have an account name and an @ mention, both of which appear in each tweet posted. Users can direct a tweet to specific users by including their @ mentions within the body of the tweet and can reply to tweets posted by others in the same way. They can also retweet messages posted by others; this action directs the original posts onto the timelines of the retweeter's followers and often serves to signal agreement with or approval of what has been posted. All tweets are publicly available (including to non-registered users) by default although it is possible for users to protect their tweets from general view and users that follow each other can exchange private messages.

Twitter as a data source has been taken up with enthusiasm by researchers across a number of fields. It is possible to collect tweets via its Application Programming Interface (API) without soliciting user consent and whilst this is not uncontroversial in ethical terms, it does enable large volumes of posts to be collected quickly. Whilst much work examining the content of posts analyses tweets in isolation from each other, our interest also includes how users on the platform interact. Therefore, we required a bespoke Twitter thread capture tool that reconstructed Twitter 'conversations' and enabled the fine grained analysis of real time interaction; a version of this digital tool was developed by Zubiaga et al. (2016) who state:

While Twitter does not provide an API endpoint to retrieve conversations sparked by tweets, it is possible to collect them by scraping tweets through the web client interface. We developed a script that enabled us to collect and store complete conversations . . . The script scrapes the Twitter web client interface, collecting the responses that appear beneath the source tweet. Once the tweets below the source tweet have been scraped, the script performs the following two steps to make sure that the whole conversation started by the source tweet is retrieved: (1) The script checks if there are more pages with responses (since Twitter pages the responses), and (2) the script then retrieves, recursively, the replies to all those replying tweets, which enables retrieval of nested interactions. This process gives us the tweet IDs of all the tweets replying to the source tweet, i.e. the conversational thread, from which we can form the whole tree. To collect all the metadata for those tweets, we then access the Twitter API using the tweet IDs; specifically, we use the 'statuses/lookup' endpoint . . . which provides all the metadata for up to 100 tweets at once.

We used this tool alongside more established procedures for harvesting tweets (and associated metrics, for example, the number of responses to individual posts) from particular high profile public accounts. This generated data some of which we use in this article in order to illustrate how Sacks' ideas remain relevant in relation to the analysis of social media interaction.

Social media analysis and the application of Sacksian principles

As outlined above we operationalise a reconsideration of Sacksian principles in the digital age through a focus on 'social media posts' and 'social media threads'. In doing so, we note the similarities and differences between 'the baseline of ordinary conversation' and multi-party interaction through the particular affordances of a popular micro-blogging site; namely Twitter and the textual affordances of social media (Tolmie et al., 2015). We note the salience, but also the particularity, of sequential and categorical matters to 'social media-in-interaction' where social antagonism and debate, that are realised through the mundane mechanics of identity work and claims making, are evident.

Through a consideration of empirical examples, we ground our observations in data gathered through manual and computational means and pinpoint key ways in which Sacksian principles can document and describe 'interactional features' at a granular level, in real time, as a means of informing wider interdisciplinary goals, such as, machine learning and the design of algorithms which can aid the analysis of big text data and the development of statistical models (Burnap et al., 2015). This will take the form of three empirical illustrations; firstly, an examination of social media threads in terms of sequential organization; secondly, an examination of threads in terms of membership categorisation (Hester and Eglin, 1992) and finally, the examination of high profile 'celebrity' posts as carefully designed formulations. Each of these cases provides an opportunity to consider, through reference to data and empirical materials, the ways in which Sacks' ideas can inform analysis and the wider (often interdisciplinary) goals of digital social research. Finally, we consider the serious methodological and epistemological limitations in translating situated analyses of social action into quantitative and automated procedures and consider important ethical dilemmas and controversies regarding the status of qualitative 'data', members practices and methods in the digital age.

Sequential organisation in Twitter interaction?

Zubiaga et al. (2016) identify common characteristics between the baseline of ordinary conversation and the features of Twitter interaction exposed through the 'thread capture' tool. Thus, the sequential characteristics of turn-taking, topic change and recipient design can be seen to operate within this particular environment. However, this is mediated through particular functions associated with Twitter (for

example the '@' function, the use of Hashtags to denote topics of interest or inference and the ability to add links to other web resources including official news sites or blogs) and the social fact that Twitter facilitates open multi-party interaction and engagement, albeit mediated by the effects generated by the number and type of Users who follow a particular social media account or are being followed; a metric that can be understood as a form of social 'network capital'. The capacity of networks to influence the flow of information in terms of homophily, differentiation, reach and diffusion is an important area of social media inquiry but one that stands outside the specific focus of this article. Whilst the basic sequential features of some form of turn taking machinery can be seen to operate, it is a system that can be radically altered by the distributed, 'open' and networked character of Twitter as a platform.

Example: sequential organisation and Twitter

Tweet Number	Tweet User	Post Content
1	Original poster: @mark_carrigan	Once my book is all done & the set of following proposals are finished, I want to have a serious go at doing this The DSS Forum @DigitalSocSci Using social media to improve the student experience: creating a departmental back channel for undergraduates buff.ly/1HwOw9v
2	@EthicsWildfire	@mark_carrigan A genuine, interested question: why choose a platform like Twitter for thIs over other mechanisms like intranet portals etc?
3	@mark_carrigan	@EthicsWildfire so facebook could also work. Just don't think building a propriety systems and inciting them to log in regularly will
4	@EthicsWildfire	@mark_carrigan Agreed – an easily accessible and accessed platform works well. However does Twitter fit the typical UG demographic? …
5	@mark_carrigan	@EthicsWildfire not because I think Twitter is only platform that could be used for this purpose
6	@EthicsWildfire	@mark_carrigan TY. It's an interesting question of which existing platforms provide a ready made and popular mechanism for UG to use.
7	@mark_carrigan	@EthicsWildfire there isn't a ready made one though, is there? I think degrees of suitability depending on overarching plan
8	@EmmaHead2	@mark_carrigan @EthicsWildfire have done a bit of research on using twitter in HE, a number students said they would have preferred facebook
9	@EthicsWildfire	@EmmaHead2 @mark_carrigan We have been talking to secondary schools recently and they say Twitter is on its way out with that age group …
10	@mark_carrigan	@EthicsWildfire @EmmaHead2 Yep but don't think snap chat and what's app could ever work! Was pondering this earlier

These tweets have features familiar to the Twitter platform – a limited number of characters, an ability to reference other content via links or embedded retweets and the use of @ mentions to direct a tweet at particular recipients. Examining them as a conversational thread involving three users, we can observe various sequential characteristics within the tweets that are familiar to spoken interaction. This provides an

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opportunity to apply conversation analytic criteria to understand how this particular form of 'talk' unfolds. However, we can also observe that the users not only employ familiar interactional practices from other contexts to achieve a 'conversation', they also draw on the specific affordances of the Twitter platform in the accomplishment of this interaction.

The interaction begins in Tweet 1 with the user stating an intention to 'have a serious go' at using social media to improve the student experience. This post is designed as a retweet of an earlier post by a separate (institutional) user. The inclusion of that earlier post provides a context for the user's statement and also a means to navigate around Twitter's character limit. The absence of @ mentions within the post indicates that it is not directed towards any other users in particular and Tweet 1 therefore functions as a kind of general announcement. In contrast Tweet 2 begins with the @ mention of the original poster from Tweet 1 indicating that the subsequent content is directed towards him specifically. Tweet 2 picks up on the content of Tweet 1 and asks a question about the original poster's stated intention – 'why use a platform like Twitter for this over other mechanisms like internet portals etc.' In Tweet 3 the original poster returns and gives a response to this question, with an @ mention again being used to direct the post towards a specific user. The exchange continues in Tweet 4 with the second user returning to give an acknowledgement of the original user's response – 'Agreed' – and an expansion of it – as 'easily accessible . . . ' – before asking a further question, about the nature of Twitter.

Across these 4 tweets we can see the sequential unfolding of an interaction and we can apply some conversation analytic criteria to it to observe precisely how that occurs. The thread is made up of a series of turns, with each individual tweet serving as a 'turn at talk'. From Tweet 2 onwards the interactants employ a 'turn taking organisation' – they take it in turns to make a tweet and subsequently an exchange unfolds in which users respond to each other. Furthermore, we can see each tweet as performing interactional actions – making an announcement, asking a question, acknowledging a response etc. These actions may project a relevant next action in response – for instance the asking of a question sets up an answer to that question as the appropriate next action to be performed – and this plays a key role in enabling the turn taking organisation to be maintained and the interaction to move forwards sequentially. Finally, we can also observe recipient design in action – in which a turn is designed to align the recipient who will read and respond to it. The simplest form in which this occurs is through the inclusion of an

@ mention to indicate that that post is directed towards a particular user and that a subsequent response from that user is also relevant.

As the interaction continues in Tweets 5 to 10, there are some interesting occurrences that demonstrate the ways in which users' interactions attend to and are shaped by the specific affordances of the Twitter platform. The original poster returns in Tweet 5 but his post does not appear to produce an answer to the question posed in Tweet 4. Instead the 'not because I think Twitter is the only platform…' appears to be a continuation of his response to the question asked in Tweet 2 regarding social media platforms. This expanded response in a separate tweet is likely to be due to Twitter's character limit as this further content would not have been able to fit into a single post. It is also possible that Tweet 4 was not yet available to the original poster at the time when he was posting Tweet 3 and that this is a point at which the temporal asymmetry between Twitter interactants can become visible. Viewed within the sequential organisation of the thread, Tweet 4 appears to be relevant for the response but not treated as such by the original poster.

The second poster returns in Tweet 6 and rather than treating the absence of a response to Tweet 4 as problematic, makes a post that acknowledges Tweet 5 and continues the ongoing conversation on this basis. So although the temporal asymmetry between interactants could be seen as potentially disruptive to the ongoing communication, in this instance we can see it is attended to very straightforwardly with minimal effect on the turn taking organisation. Then, after a further tweet by the original poster, a new user comes in with a post in Tweet 8. It is a feature of Twitter that posts are publicly available and can be seen by other users, even when they are directed to specific posters via @ mentions. In particular, posters who follow each other can see posts appearing in their Twitter feed and can use the reply function to enter into an ongoing conversation even if they have not been referenced to beforehand. This third poster draws on this feature to treat the interaction as openly available. By including the @ mentions of the original and second poster she marks her post as a reply to both users and also indexes her tweet as connected and relevant to the unfolding interaction. In the subsequent Tweets 9 and 10 both the original and second poster align with this action to join the conversation by picking up on the content of the third user's post (preferences for social media platform amongst young people and their suitability for engagement) and including her @ mention to mark their posts as responding to her as well as to each other. The conversation thereby expands its number of participants in a very straightforward manner.

This brief discussion of a single instance highlights the ways in which conversation analytic principles can be applied to the examination of interactions between users on Twitter. We can see that users draw on the norms of the interaction order (turn taking, recipient design etc.) plus the specific affordances of the Twitter platform (@ mentions etc.) to produce exchanges that unfold sequentially and that can be seen as a form of 'conversation'. It is necessary to undertake further work to understand the various ways that users might be required to attend to and accommodate, for instance, temporal asymmetries and the capacity for multiple separate interactions to emerge from a single post. This represents an exciting opportunity to determine the extent to which CA can be successfully applied to this particular domain. As discussed next, further analytic opportunities arise from the mobilisation of notions of accounts and membership categorisation in Twitter interactions.

Membership categorisation in Twitter interaction

For the purposes of one of our projects, from which the next example is derived, we mobilised the notion of accounts and membership categorisation within the sequential unfolding threads as an initial form of interactional feature identification. This then informed the development of a Twitter Thread typology that could support visualisation and any subsequent quantitative analysis as part of an interdisciplinary project oriented to the scoping and analysis of 'digital wildfire' content in social media (Webb et al, 2015, Webb et al 2016). The examination of interactional practices provided a means of describing the detail of social media posts as forms of accountable action(s) that are socially and morally constituted as occasioned but, within the context of Twitter threads that are tied to particular 'real world events', exhibit a degree of co-relevance both as part of a computationally generated thread and the topics under discussion. In terms of membership categorisation practices Jayyusi (1991: 240) states:

Sacks' notion of category bound actions, rights and obligations not only points out the moral features of our category concepts, but also provides thus for the very moral accountability of certain actions or omissions. His elucidation of the notion of certain categories as standardised relational pairs . . . not only uncovers features of the organisation of members' conventional knowledge of the social world, but clearly demonstrates via empirical analysis, how that knowledge is both morally constituted and constitutive of moral praxis – it provides for a variety of ascriptions, discoveries, imputations, conclusions, judgements etc. on the part of mundane reasoners.

Jayyusi goes on to note how ethnomethodological analysis has illustrated how practical activities (for example, asking questions,

providing descriptions and making 'sense') are also inexorably moral. Jayyusi (1991: 241) continues by stating:

I have elsewhere, building on Sacks' work, tried to show in some detail how moral reasoning is practically organised, and how, at the same time, and perhaps more significantly, practical reasoning is morally organised . . . Very clearly, the use of even mundanely descriptive categories, such as 'mother', 'doctor', 'policeman', for example, makes available a variety of possible inferential trajectories *in situ*, that are grounded in the various 'features' bound up with, or constitutive of, these categories as organisations of practical mundane social knowledge.

The following example explores some of these 'ethno-methods' as they are enacted and displayed through the following social media interaction and in ways that supplement sequential features (as discussed in our previous example) with those associated with membership categorization practices (Housley and Fitzgerald, 2003).

Example: identity categories as topical items

Tweet Number	Tweet User	Post Content
1	Original poster: revk	Hi people angry at Christians for being against equal marriage, you do know we don't all think that don't you? #Vote Yes
2	User1	@revk yeah! Go Rev K
3	User2	@revk @user3Thankfully Anglicans aren't as oppressed and cowardice, K1 :)
4	User4	@revk That's good to know, but you can see why people might be confused (the whole Leviticus thing for example).
5	User5	@revk @User6 All Christians I know share your views, feel misrepresented. Friend is member of Irish clergy & voting yes :)
6	revk	@User7 that's not what I said
7	User8	@revk Well done for ignoring that dreadful book, then.
8	User9	@revk You can't disown people of a religion you spread. You are complicit in their hatred. #MarRef
9	revk	@User9: @revk You can't disown people of a religion you spread. You are complicit in their hatred. #MarRef #facepalm
10	User10	@User9 @revk that is possibly the silliest thing I have seen all day …
11	User11	@revk 'you live in Britain therefore you must be complicit in the Iraq War,' *SIGH*
12	User12	@revk @User13 Did you see this? :) http://www.theguardian.com/society/2015/may/21/proposal-for-transgender-baptism-to-go-before-church-of-england
13	User14	@revk @User15 I don't know you K, but as a newly out Christian, it means a lot to see this on a big social media platform
14	User16	@revk @User17 how do you reconcile that view with the Bible? #religionisdaft
15	User18	@revk the official policy of both Anglicans and Catholics is to oppose same sex marriage. Until that changes, anger is justified.
16	User18	@revk but thank you for being one of the few Christians to take a stand for equality – it means a lot!
17	User19	@revk Yes K!!! Great tweet
18	User20	@revk @User19 Yeah, but people are still allowed to be angry with those choosing to believe LGBT people are less equal.

Tweet Number	Tweet User	Post Content
19	User21	@revk @User22 interesting point & coming to accept it. Think in Ireland climate/history is that you can't make the assumption
20	User22	@User21 @revk Ireland. Progressive people. Repulsive politics. Exploitative corporate immigrants. The people will win eventually

In this example the initial posting in the thread sequence displays the deployment of an 'n-population device'; namely 'Christians'. At issue here is the forthcoming referendum (in the Republic of Ireland, 2015) on gay marriage and equal rights. This is signaled through the use of the hashtag '#Vote Yes' – this serves to topicalise and thence frame the content of the account. However, the population group i.e. 'Christians' is tied to the category bound association (or predicate) of anger from a general population device, in this case 'people'. This is not specific and allows for multiple imputations outside the specific category set of 'Christians' in relation to the topic being discussed.

However, the account also provides for a predicate clause; namely that not all Christians agree on the issue and that this provides grounds for assuming that some may well agree with the principle of equal marriage rights. In this way the membership category device of 'Christians' is afforded alternative inferences of opinion in relation to the issues raised by the forthcoming referendum. Indeed, we might understand the account as informational, in terms of how different groups are being positioned in relation to lines of moral and social opinion. Tweets 2 and 3 display affirmative and supportive forms of explicit agreement. Tweet 4 also provides agreement for the initial post but also provides a qualifier through reference to a particular piece of scripture. At Tweet 5, further agreement is exhibited but again qualified in membership category terms; reference is made to 'all the Christians' that the poster knows 'sharing' the same views; this includes a member of the Irish clergy who, it is claimed, is going to vote for equal marriage.

This post is significant in that explicit agreement is furnished with category work that attributes further forms of legitimation by lending personal experience to the claim; namely that not all Christians are against equal marriage. This category-identity work is accomplished through examples that practically operationalises the 'Etcetera' principle and provides an account that unpacks Sacks' consistency rule, in this instance, where:

If some population of persons is being categorised, and if some category from a device's collection has been used to categorise a first member of the population, then

that category or other categories of the same collection may be used to categorise further members of the population. (1992: 33).

At tweet 8 the category-identity work offered at Tweet 1, and supported at Tweet 5, is questioned. The post, directed at the initial tweet through the '@' function states 'You can't disown the people of the religion you spread. You are complicit in their hatred. #Mar.Ref.' This explicitly topicalises the operationalization of the consistency rule in relation to previous posts that have supported the practical parsing of opinion of a particular group (i.e. Christians) in relation to the upcoming referendum on equal marriage. This represents the practical operationalisation of the economy rule, which, according to Sacks (1992), refers to the conversational process by which, if a member uses a single category from any device, then he/she can be recognised to be doing adequate reference to a person. This does not allow for the membership categorisation device to be populated by additional membership categories predicated on different views and opinions. In the example here, the rule suggests that 'Christians' cannot be both pro- and anti-LGBT rights.

The *consistency rule* states that if a member of a given population has been categorised within a particular device then other members of that population can be categorised in terms of the same collection. Sacks (1992: 221) derives a corollary known as the hearer's maxim that states:

If two or more categories are used to categorise two or more members of some population and those categories can be heard as categories from the same collection then: hear them that way.

Thus, whilst the consistency rule is 'unpacked' at Tweet 5, the activation of the economy rule, provides an account that draws attention to the hearer's maxim where both the *consistency* and *economy* rule in categorization work practically operate as both social and moral phenomena. As a consequence, the initial posting (Tweet 1) regarding some members of the Christian community supporting equal marriage is problematized. This logic is questioned at Tweet 10 and at Tweet 11; the (possibly) extreme application of this category logic is questioned by a provision of an account that applies the logic to another membership category apparatus; in this case 'living in Britain' and complicity with the 'Iraq War' with no space for differences of opinion nor existence of alternative population categories that are not based on geographical criteria possessing different opinions or views. The rest of the thread elaborates on this 'membership categorisation' issue where the moral

position and 'accountability' of specific groups in 'owning opinions' is questioned, criticised or supported.

Membership categorisation and Tweet formulations

A third dimension of Sacks's work that is relevant to approaching Twitter communication can be found in his study of membership categorization formulations and the examination of the textual affordances of newspaper headlines and other 'news generating artefacts' (Hester and Fitzgerald, 1999). We introduce it here as it provides another dimension of Sacks's work that can be fruitfully used to understand social media as both interaction as data. The concept of formulations provides an additional means of approaching and understanding the ways in which certain posts can straddle the traditional frames of 'text' and 'talk' (Tolmie et al., 2015).

The restricted character of Twitter messages and their use, not only to convey information, but also, to generate or provoke interest, is seen most vividly in certain celebrity accounts. Antagonistic twitter feeds and what has been described as 'celebrity trolls' can be seen to employ specific types of antagonistic formulation design in order to generate interest and ultimately build traffic, followers and other dimensions of network capital.

In terms of membership categorisation and accounts within media settings, a range of studies have examined how moral reasoning is mobilised in order to generate debate within a variety of settings. These include current affairs radio phone-ins (Housley, 2002), broadcast news (Housley and Fitzgerald, 2002, 2007) congressional hearings (Lynch and Bogen, 1996) and televised party political debates (Housley and Fitzgerald, 2016). In addition to these formats, it has also included more traditional textual formats, such as, letters to the editor in major national and international newspapers and the construction and category based design of headlines (Lee, 1984).

The study of headlines as category based sense making phenomena represents a relevant example for exploring how membership categorisation practices are related to social media communications. In an age of networked digital platforms where people are urged 'to broadcast themselves' within 140 characters, the newspaper headline makes for an interesting comparative artefact from an earlier form of media ecology and environment. The similarities include the demands of brevity and associated considerations that relate to practical communicative orientations towards audiences and potential readers; these demands

represent a form of recipient design environment that shapes how twitter posts are organised and produced.

In terms of generating interest, especially by those users or accounts who wish to generate traffic, they also include specific forms of membership category work and related conversational practices that include: 'extreme case formulations' (Pomerantz, 1986), contrast devices (Atkinson, 1984) and other forms of rhetorical practice. A key issue here is the way in which membership category work can be understood as *formulations* that normatively account and index social activities, associations and attributions. In an early lecture and set of notes (1964–1965: 170–99) Sacks discusses a newspaper article in detail, which is headlined 'A Navy Pilot Calls Vietnam Duty Peak of Career'. In this piece, Sacks explores membership categorisation practices as particular types of moral formulation that are central to understanding the social organisation of moral accountability; for example, in terms of making sense of being shot at, responding to attack and bombing and how this is categorised and formulated via print media to a public audience in relation to a controversial topic. For Sacks, a central issue here is the operationalization of the descriptive cultural apparatus of membership categorisation and the deployment of membership categorisation devices within accountable settings such as print media. Sacks states:

It may be much noted that the choice of the device is not just to be made by reference to their consequences or the like, but by reference to how, given the use of the consistency rule to formulate his alter egos, how it provides for the formulation of actions. The availability then of making his categorisation decision in such a way that it routinely provides for a categorisation of his opponents, and by virtue of the mutual categorization then an assessment of either's actions is a crucial matter. (Sacks, (1992: 206)

In the following section, taking the above into consideration, we consider the character and design of formulations in relation to social media posts by a high profile celebrity account that has been perceived to generate interest through provocative and antagonistic posting via the Twitter platform. We make a direct comparison between two very similar tweets (Tweet 1 and Tweet 2), noting the changes made between the first and second post. These differences could account (in part) for the varying numbers of responses that were received for each post[2]. These tweets relate to a specific topic – ginger haired children.

Example: Tweets as formulations

Tweet Number	Tweet User	Post Content
1	Original poster @KTHopkins	Ginger haired babies. Like regular babies just so much harder to love
2	Original poster @KTHopkins	Ginger babies. Like a baby. Just so much harder to love.

Tweet 1 (14 responses); Tweet 2 (181 responses).

The first formulation (Tweet 1) is subject to a considerable number of responses. The reference to 'Babies' can be heard to act as a membership categorization device in this instance as well as a membership category of the wider device of 'Family', in this sense we can hear it as being duplicatively organized (Watson, 1997). In this formulation the membership category 'babies' is predicated in terms of hair colour; in this case 'ginger'; this provides the grounds for generating an additional membership category population of 'ginger babies'. The second part of the formulation invokes the consistency rule in relation to the membership category in question, but stipulates an exceptional category bound (predicate based) feature; namely that they are 'so much harder to love'. This formulation makes use of a contrast class (regular babies versus ginger haired babies) and forms of moral downgrading and an extreme case formulation through which to degrade a population group, and, we might suggest, antagonize, provoke and generate a response.

The second formulation (Tweet 2) is one that was produced by the account in question earlier in the timeline of social media postings gathered within the data set. Of interest here is the difference in the number of responses that may be tied to the design of the membership categorisation device (MCD) formulation. Firstly, the target membership category is referenced in a more economical manner i.e. 'ginger babies' (as opposed to ginger haired babies) and the formulation is broken down, through the use of punctuation, into a clear three-part list, a well-established rhetorical device (Atkinson, 1984). We suggest that this combination of design features i.e. contrast, use of a three-part list, economy, and a downgrading form of emotional attribution may constitute a powerful antagonistic design that is optimally refined in the example provided by Tweet 2.

Other examples of the role of high profile tweet formulations can be found in recent discussions regarding Donald Trump's use of the Twitter platform during the US presidential election. Our point is that in addition to the sequential and categorical features of social media interaction attention to the 'formulaic' characteristics of high profile twitter posts

(and perhaps more mundane accounts too) can also help us understand how interest, antagonism, response and other activities are realised.

Interaction feature identification?

During the course of this article we have examined twitter threads and stand-alone examples that have been identified from a larger corpus of tweets from particular high profile accounts. This data set was annotated, initially, through a form of qualitative inspection that paid attention to some of the interactional features detailed in this article. This annotation scheme can serve to inform machine learning and digital tool development by acting as a training data set for classifiers and specific algorithms. Furthermore, the annotation of these data sets and the features therein can be refined through further interactional inspection, of the sort detailed in this article, in order to produce more sophisticated forms of coding for digital tool development and so on. This represents a virtuous workflow that consists of the refinement of coding frames for panel or crowdsourced annotation exercises that can help serve the requirements of computational sciences and the development of digital tools and algorithms for detecting types of 'speech action' in social media streams. In current work this has enabled an examination of homophily and differentiation at the interactional level in relation to Twitter based activism and online campaigns. This work, and other studies, associate the length of a twitter thread with an increased likelihood of differentiation and 'off topic' conversation and a move towards more explicit forms of membership category 'identity' work and claims management (Webb et al., 2016). An interactional scenario where who is able to claim what, where, when and how on social media becomes a contestable membership category matter.

However, it can also serve to pinpoint points of interest in the big and broad social media data that can enable closer inspection and analysis of the sort identified during the course of this article. In other words, it can facilitate the examination of 'small data' and specific instances that can generate interactional insight into actual practices. One way in which this can be represented is through the coding of particular types of speech action, types of agent, 'functional characteristics' and whether specific types of URL's are being deployed within Twitter interactions that have been identified as socially antagonistic either manually or through automated means.

In addition to the above, the article has made some headway in exploring some sequential features, that are relevant to the interactional

environment displayed to and negotiated by users. Of course, we can use these features to inform further annotation exercises and, together with the examination of the distribution of links to news sites, retweets and so on, analyse the extent to which these features inform the information flow of, for example, antagonistic content (in relation to key events such as the community response to a major civil disturbance) at scale, in order to attempt some forms of social sensing of populations in real time, so as to inform the organization and shape of large scale communicative responses. Indeed, we have carried out some of this work in relation to a series of studies that we have conducted (Housley et al., 2014).

However, what has been missing is a complementary form of analysis that returns to the 'scene of the data' and drills in to points of interest in order to flesh out the interactional environment and features in finer detail. That have been enabled through the development of the thread capture tool and harvesting of stand-alone tweets that produce corpora of inspectable interactional and related forms of data. In doing so we also recognise some of the wider potential for reading and applying Sacksian principles in ways that move beyond a sole focus on sequential matters within talk and interaction; the analysis of social media interaction provides a site through which a wider interpretation of Sacks' work can be mobilised and in ways that transcend any 'narcissism of small differences' amongst the ethnomethodological, conversation analytic and wider interactionist communities.

Conclusions

One implication for this type of ethnomethodologically informed work is the refinement of general descriptions into more precise features that build on previous qualitative work and the design of coding frames for the annotation of content on social media (for example, antagonistic, inflammatory and derogatory speech) for both manual and automated analyses that, in turn, might inform the development of automated tools for detecting various forms of communication that may have the capacity to cause harm.

However, as emphasised throughout, this article represents a Sacksian re-engagement with big and broad social data that suggests a workflow that begins to look at specific points of interest within large scale social media information flows and 'drills down' in order to carry out further fine grained analyses of the 'small data' therein. This approach, drawing as it does from the work of Sacks and ethnomethodology more generally, may generate a finer grained interactional anatomy of, for example,

antagonistic speech on social media and also promises to generate analyses that can form part of a cumulative paradigm of pragmatic and ethnomethodological work that makes available the types of practical methods, interactional strategies and tactics that users deploy in order to regulate and confront a range of behaviours including 'cyberhate' (Banks, 2011) as well as facilitating debate and consensus oriented forms of exchange online.

Consequently, further work in this area may build on the interactional analysis of multi-party social media interaction, not only as a means of refining coding frames for panel or crowdsourced annotation of large data sets for machine learning (important as it is in relation to data science), but also as a means of identifying particular forms of interaction (in this case sequences, accounts, formulations and membership categorization work) that can build empirical studies that help to inform social media training and digital citizenship education. Indeed, we can see ways in which work of this type can be used to inform established ethnomethodologically informed training programmes such as The Conversational Analytic Role-Play Method (CARM) (Stokoe and Attenborough, 2015) in relation to social media communication and management. Whilst the automated detection of 'cyberhate' may be a useful tool for pinpointing spikes in community tension within particular neighbourhoods of interest, education remains a powerful tool for social change and the management of social problems, wherever we may find them.

The identification of accountable, user generated 'self-regulative practices in the wild', in conjunction with further work, will assist a programme of building a pragmatic picture of how interaction routinely operates online and in the context of the social accomplishment of specific 'platform cultures' and activities (consensus building, generating antagonism, claims making, verification work and so on). Furthermore, whilst not a focus of this article, the social organisation of platform cultures and architectures may also benefit from the collection of 'user oriented perspectives' (Meredith and Stokoe, 2014, Reeves and Brown, 2016) on both the type of social media interactions reported in this and other articles and the ways in which actors engage and navigate social media interfaces and functionality. In turn, this programme of work, alongside other approaches, will help inform emerging debates regarding the social organisation of interaction on social media and related matters such as freedom of speech and regulation in the digital age.

Notes

1.All examples reproduced in this articles were subject to a framework of ethical approval.

2.The posts in question were gathered from a larger data corpus that ranked each of the tweets from this high profile account over a set time period in terms of the number of responses to tweets generated by the account in question.

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