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Performing social media: artistic approaches to analysing big data

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Abstract

Using several performances undertaken as part of a public art residency, this article discusses creative and playful approaches to social media data. Four pieces are discussed to demonstrate how social media posts can be re-appropriated and represented. In this project, geotagged Flickr images were used as a foundation for arts performances to give new meanings to the spaces where the social media post was tagged. In doing so, it demonstrates a way to bridge the quantitative-qualitative divide through the use of geographic big data in art, enabling scholars to move beyond the visualisations of big data produced by GIScience.

Key words: art, social media, big data, performance, representation

Introduction

Geography has increasingly drawn on big data in recent years to provide insight into the social and spatial patterns of the world. These engagements, typically quantitative in nature, provide geography with new insights into wide-ranging social, political, and economic behaviours (Kitchin 2013). It has been argued, however, that these approaches “tend to

obscure, more than reveal, the complexity of social and spatial processes” (Graham and Shelton 2013, 255). Examining social media data, this article establishes a way to uncover alternative narratives from these datasets using performance art. We argue that combining spatialised big data and art moves beyond the representations of data produced, analysed, and represented through GIScience into alternative and qualitative narratives and representations that consider the material, virtual and imagined qualities of space.

Using several performances undertaken as part of a public art residency, this article discusses creative and playful approaches to social media data. Four pieces are discussed to demonstrate how social media posts can be re-appropriated and represented. In this project, geotagged Flickr images were used as a foundation for arts performances to give new meanings to the spaces where the social media post was tagged. Collaborations between geographers and artists reveal “how seemingly disparate things are pieced together [...] and gathers coherence or momentum” (Foster and Lorimer 2007, 427). Such collaborations have been extensive and proven to be of great value in the development of both artistic and geographical knowledge (Schaaf, Worrall-Hood, and Jones 2017). Various forms of art are utilised in such collaborations, including performance art (Roe and Buser 2016), exhibitions (Young and Kelly 2017), and poetry (Jones and Jam 2016; Philo 2017). This article adds to these art-geography collaborations by using big data in performance art. It shows, through a novel approach to social media data, that the use of big data to facilitate and produce art contributes to the discussions on the qualitative-quantitative divide within geography (and the social sciences more generally).

Big data, art and bridging qualitative-quantitative divide

Academic engagements with big data typically involve sophisticated quantitative analyses often using complex software with high performance analytical systems (e.g. Resch et al. 2016; Roberts et al. 2018). Furthermore, the majority of work that uses social media data, especially in geography, has a tendency to rely on the geotag to the extent that there has been a call to understand “the geoweb through a diversity of quantitative data sources and methodologies ... with in-depth qualitative analysis of users and places implicated in these data” (Crampton et al. 2013, 132). While qualitative analyses are undertaken (cf. Cope and Elwood 2009), these approaches are not commonplace – especially in relation to the visual components of the social media post (Rose and Willis, forthcoming). This is because of the time it can take to undertake qualitative analysis on the enormous datasets. For example, Roberts et al. (2018) investigated the emotional qualities of Twitter posts using manual, automated, and semi-automated analyses arguing that the manual analyses were hindered by the “researcher time needed to examine each tweet” and thus concluded that because social media “generates large volumes of [data], manual annotation is simply not viable. For this reason, automated and semi-automated methods are often employed” (Roberts et al. 2018, 28).

Despite this struggle to combine qualitative analyses and quantitative data, the emergence of big data has led to new inquiries bridging across the social sciences and the arts and humanities (DeLyser and Sui 2013; Zebracki and Luger, forthcoming). This “alliance of geeks and poets” (Cohen 2010, n.) not only demonstrates the methodological possibilities of qualitative approaches to big data (see DeLyser and Sui 2012 2013 2014) but also shows how artistic practice engaging these data sets can bridge the qualitative-quantitative divide and produce novel knowledges (Zebracki and Luger, forthcoming). It is important to stress, however, that artists have long utilised and been influenced by quantitative practitioners such

as mathematicians and scientists (Gamwell 2005 2015). For example, there have been example of artists working with social media as an artistic resource such as #24Echo by Bartlett (2010) who recited various tweets that were sent to him during his performance and Pingback by Allbright and Warner (2015) where the duo re-appropriated the game of ping pong to represent the behaviours and dynamics of online trolling. This paper, therefore, adds to the growing work being undertaken by those in the digital humanities to demonstrate new ways to present and investigate social media data.

Presenting Social Media

In recent years, a tremendous volume of user-generated information derived from social media data has become available for scholarly engagement (Felt 2016; Sui and Goodchild 2011). Users of social media, including Twitter, Instagram, and Flickr, produce vast quantities of personal data, voluntarily sharing details of their everyday lives and experiences, often with a visual accompaniment. These social media posts, however, are a micro-representation of an experience.

Whilst it has been argued that “big data visualization is not as easy as traditional small data sets” (Wang, Wang, and Alexander 2015, 33), scholars who have engaged with such data have adopted various ways of representing the data that they have crawled.¹ For example, there are scholars who investigate users’ emotional responses to a space or phenomenon using the text from social media posts (Roberts 2017; Roberts et al. 2018; Resch et al. 2015). Typically, this involves analysing the textual data using an affective dictionary, which ascribes a numerical value for individual words, and create maps of emotional areas. Other methods include word clouds or treemaps (Dykes et al. 2008), interactive maps (Khan and

¹ Data crawling is the process of extracting large data sets from the internet.

Khan 2011), density maps (Tranos and Nijkamp 2015), and component planes (Kourtiti, Nijkamp, and Arribas 2012). Whilst these visualisations are one mode of representing big data, it could be argued that they do not effectively represent the meanings and values that are inscribed within the original post. Indeed, non-representational theorists and post-structuralists have emphasised the role of performance, process and the body over meaning making and representation (Dewsbury and Naylor 2002; Thrift 2008). As such, we suggest here that alternative narratives can be derived from social media through a more creative engagement with these datasets.

Method

The project discussed here was a joint venture between academics and artists to undertake public art performances using data from online photo library Flickr. Flickr stores photographs and associated metadata including captions, tags, usage restrictions, titles, and spatial coordinates in the form of geotags. A Flickr Application Programming Interface (API) was used to crawl all geotagged Flickr data (approximately 266,000 individual entries) posted between 01/01/2009 and 08/06/2016 within a bounding box around the city of Birmingham, UK [2.03W, 52.38N - 1.72W, 52.60N]. Social media posts were used within an artist residency in the Make/Shift/Space project to aid the production of art in three ways. First, they were an elicitation tool to facilitate public engagement with live performance, which in turn inspired further performances. Secondly, the posts directly influenced the art produced; drawing from resources and occurrences in the surrounding environment, the posts (whether they were photographs or text) acted as a lens to reimagine the surrounding space. Finally, the posts allowed the artists to reinterpret the performance site to look for additional meanings and narratives to enact. All the art pieces, which varied between performance, video, and photographic pieces, were performed by Emily Warner, an artist and researcher

who deploys performative-action, photography, and film to activate the relationships and interactions between people and place.

Emily undertook a public performance residency across Balsall Heath and Digbeth (Birmingham, UK) where a total of twenty-four sites were chosen by using geographic information system(s) (GIS) to map the density of posts in the two areas. At each of these sites, Emily and her assistants produced small artistic products based on the interactions with the space, the people in that location, and real time text and visual prompts. The real time prompts were sent using the Hootsuite Twitter scheduling service via a designated Twitter account based on the route that Emily determined for the day. By using these social media prompts in the physical location where they were originally geotagged, Emily's performances built "a picture and an awareness of a place via all these different triggers that filter in and arrive from all sorts of different places and encounters: be that in a physical sense or virtually on an online platform" (interview with Emily, 30/06/16). All pieces created were shared online via Twitter and Periscope, thereby allowing people to interact with the art pieces without being physically present. Additionally, print outs of the Flickr images and the previous art pieces produced in residency were made available to enable public engagement. Following the residency, Emily was interviewed and a (participatory) map was drawn to identify the 'place indicators': the conditions at those locations based on the art pieces produced, the public engagement, the Flickr data used, and a journal kept by Emily during here residency (Figure 1).

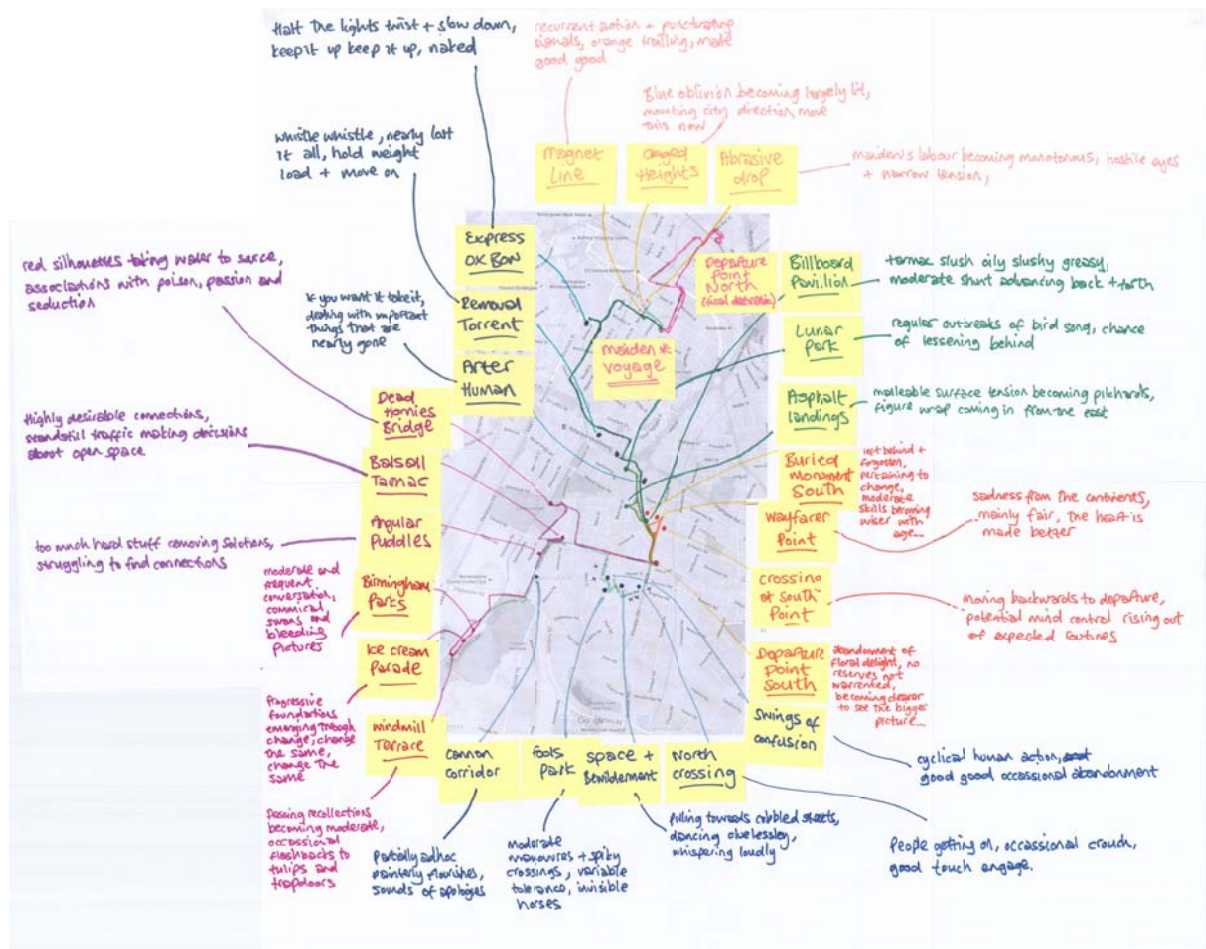


Figure 1: Place Indicators Map

Performing data

The aim of the overall project was to create “an interface for exchange between artist, audience and the built environment; brokering conversations about social interaction, public landscapes and artistic activity” (Make/Shift/Space 2016). Consequently, the pieces were inspired by virtual and physical interactions with the immediate surroundings, and by social interactions. Emily’s performances (and/or shifts), therefore, were inspired by the social media data, and their reflections in the physical world. She combined the social media data interactions she had with the spaces and the people in them to produce over twenty performance pieces spread across twenty-four locations (Figure 1). The pieces and spaces presented in this article, (*Balsall Tarmac*, *Dead Homies Bridge*, *Blockage*, and

Crouch/Touch/Engage) demonstrate the ways in which social media data can be re-appropriated in creation of art and, crucially, produce alternative narratives that consider both virtual and physical prompts of each space.



Figure 2: Make/Shift/Space structure with printed Flickr images displayed

Balsall Tarmac

The site labelled ‘*Balsall Tarmac*’ was situated in the heart of Balsall Heath and was chosen for a performance based upon the number of Flickr posts about the Victorian public toilets. During her stay at this location, Emily engaged in varying forms of conversation with various members of the public using the printed images. Not only did these images attract people to the Make/Shift/Space structure (Figure 2)², but they also provided a talking point:

“The most conversations with the public came from the images that {author 3} printed off initially. I hung them on the outside of the structure in the rain and then pegged up so that it was displayed. [...] People came and applied their interpretations of those images. Also, they were the set of images that provoked this interest because they were the most public and consistent set of images. People came up and had a lot to say about them and that informed some of my themes and ideas. They were a particularly interesting point of conversation when I was in Balsall Heath with a young Romanian boy and we conversed through those images, which was quite nice.” (Interview with Emily, 30/06/16)

The boy mentioned here did not speak English well but was still interested to find out more about the project. As such, the printed images displayed on the Make/Shift/Space structure (Figure 2) acted as a commutative medium between the Emily and the boy. This representation of social media data, therefore, demonstrates the potential of using social media data as an elicitation tool (Clark-Ibanez 2004).

² The Make/Shift/Structure was roving workspace which acted both as storage and place to present the art pieces.

A local resident, who was also attracted to the water-related images displayed on the Make/Shift/Space structure, proceeded to talk to Emily about the issues of tarmac and flash flooding in the area. He commented on how “the water just wants to get to the river” (Interview with Emily, 30/06/16) but is blocked by the tarmac and paving in the Balsall Heath area:

“*Balsall Tarmac* happened after the floods and so water was fresh on people’s minds. The river was swollen and that flooding became the thing that everyone wanted to talk about – ‘there’s too much tarmac’ and ‘everyone has block paved their drive’. There were these things, like the water, which I picked up and moved along and reformed or represented in the next location.” (Interview with Emily, 30/06/16)

Indeed, this conversation about flooding and water inspired the two following performances: *Circles and the Sky*, a video of rainfall through a glass screen and *Dead Homies Bridge*.

Dead Homies Bridge

Dead Homies Bridge was situated on a bridge over the River Rea in Calthorpe Park, Balsall Heath, and drew influence from Flickr caption: “red is the colour of passion and poison”.

“I tenuously pulled together all the prompts. I worked out that this is the title, this is the action, and this is what the man said. It resulted in this pouring of water into the river. That was something that I chose to film live on Twitter using Periscope and somebody asked a question whilst doing it: ‘what are you doing? Are you feeding all the dead homies?’” (Interview with Emily, 30/06/16)

The use of Periscope, a live streaming film service, allowed the piece to be shared beyond the physical location (Figure 3). This input from the virtual observer inspired the naming of the piece: “*Dead Homies Bridge / red silhouettes taking water to source / associations with poison, passion and seduction*”. Not only does this demonstrate the production of art through social media, but also a way of receiving feedback from, and engagement with, a wider audience. This virtual participatory approach can be used within both art and geography (e.g. #24Echo and Participatory Geographies) and demonstrates that physical presence is not always essential for participation.



Figure 3: A video still of the Periscope recording from the ‘Dead Homies Bridge’ performance.

BLOCKAGE

In the production of *BLOCKAGE*, Emily was sent an image of a square cobbled street with a geometric car park exterior. This became her inspiration which she used as “a lens for looking where [she] was [...] as if it was a filter” (interview with Emily, 30/06/16). In this

piece, she re-appropriated the regimented and geometric qualities of the photograph, but represented it through a photograph of nature:

“It was really sort of gridded, man-made, geometric, and regimented. As I was looking at this image I glanced down to the right through the railings into the park and they were digging up a flowerbed. They had cut all the grass into blocks and so there was this [...] was connected to this idea of paving and blocking. I photographed that but then that also got me thinking about the sort of... the sort of ... very regimented, I’m going to use the same word, but sort of geometric nature of buildings and architecture against organic natural forms.” (Interview with Emily, 30/06/16)

BLOCKAGE, consequently, is a representation of Emily’s understanding of the social media post. It simultaneously is the creation of a new piece of art but also pays homage to the original post. Indeed, Emily even placed the original image in the final presentation of the piece on Twitter (Figure 4).



Figure 4: 'BLOCKAGE' - Representing a Flickr image in the surroundings.

Crouch/Touch/Engage

Crouch/Touch/Engage was a specific piece that was again inspired in part by a Flickr image title, but also through observation. After receiving a message via Twitter, Emily and her

assistant stood and watched people engage with Balsall Heath high street. She commented on how she saw men pushing tyres down the road or carrying their shopping, but it was a man attempting to post a letter whilst navigating a pushchair on the pavement that inspired her to produce this piece. The scene represented those three words from the Flickr post through one action: the man was *engaging* with someone by communicating through post; he was *touching* the letter; and the child represented a *crouched* figure underneath. Hence, the scene was re-enacted (Figure 5) with Emily crouched under her assistant reaching for the postbox. Not only did the social media here aid in the production of art, but it also aided Emily in her artistic practice:

“It helped me think about how the body could be a sculptural kind of intervention in the space. I just like the narrative that was in us re-acting that. It had a completely different narrative with the vulnerability of the croucher and there was a male towering over. There were some interesting ways of interpreting that; we did it to identify something that was happening and we interpreted and re-enacted that and we created another sort of new narrative.” (Interview with Emily, 30/06/16)

This piece perfectly reflected the layering of events that occur in space, including the interactions of people with the environment, the merging of virtual and physical space, and social engagements.



Figure 5: 'Crouch/Touch/Engage' presented on Twitter.

Conclusion

The pieces demonstrate the various ways that social media data can be applied beyond tradition quantitative analyses; *Balsall Tarmac* showed the power of using social media as a communitive media between public and artist which, in turn, was incorporated into the subsequent art piece *Dead Homies Bridge*: hence, incorporating various features (both physical and virtual) of those spaces into the piece. *BLOCKAGE* and *Crouch/Touch/Engage*, on the other hand, used aspects of social media posts (photography and text respectively) as a

lens to view the space where posts were geotagged, which allowed Emily to apply her interpretations of the social media posts into physical space through creative practice.

Whilst this project was experimental, the use of social media data in creative practice highlights not only how big data can enrich artistic practice, but also how it can be presented and interpreted in new ways. Social media data in GIScience is typically represented through network analysis visualisations, or as maps. These visualisations are effective in representing human behaviour and engagement with space at a wide range and scale. Emily's approach to the social media data, however, suggests that there are other ways to engage with social media data to produce novel and more intimate knowledges. This clearly demonstrates the novel ways in which art and geographic big data can be related by bridging the quantitative-qualitative divide. Indeed, it has been argued that the emergence of these datasets may signal an opening in methodological approaches, which can combine both quantitative and qualitative methods (DeLyser and Sui 2013): "choices to utilize social media data in research can and should complement more established methods, thus creating thick description through multiple methods of analysis" (Felt 2016, 13). Crucially, however, the presentations of big data through performance art in this article demonstrate the possibility to produce alternative narratives that consider both virtual and physical prompts of each space, and different ways of engaging with big data away from the traditional computerised, objective, and positivist representations.

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