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Hashtag and visual analysis of the graffiti art response to Covid-19 on Instagram

Abstract

The Covid-19 pandemic fostered a flurry of activity from various quarters, including the artistic response of the graffiti art community. Numerous works of graffiti art are documented daily on the image sharing platform Instagram, making it an obvious choice for examination of graffiti art images relating to the pandemic and the hashtags associated with the works. Using manual gathering of data from Instagram, a series of visual themes became apparent. Hashtags were also examined for comparison to the visual themes and to confirm the use of compound tagging to express complex subjects within the limitations of the platform. This preliminary work demonstrates the possibility of manual data collection from Instagram, but also raises a number of other questions that could not be addressed in a short report. The research is a first step in the effort to support previous research on facets for graffiti art description from other platforms curated by the graffiti art community outside Instagram.

Introduction

The graffiti art community is historically quick to respond to social events with vibrant images in public spaces. The Covid-19 pandemic was no exception. While research for many academics was either slowed or halted, or at the very least changed, by the isolation imposed by the pandemic, the artistic expression of graffiti artists and the documentation of their works could still take place in relative safety. In parallel, academic examination of such works on the popular image sharing site Instagram could also take place in a very accessible way, from the quarantined comfort of the home office set-up so many of us found ourselves working in, as institutions closed their doors to slow the spread of the virus.

Building upon previous research in graffiti art documentation and organizational practices employed in resultant image galleries around the world (Graf 2020), I revisited a number of the larger online graffiti image websites to determine whether or not images of pandemic-related artworks were included and how they were described as such. I looked for specifically named galleries referring to the pandemic or to variations on the words covid, corona, and virus within the websites. This cursory examination proved futile as I found very little. This was surprising, on one hand, because images of Covid-19-related street art are readily found in an Instagram search. On the other hand, Graf (2018) clearly revealed the facets for documentation of graffiti art around the world and portrayed subject terminology was not among the most popular means of accessing the artworks. This could mean that the works do exist, but they are not organized or identified in such a way to make them readily findable.

I then returned to Instagram, somewhat reluctantly due to the rigidity of the platform for successful searching, but knowing that the works were there. On two separate days in late April and early May last year, I searched Instagram for two compound tags: #covidgraffiti and #coronavirusgraffiti. There were 157 and 174 posts, respectively, using these tags at that time. I gathered screenshots of all images that were actually of graffiti art. Examination of the images, accompanying tags, texts, and locations reveals a number of visual themes in response to this serious global challenge. In this short,

exploratory paper, I will look at which visual themes were present and how often, and provide a very general analysis of the co-occurring hashtags.

The number of posts at the time of data collection was manageable for manual harvesting and domain analytic methods. Because Instagram does not allow users to search for more than one hashtag at a time, in-depth research on the platform for complex conceptual identification is extremely difficult without advanced computer capabilities. Therefore, one goal of this focused research was to discover how often users were employing compound hashtags to express complex concepts. An example of this type of tagging is found in the two tags mentioned above, which combine the concepts of the Covid-19 virus and graffiti. While over 47 million posts are tagged #graffiti, there is no easy way to determine how many of them are also tagged with terms representing the pandemic. Only those employing compound tags can be returned by average platform users. Attention will be paid during analysis to the occurrence of compound tags alongside the two already used in the original search strategy to determine when and if users are combining concepts.

Methodology

This work represents my own foray into examining graffiti art documentation on Instagram. Previously, I specifically avoided the platform in my research because of the limitations inherent in the design of the website that force users to organize images by using hashtags. There is not a great amount of flexibility for either account holders or users of the site to group images or find them in any other way, as opposed to the gallery groupings that can be arranged on independent websites or blogging platforms. I wanted to specifically examine Instagram because of the ease of sharing images by anyone, and the vast amount of visual information available despite the complexities of actually finding information there.

As a preliminary examination, and limited by my use of manual data gathering as opposed to automatic querying of the site, I first looked into the number of posts that were returned using my two target hashtags, #covidgraffiti and #coronavirusgraffiti. The number of posts was manageable at the time of data collection for a manual project. I gathered screen shots of all posts on the two respective days previously mentioned, during one session each, so that the content wouldn't change as I was gathering it. This means that I gathered posts during one visit to the site and kept the search results screen open until all posts were gathered. When posts had multiple images, I collected a screen shot of the entire post with the first image, and the subsequent images were gathered without the textual information, as it remained the same for each image within the post.

Figure 1. Sample of a screenshot from Instagram, showing the complete first page of a multi-image post.



Using the example shown in Figure 1, I gathered the images and gave them each a unique identifier that tied multiple images from a single post together. I also gathered the name of the account (calvin.krime), the text from the post, the hashtags, including emoji hashtags (the last two hashtags here are examples of emoji hashtags), and the number of likes at the time of collection, and any geographic information related to the works in the image. Not all of this information was analyzed in this report. In this example, the works are located in Los Angeles, as indicated by the tags #lagraffiti and #losangelesgraffiti. These two tags also illustrate the use of compound tagging to represent compound concepts that cannot be searched separately by users of Instagram.

In this research, there were 449 total images over 281 individual posts. I examined each image and coded them for facets of organization from my previous research relating to the supports on which the works were found (walls, trains, tunnels, etc.) as well as the types of graffiti (bombs, throwies, pieces, characters, etc.). These categories and the resultant taxonomy of terms are explained more in my previous research (Graf 2018), though I will not discuss these results in this short paper. I also began to code works for visual themes relating to the pandemic. This part of the coding scheme developed organically and codes were assigned once a theme appeared more than once. Hashtags and visual themes were then examined as separate groups.

Results of Hashtag Analysis

There are many, many idiosyncrasies to be aware of when using Instagram hashtags as research data. One symbol that causes trouble is the underline. The hashtag #graffiti_of_our_world is rather popular on Instagram, with over 600,000 uses as of this writing. On the other hand, the hashtag #graffiti_of_our_world_ is not, with only 21 uses. The former was used twice in this research, and the latter four times. Were these mistakes? Were they used by the same account owners? This has not yet been examined. Another symbol that causes errors in hashtagging is the dash. #covid_19 has nearly 26 million uses today on Instagram, but #covid-19 will simply be recognized by the platform as #covid. The dash is not recognized and therefore the hashtag is truncated. This was seen numerous times in the research, most often in co-occurring

tags that were likely to indicate covid-19. The concept can be successfully represented by #covid_19 and covid19.

The use of foreign languages in hashtags is no problem, for the most part, on Instagram, but it causes headaches with certain software used to analyze data. The free version of software that were immediately available to me gave the option to designate language, but only one language. For this reason, I was forced to delete hashtags in non-Roman scripts, including Russian, Arabic, Chinese, and Japanese. There were 29 individually occurring hashtags removed in this way out of a total of 3,636 in total. They also were not able to accurately differentiate emoji hashtags. Taking the hashtag #😬😬😬 from the data and putting it back into Instagram works very well, resulting in over 47,000 uses across the site, but the software I had at my disposal turned the emojis into placeholder symbols that did not make sense in the analysis and they were therefore also removed. Only twelve hashtags contained emojis, and some also contained text, which was retained after removal of the emojis.

Despite these challenges, I was able to clean the data manually to a point where occurrences of hashtags could be determined with a relative level of confidence for a first analysis. Looking at the total of 300 hashtags that appeared at least twice in the data after the cleaning described above, 209 of these could be considered compound tags. These are hashtags that combine two or more words to represent more than one aspect of a concept, such as coronavirushungary or graffitissavedmylife. A list of all hashtags appearing at least ten times are included below in Table 1.

Table 1. Hashtags and frequencies

Hashtag	
coronavirusgraffiti	152
covidgraffiti	127
graffiti	121
covid19	87
coronavirus	67
graffitiart	67
streetart	46
graff	31
art	26
graffitiporn	26
covid	22
corona	21
instagraff	21
coronavirusart	20
covid19graffiti	18
stayhome	18
urbanart	16
coronagraffiti	15
coronavirusstreetart	15
graffitiletters	15
instagraffiti	14
spraypaint	14
streetphotography	13

sketch	12
graffitiartist	11
graffitiphotography	11
photography	11
streetartphotography	11
coronaart	10
graffitis	10
photooftheday	10
staysafe	10
virus	10

Results of Analysis for Visual Themes

The analysis and coding of visual elements in the works themselves revealed 16 themes in relation to the covid-19 pandemic. These are summarized below in Table 2. There were 281 posts and a total of 449 individual images analyzed. The theme of Covid-19 and the pandemic in general accounted, unsurprisingly, for 190 of the individual images. This was followed by images of masks and images of the virus itself, illustrated by the now-familiar characterization of a round blob with numerous spikes, popularized by C.D.C. medical illustrators Alissa Eckert and Dan Higgins (Giaimo 2020). Protocol messages, advising social distance, staying at home, and washing hands, etc. were featured often, as well as messages of hope, unity, and general well wishes. Political messages and images of toilet paper were also fairly common. Improper masking, wherein the nose was not covered, showed up nine times. Of those nine, one was of former US President Donald Trump with the mask over his eyes and his mouth exposed and wide open. This particular work also earned the Political/Social code.

Table 2. Visual themes and frequencies

Visual Themes	
Covid	190
Mask	74
Virus	65
Protocol	44
Hope/Well Wishes	43
Political/Social	23
Toilet Paper	14
Improper Masking	9
Doctor	7
Thanks	6
Lysol	5
Bat	4
Nurse	4
Hypodermic Needle	3
Bleach	2
Purell	2

Comparing the list of hashtags and the visual themes does not show much conceptual overlap, beyond references to Covid-19, the virus, and the protocol message to stay home. Further analysis is required of the long tail of lesser used hashtags for

evidence of more overlap, as well as comparison with prior research on facets of the works for description.

Conclusion

This research was an exercise in manually gathering and analyzing Instagram posts relating to graffiti art and the Covid-19 pandemic. The project demonstrated that manually examining Instagram posts is possible if the data set is relatively small. It also highlighted the difficulties associated with manual research using hashtags that include various languages, scripts, and symbols. These difficulties cannot be discounted, as they ultimately color the results of analysis.

There were a number of questions that could be explored, or analysis of current results probed for much more refined results. More comparison between the taxonomy of descriptive facets found in Graf (2018) and the simple term tallies herein would prove useful to show whether or not there are similarities in the facets employed for graffiti art organization between website and blog platforms and what is taking place on Instagram within hashtags. This type of comparison would be valuable because the previous research was based on graffiti art image collections managed or curated by a subset of individuals, whereas anyone and everyone can post and tag graffiti art photographs on Instagram. If the two types of organization are similar, this could further support or refine the taxonomy for description of graffiti art images.

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