Gamergate: Predicting the Present

Obama's election led to a surge in the white nationalist movement. Trump's election seems to be a response to that. (Stephens-Davidowitz 2017, Loc. 1689)

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In August of 2014 a disgruntled ex-boyfriend of a female game designer posted a vicious diatribe on the net accusing her and the gaming media of corruption. (Quinn 2017) This launched a culture war in the gaming community that played out on Twitter and elsewhere under the rubric #Gamergate. In October, realizing how significant this controversy was to digital culture, a digital humanities team at the University of Alberta started scraping, archiving and analyzing tweets with the #gamergate hashtag.¹ This paper will present key results from the study of the the over 11 million tweets gathered. Specifically, the paper will,

- 1. Provide a brief background to the project and Gamergate,
- 2. Discuss the archive developed and our reasons for restricting access to materials, and
- 3. Discuss some results from our analysis of the data.

1. Background

The Gamergate culture war is not over and it is not likely to disappear soon. If anything, it energized campaigns in other fields like science fiction (Wallace 2015) and superhero comics (Rivera 2015.) As one of the most virulent and explosive culture wars around women, harassment and the culture of gaming it has received attention in the public press and in game studies, but it might also be a watershed in populist consumer tactics and ideology. Online tactics pioneered by Anonymous for left-wing political action (Coleman 2014) have been adapted and used with a vengeance by the Alt-Right. While the traditional media may lean left, the Alt-Right exploits new media from Twitter to YouTube creating a polarization not only of politics, but media. Progressive voices are not present to the same degree in the new channels where many get their information. For this reason it is important to develop digital humanities methods that can ethically engage with current new media as the Documenting the Now (docnow.io/) and MassMine (massmine.org/) projects do.

2. Development of the Archive

The Gamergate Reactions archive was developed by a team at the University of Alberta starting in October of 2014. We initially were scraping both Twitter and 4Chan, but decided to delete the 4Chan materials due to the toxicity of the materials. We simply couldn't justify archiving for posterity materials that contained, among other things, toxic images of colleagues in the game

¹ The Gamergate Reactions archive is at the U of Alberta Dataverse http://dx.doi.org/10.7939/DVN/10253.

studies community. Every project needs to set a boundary and we decided to stop gathering materials after the Trump election in November of 2016. The archive thus runs from partway through October of 2014 to the end of November 2016 (Suomela et al. 2019).

We are not the first, not we hope, the last to analyze #Gamergate Tweets. Baio (2014) analyzed a set of more than 300,000 over three days in October of 2014. He came to the conclusion that there were two communities talking past each other.

This network visualization is as good a metaphor as any for #Gamergate. Two massive, impenetrable hairballs of people that want little to do with one another, only listening to their side and firing volleys across the chasm. (Baio 2014)

3. Results

To study the corpus we extracted the text only of the Tweets into both monthly documents without the retweets. This was done to both reduce the size of the corpus and to focus on the discourse. Thus organized we had a collection of 28 documents of a total of 338 MB. This corpus in turn was loaded into and indexed by a local version of Voyant Tools (voyant-tools.org).²

Once indexed we used Spyral (voyant-tools.org/spyral), an extension to Voyant that combines the ability to program in JavaScript in a notebook-style development environment with the ability to call Voyant and load tool panels for use in the notebook.³ This allows us to keep track of the parameters used in getting results.

² The version you run locally we call Voyant Server and it can be downloaded from Github, https://github.com/sgsinclair/VoyantServer . Voyant Sever allows you to increase the RAM used in the indexing and analysis which makes it possible to process such a large corpus. The hosted version at http://voyant-tools.org can't handle such a large corpus.

³ The Spyral environment is still in beta and not documented. It is inspired by notebook programming environments like Mathematica and Jupyter IPython. Unlike Jupyter, however, notebooks are stored with the Voyant corpora they use on the sever, whether hosted or local. You can see an example notebook with some documentation at "The Art of Literary Text Analysis with Spyral Notebooks", https://voyant-tools.org/spyral/alta.

3.1 Document Similarity

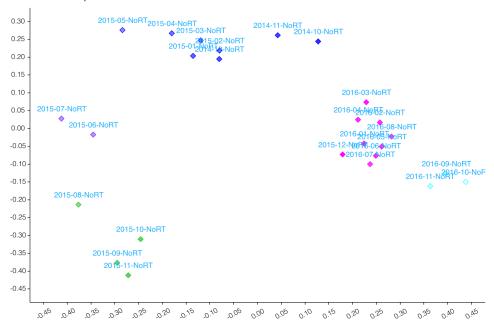


Figure 1: Document Similarity Scatterplot of Monthly Documents

The first result seen in Figure 1 shows how the documents cluster based on high frequency words (with a list of custom stopwords removed.) This plot shows what we could call a set of phases in the evolution of the discourse around #gamergate. Depending on how many clusters one asks for one can get a sequence of phases including:

- 1. October 2014 to May of 2015 (8 months)
- 2. June and July of 2015 (2 months)
- 3. August to November 2015 (4 months)
- 4. December 2015 to August 2016 (9 months)
- 5. September to November 2016 (3 months)

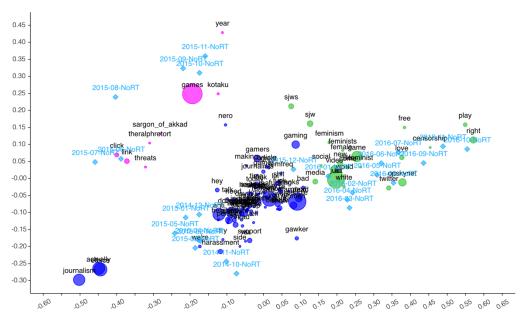


Figure 2: Correspondence Analysis

In Voyant one can also get a plot generated by multiple correspondence analysis which can be explored to get a sense of which words cluster with which documents. Figure 2 shows a trimmed visualization in the sense that we trimmed many of the outlying terms. Notice the terms "journalism", "ethics", and "actually", for example, in the lower left.

Using the Document Terms tool in Voyant one can then get terms that are most frequent for each month in comparison with the corpus as a whole (using tf-idf.)⁴ Eliminating stopwords one can create a ranked list of the terms for each month organized by phases. See Appendix 1 below for a table of ranked high frequency content words across the months.

Using the interactive correspondence analysis plot and the ranked words we can develop hypotheses about the evolving themes over the 2+ years.

3.2 Actually It's About

One of the main debates in Gamergate was the issue of what it was about. As mentioned above, "journalism", "ethics", and "actually" show up associated with the early months of the gamergate discussion. Another word, "about", which was in our list of stopwords also features in the early months. We can speculate that in the months up to May/July 2015 and then dropping out there was a discussion about what Gamergate was "about". Looking at the language used one can find repeated claims to the effect that its "about ethics in game journalism" or not. We believe this is a period where there are both gamergaters and antigamergaters debating what the movement is about. (There also seem to be bots generating random statements about what Gamergate is about.)

⁴ tf-idf stands for term frequency-inverse document frequency.

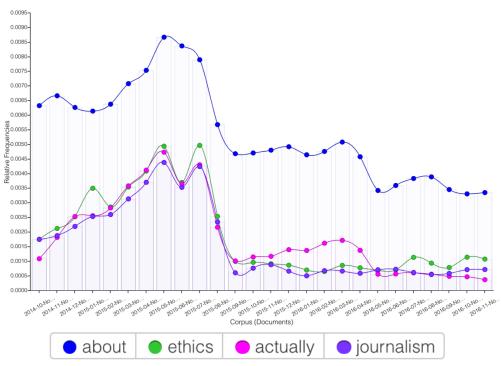


Figure 3: Actually it's About Ethics in Journalism (or not)

It should be noted that, despite the repeated assertion that it was about ethics in game journalism, many in the Gamergate community stayed focused on a small number of prominent feminist critics of sexism in game culture including Anita Sarkeesian of Feminist Frequency (feministfrequency.com/) who produced critical videos like the "#Tropes Vs Women In Video Games" that seemed to drive some Gamergaters into a frenzy.

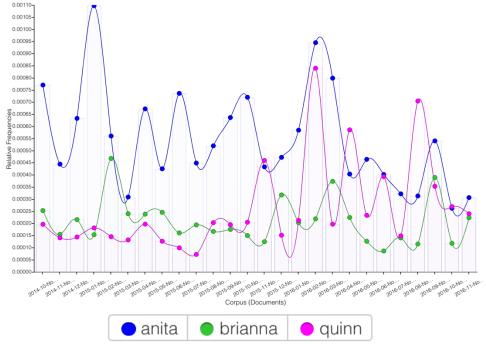


Figure 4: Anita, Brianna and Quinn

For many the focus on women was evidence that Gamergate was cover for the harassment of critical feminist voices. The harassment documented was vicious and unrelenting. (See Quinn 2017, for example.) Here is a collection of threatening tweets published in *Business Insider* (Edwards 2014).

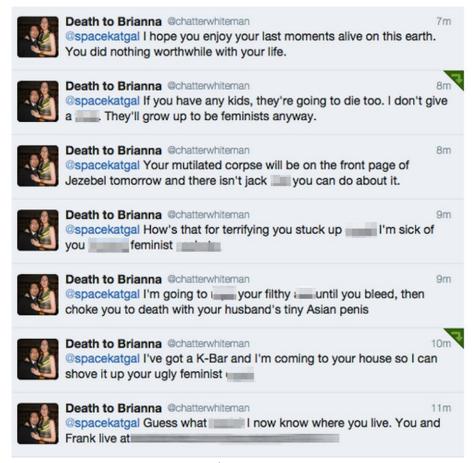


Figure 5: Threats on Twitter

3.2 Feminists and Social Just Warriors

In addition to feminist critics, the general issue of social just warriors (sjw) and feminism became an issue for Gamergate community. We believe that after the early phases when what Gamergate was about was discussed, most of the anti-gamergaters dropped out leaving the Gamergaters to self-consciously form a community. This community partly saw itself in terms of what it was against, like the feminists and social justice warriors.

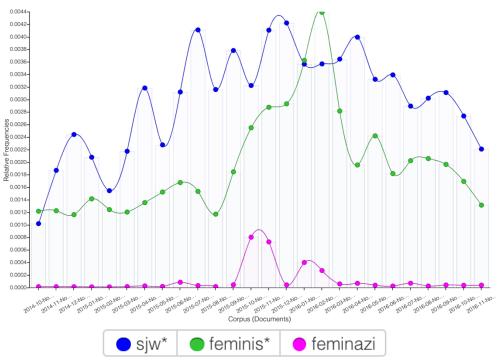


Figure 6: Social Justice Warriors and Feminists

The community, if we can call it that, also saw itself in positive terms. They identified as gamers and they deliberately used the hashtag #OpSKYNET (Operation Skynet, a reference to the Terminator movie series) to connect into a community. If #gamergate was the issue, #opskynet was the emergent community formation.

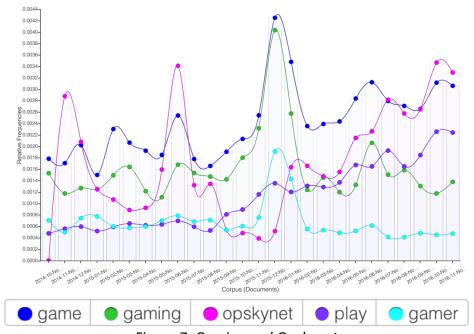


Figure 7: Gaming and Opskynet

3.3 Trump and the Election

Finally, in the months leading up to the 2016 US Presidential Election we see the Gamergate community shift to discussing ideology, Trump, the Alt-Right and Clinton. Our interpretation is that the Gamergate community formed and self-conscious in late 2014 to early 2015 then started flexing its muscles in various campaigns. These campaigns included both the less public harassment campaigns aimed at critics like Anita Sarkeesian, and the more public economic campaigns to put pressure on game journalism they felt was not sympathetic. These campaigns borrowed tactics pioneered by groups like Anonymous (Coleman 2014). Finally, they turned their attention to the 2016 election and got behind Donald Trump.

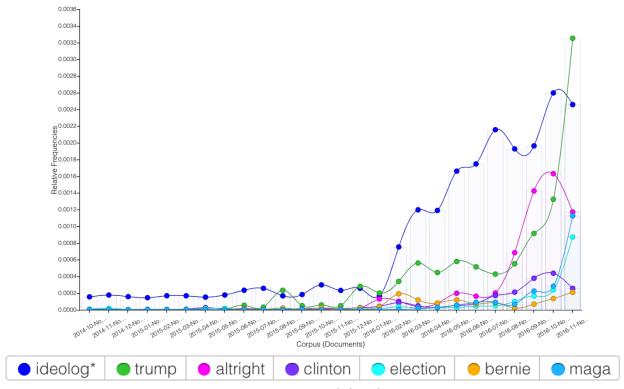


Figure 8: Trump and the Election

4.0 Word Networks

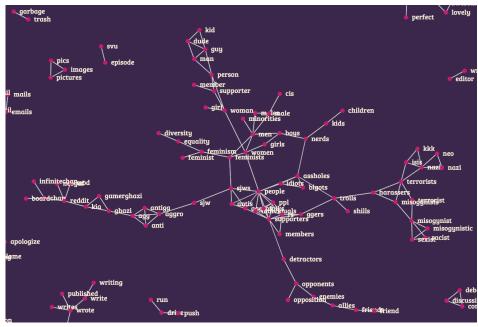


Figure 9: Word2Vec Network of Words around People

In addition to indexing the collection in Voyant we also experimented with Word2Vec, an AI technique for vectorizing words. In our case we created two models, one for the first half of our corpus and one for the second so that we could see the differences between the two periods. We use the models to explore word similarity. We also created two social network graphs of the words (one from the first model and one from the second.) In Figure 9 one can see a social network of words that are connected. For each word, the code searches the most similar words (within the vocabulary set) and, if the similarity is above the set threshold (0.6, in this case), then between the two words there is a link. The network of connected word is then graphed so we can explore the networks of connected words. Whenever there is a link, there is a strong similarity, but the property is not transitive. "People" is connected to both "sjws" and "idiots" but that doesn't mean that "sjws" are idiots. These networks are more networks of associations. We are now exploring how we can use these Word2Vec models to see how the language around #gamergate evolved over time.

5. Conclusions

How can digital humanists contribute to the critical study of contemporary culture? What are the ethics of engaging in contemporary debates though archiving and big data techniques? Archives are tools of interpretation and their design and control influences interpretation. If the question of what gamergate was about remains relevant then archives of related data and interventions will become increasingly important to retrospective historical interpretations. In fact, we have seen the gamergate community both create their own archives to manage their reputation and we have seen them target critical academics, especially those associated with the Digital Games Research Association (Straumsheim 2014). In the face of an antagonistic community engaged in a protracted battle over interpretation we need to be far more explicit about our ethical commitments. In this paper we are "predicting the present" (Varian 2009) as

we document it. Perhaps it would be more accurate to say that we are negotiating how the present will be interpreted. For this reason we need to pay attention to the ethics of our interventions (Suomela et al. 2019) and to that end believe that an ethics of care (Held 2006) provides an appropriate ethic for imagining how to engage presents like Gamergate.

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Appendix 1: Ranked High Frequency Month Words

Oct-14	Nov-14	4 Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	6 Nov-16
people	people	games	games	people	people	actually	ethics	notyourshield	notyourshield	notyourshield	games	games	games	games	game	just	just	just	just	just	just	just	right	right	people
notyourshield	notyourshield	c people	notyourshield	games	actually	ethics	actually	games	games	games	daylightsavin	daylightsavin	daylightsavin	game	just	twitter	people	people	admits	admits	admits	admits	just	people	just
ust	just	anti	people	just	ethics	journalism	journalism	ethics	ethics	spjairplay	news	news	news	gaming	games	like	like	like	game	game	opskynet	like	people	just	right
ike	like	just	ethics	like	games	people	games	actually	actually	daylightsavin	india	just	india	just	people	people	game	game	like	games	game	game	game	opskynet	opskynet
anti	anti	notyourshield	just	ethics	just	just	people	journalism	journalism	news	just	people	just	people	like	game	gawker	admits	people	like	games	opskynet	opskynet	game	trump
'm	opskynet	like	like	actually	notyourshield	games		opskynet	daylightsavin	india	people	india	like	like	gaming	games	admits	games	games	people	like	people	like	fall	games
games	games	daylightsavir	anti	notyourshield	like	like	like	people	news	just	like	sxsw	people	video	gameart	sjw	games	sjw	opskynet	opskynet	people	gawker	alt	games	alt
hink	i'm	actually	actually	journalism	journalism	calgaryexpo	anti	daylightsavin	people		anti	like	game	anti	github	opskynet	actually	i'm	online	gaming	online	anti	online	culture	game
women	ethics	ethics	journalism	anti	anti	i'm	notyourshield	just	just	ethics	game	game	gaming	gamers	kickstarter	actually	sjw	opskynet	reminder	video	reminder	online	games	alt	left
game	journalism	journalism	daylightsavin	game	i'm	anti	i'm	news	gawker	like	i'm	anti	i'm	gamer	gamersunite	feminism	women	sjws	self	online	self	games	video	online	culture
know	actually	i'm	i'm	i'm	game	notyourshield	ggindc	like	india	gamergatene	sjws	gaming	sjw	sjw	twitter	i'm		anti	sjw	reminder		reminder	fall	reminder	reminder
ethics	think	opskynet	video	know	want	game	game	gamergatene	like	journalism	notyourshield	promisedland	kotaku	i'm	androidcentr	video	i'm	know	play	self	john	self	reminder	self	online
ournalism	know	game	know	think	gaming	know	news	game	anti	actually	video	i'm	gamers	sjws	video	riptwitter	opskynet	online	hates	hates	aware	hates	self	nerd	junks
media	game	link		women	think	video	daylightsavin	india	sjw	year	know	sjw	anti	want	opskynet	right	anti	play	aware	accusations	accusations	accusations	accusations	accusations	self
good	want	think	think	want	know		opskynet	anti	game	anti	-9		notyourshield	twitter	i'm	know		actually	accusations	aware	ideologues	john	aware	aware	nerd
gamers	good	want	game	gaming	video	women	video	i'm	gamers	bomb	gaming		sjws	women	censorship	play	online	video	john	play	dealing	right	culture	horrible	horrible
want	say	know	link	video	good	news	know	gaming	i'm	i'm	think	video	movie	actually	sjw	new	play	new	ideologues	revolt	revolt	revolt	ideologues	rise	aware
narassment	gamers	click	want	daylightsavir	women	good	think	gamers	video		gamers		know	know	sjws	anti	reminder	good	revolt	ideologues	agent	video	dealing	ideologues	accusations
gaming	harassment	video	good	gamers	time	time	india	video	gaming	video	time	think	video	new	gamer	good	know	reminder	dealing	john	kelly	kelly	play	jesuismilo	dealing
gawker	video	gamers	gamers	pinsofintervie	you're	sjw	good	know	sjws	gamers	good	sjws	good	play	notyourshield	gaming	good	women	kelly	dealing	provocateurs	aware	rise	paxwest201	6 hipster
video	women	good	women	good	shit	want	time	think	know	sjws	right	gamers	shit	think	actually	online	sxsw	hates	agent	kelly	ghostbusters	ideologues	nerd	dealing	altleft
support	time	time	click	srhbutts	make	hate	want	sjw	opskynet	gaming	ggmeetups	click	think	good	right	sjws		self	provocateurs	agent	play	dealing	jesuismilo	hipster	ideologues
right	make	gaming	gaming	time	right	daylightsavin	gaming	sjws	think	stopgamerga	shit	women	time	notyourshield	anti	women	new	think	video	provocateurs	video	agent	paxwest2016	infiltrators	infiltrators
ime	right	right	opskynet	shit	news		women	time	time	opskynet	link	notyourshield	actually	time	new	censorship	self	rapp	new	gawker	twitter	provocateurs	horrible	video	video
ou're	you're	women	new	make	say	gaming	twitter	want	want	know	want	want	want	shit	know	self	hates	gaming	know	love	kia	play	hipster	play	play