

Waiting for Q: An Exploration of QAnon Users' Online Migration to Poal in the Wake of Voat's Demise

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Many controversial and hateful online communities on mainstream social networks get banned due to moderation efforts. One of the platforms known to have taken such measures is Reddit, which banned various communities and users in recent years. Although banning these communities eliminates the problem on one platform, the participants of those communities often tend to regroup on other, laxer alternative social networks. One alternative to Reddit was Voat, a Reddit-like social network that allowed its users to share their controversial ideas freely. Voat bloomed and became more popular with every Reddit ban and, although it had a troubled history, it managed to stay afloat for four years before shutting down in December 2020.

In this work, we investigate the Voat shutdown and how the users of the conspiracy theory QAnon organized their online migration. We find that many users proposed Poal as a Voat alternative, resulting in about half of the QAnon user base of Voat migrating there. In addition, we find that only a few Voat users lost hope close to the end of Voat, turning against Q, while others encouraged their fellow conspiracy adherents to “wait for Q” to tell them where to go. Lastly, we find evidence that shortly after the Voat shutdown, users on Poal (most of them Voat migrants), start discussing and planning the January 6th, 2021 attack on the US Capitol.

Additional Key Words and Phrases: online user migration, deplatforming, QAnon, conspiracy theories, reddit, voat, poal

1 INTRODUCTION

All social networks have rules, terms, and conditions which they expect their user base to follow. Often, users do not follow these rules, which, in turn, requires the content moderators of a platform to take action. Content moderation is the organized governance, detection, assessment, and intervention taken on user-created content or behavior that stands against a platform's rules and policies [16].

A mainstream social network that received much attention due to its communities' hateful speech, self-harm promotion, misinformation, and controversial discussions is Reddit [6]. Hence, Reddit took action by permanently banning (*deplatforming*) a controversial subreddit in June 2014 [14], which featured women being brutally beaten, which was the first ban, followed by many others. Since then, Reddit has continued enforcing this policy on controversial subreddits, resulting in thousands of banned communities [23]. Alas, although somewhat successful for one platform, this practice does not necessarily reduce overall toxicity on the web since researchers demonstrate that many banned communities subsequently migrate to other platforms and, in some cases, exhibit even more toxicity [19].

A platform that many users decided to use as a Reddit alternative after a ban is Voat [30, 34]. Voat was a Reddit-like news aggregator launched in April 2014. Previous work demonstrates that Voat received an influx of user registrations consistently after every Reddit ban [30]. A community that chose Voat was *GreatAwakening* [34], a community devoted to the QAnon conspiracy theory. QAnon is a Donald Trump-supporting conspiracy theory, which claims, among other things, that supposedly pedophile politicians and celebrities are in a war to destroy society and democracy, while Donald Trump fights to expose them [33].

Voat endured several troubles since its conception, and it eventually had to shut down on December 25, 2020 due to financial problems.¹ Voat’s shutdown announcement gave users less than four days to organize their migration. Many users declared that they will open a new account on Poal;² Poal was mentioned more than a hundred times in the comments of the Voat shutdown announcement alone. Poal is, like Voat, a social network that works very similar to Reddit, with discussions being divided into subverses; the equivalent of a subreddit.

We collect data from *QAnon* communities on Reddit, Voat, and Poal, to answer the following research questions:

- **RQ1:** How does user activity and discussion on Voat and Poal change after the announcement that Voat will shut down?
- **RQ2:** What is the sentiment of Voat users regarding Voat alternatives?

Methodology. To answer the first part of *RQ1*, which focuses on the user activity on Voat and Poal, we perform statistical analysis on posts during specific dates discussed in Section 2. For the second part of *RQ1*, which investigates changes in the discussions on Voat and Poal, we perform thematic analysis on popular bigrams and posts created on specific dates in our dataset. To understand which social network alternative to Voat was preferred among Voat users (*RQ2*), we employ sentiment analysis on posts that mention other social networks.

Contributions. This work is the first, to the best of our knowledge, to perform an analysis on Poal. Poal is an alternative social network that looks and functions similarly to Reddit. Also, Poal supports “free speech,” which, similarly to Voat, is expected to attract many fringe and hateful communities. Hence, this work sheds a light on a social network that might host dangerous individuals. Second, we study a *premeditated* online user migration after their previous platform announced it would shut down. More specifically, Voat announced on December 21st, 2020, that it would shut down on December 25th, 2020, which gave Voat users time to prepare and organize their migration, possibly discussing alternatives. Lastly, the findings of our work are aligned with previous works. We find that the user base of a well-known conspiracy, *QAnon*, tends to get smaller with every ban, which is consistent with the findings of Ribeiro et al. [19], whose work focuses on two communities, of which one does not fall within the *QAnon* spectrum (Incels). The contribution of this finding is that even in the case of premeditated and organized online migration, we still notice patterns similar to communities that are different from *QAnon* and had no time to decide on a new home since their platform banned them without warning. At the same time, although only half of the known Voat *QAnon* user base migrated to Poal, it still seems to be far more organized than the *QAnon* user migration of September 12th, 2018, when Reddit banned the largest *QAnon*-focused subreddit, which only allowed 9.7% of the Reddit *QAnon* user base to decide on Voat as their host. Although the Voat shutdown announcement allowed users to plan, not everyone seemed to be on the same page regarding which platform to which they should migrate. Another finding that aligns with previous work is about the danger of the *QAnon* community. More specifically, we find evidence that *QAnon* adherents on Poal, of which half are Voat migrants, start planning the attack on the US Capitol on January 6th, 2021, shortly after Voat shut down. As warned by Papasavva et al. [33], *Q* often called brothers to arms, asking them to overthrow the government. This study adds to the evidence that the US Capitol storm was a premeditated event that was heavily discussed and organized on fringe, alternative social networks.

¹<https://searchvoat.co/v/announcements/4169936>

²<https://poal.co/hot>

#	Date	Event
1	October 28, 2017	Q posts their first Q drop
2	March 14, 2018	Reddit bans /r/CBTS_Stream
3	September 12, 2018	Reddit bans /r/greatawakening
4	December 25, 2020	Voat shuts down
5	January 6, 2021	United States Capitol attack

Table 1. QAnon important dates.

2 BACKGROUND

In this Section, we briefly discuss the history of QAnon and the social networks on which this work focuses.

QAnon. QAnon is a conspiracy theory that originated on 4chan's Politically Incorrect board on October 28, 2017 [33]. The creator of this conspiracy is an anonymous user that used the nickname "Q" for all of their posts, hence the name of the conspiracy: Q from the user nickname and *anon* for anonymous.

The posts that Q made on 4chan and 8chan since then, are referred to by the adherents of the conspiracy as "Q drops." In these cryptic Q drops, Q explains how a network of blood-thirsty pedophile politicians, celebrities, and influential people are part of the deep state: an undercover organization that controls and runs governments worldwide [28]. At the same time, Q gives information to adherents about the great plan of Donald Trump to uncover the deep state and bring its members to justice. Previous works also describe this conspiracy as a *super-conspiracy* theory as it is one conspiracy to rule them all [34]. For example, QAnon also supports the idea that 5G spreads COVID and that Bill Gates supposedly tries to inject microchips in people through vaccinations [17], that J. F. Kennedy Jr. is alive and hidden by the CIA [40], and many more. Notably, "Pizzagate" is the conspiracy that evolved into what is known today as QAnon.³

Since its inception, QAnon has spread on various social networks. After Reddit banned QAnon from its platform [23], reportedly, many users moved to Voat [34]. During that time, the conspiracy grew, even creating its own archiving sites to store information about the conspiracy and Q drops [33], and hosting online forums for adherents to have a "safe space" to discuss their ideas.⁴

Although QAnon is known for various crimes its adherents committed [24], the most well-known QAnon crime was the attack on the United States Capitol [5]. On January 6, 2021, QAnon adherents and Donald Trump supporters stormed the US capitol in an attempt to reinstate Donald Trump as the US president. Shortly after, many mainstream social networks took action to ban QAnon discussions from their platforms [9]. At the same time, other alternative social networks were banned by their hosting providers, like Parler [4].

This work focuses on how QAnon adherents organizing their online migration after a shutdown. To this end, we highlight five major events related to the conspiracy's online evolution, including the creation of the conspiracy on October 28, 2017, the two Reddit bans in 2018, the Voat shutdown in 2020, and the US capitol attack in 2021. Table 1 lists these QAnon important events that we analyze.

Voat. Voat was a news aggregator that operated and looked similar to Reddit, launched in April 2014. Subverses categorize conversations around specific topics on Voat, as subreddits on Reddit. The founders of Voat often promoted their platform as a safe space for users to express themselves

³For more information regarding the Pizzagate conspiracy theory, see [15]

⁴<https://greatawakening.win/>

without the need to be politically correct. Users could view discussions and subverses on Voat without registering, but to participate, they needed to register for an account using a username and password. Overall, Voat provided some form of anonymity and supposedly complete “free speech.”

Voat started gaining more popularity in 2015, a year after being founded, due to various hateful subreddits being banned [2, 30]. Voat had a troubled history with various periods of downtime due to their web hosting service canceling their contract, PayPal freezing Voat’s payment processing services, DDoS attacks, and the influx of Reddit users overloading their limited servers, causing failures [30]. Finally, on December 21, 2020, Voat’s co-founder announced that it would shut down due to a lack of funds. At noon on December 25, 2020, Voat shut down after its co-founder posted a goodbye submission.

Poal. Similarly to Voat, Poal is a Reddit-like, Reddit-alternative social network, launched on April 29, 2018. Discussions on Poal are divided into “subs” but, as with Voat, we refer to them as subverses henceforth for simplicity. The website’s slogan is “Say what you want,” and its mascot is a polar bear. The first ever submission on Poal was on the *s/whatever* subverse with the title: “Free speech is the priority here.” Based on the comments on that first submission, it is evident that the developers or founders of Poal had associations with Voat co-founder (username *PuttItOut*) as they mention his name and how they tried to help his efforts to keep Voat afloat.

Users can register on Poal using a username and a password. There is an option to enter an email for password resetting purposes. Once a member is registered, they need to introduce themselves on the welcome subverse before they can post or comment anywhere else. Usernames on Poal can appear in a specific color based on the user’s level. A user starts from level 0 and can achieve up to level 100. Users can increase their level by gaining points by posting new submissions or commenting on existing submissions often. Users who remain inactive for a long time start losing their level as their points expire. The reason user points expire is, as Poal explains on its user welcome page, “offer something of a reward to the people who contribute a lot to Poal,” and also to “make *shills* easier to spot.” The term *shill* refers to someone who pretends to be a conspiracy believer but is allegedly a spy.

The higher the level of a user on Poal, the more privileges, functionalities, and freedom they have. For example, a level 0 user cannot send personal messages to other people and cannot post new submissions, while level 6 users can post up to 60 submissions per day, level 10 users can create subverses, users at level 30 can report posts, etc. On Voat and Reddit, the downvote button on comments and submissions usually indicates disagreement, whereas, on Poal, it is not used for this purpose. Poal uses the downvote button to indicate that a post is irrelevant to the subverse, or spam, in order to get the attention of high-level users (moderators) to remove it.

3 RELATED WORK

In this Section, we review related work on QAnon and de-platforming.

QAnon. Papasavva et al. [34] study one of the two most popular QAnon subverse on Voat and find that the QAnon subverse became more popular after Reddit banned QAnon communities. In addition, they show that the Voat baseline subverse (*/v/news*) tends to be more toxic than 4chan. In a follow-up study, Papasavva et al. [33] collect all available Q drops and show that Q drops are extremely apocryphal. They also explain that although Q drops are not threatening or toxic, the interpretation of adherents causes threatening posts and toxic behavior.

Priniski et al. [36] analyze 800K tweets discussing QAnon topics and explain that the overwhelming majority of users on Twitter do not create QAnon content but rather disseminate it. Another Twitter study [11] analyzes US Supreme Court-related tweets and finds that QAnon hashtags appear among the top six most popular. Xu and Sasahara [41] study pro- and anti-QAnon users on Twitter,

finding that QAnon user clusters include many bots. They explain that, although Twitter took strong actions to eliminate pro-QAnon discussions from its platform, QAnon continues to evolve and extend its ideas, creating an “umbrella” conspiracy theory, aligned with Papasavva et al.'s [34] findings.

Engel et al. [13] study the early QAnon supporters on Reddit, starting in early 2018. They explain that most of the early QAnon users only started being active on Reddit after the emergence of the conspiracy theory. After the Reddit bans, the QAnon users that remained active on Reddit mostly engaged with a wide range of subreddits that focused on matters other than QAnon but were sympathetic towards the conspiracy. Paudel et al. [35] collect Twitter and Reddit posts discussing 189 known conspiracy theories. They find that conspiratory communities tend to investigate and develop their theories, while non-conspiratory communities mostly discuss conspiracy theories without creating new ideas.

Aliapoulos et al. [4] collect and publish 120M posts from Parler between 2018 and 2020, explaining that discussions on Parler focus on QAnon. Bar et al. [7] use this public Parler dataset to profile the characteristics of QAnon adherents on the platform. They find that more than 5% of the Parler user base publicly supports the conspiracy and that those users tend to be part of larger clusters (followers and followees), impacting Parler more. Sipka et al. [38] collect data from Parler, Twitter, and Gab⁵ to compare the discourse around the QAnon hashtag (#QAnon), a month after January 6, 2021, US capitol attack. They show that Twitter and Parler lead the distribution of posts with anti-social language, while Gab posts are the most hateful. Lastly, they explain that Twitter tends to be more critical towards QAnon, whereas Parler's and Gab's user base strongly supports QAnon and Donald Trump.

Hoseini et al. [21] analyze QAnon discussions on Telegram, finding that the German language is the most popular in QAnon groups and channels on Telegram. They add that German and Portuguese posts are more toxic than English posts. Finally, Zihiri et al. [43] analyze 3.5M messages on Telegram from QAnon, far-right, and far-left communities. They show that QAnon is dissimilar to both the far-right and the far-left but mostly shares interests with the far-right.

Overall, existing research mostly focuses on single communities or often attempts to characterize the conspiracy and its adherents. In this work, we use data from three different, although functionally and aesthetically identical platforms to understand how the activity of QAnon supporters changed over the years after various bans and a platform shutdown.

Deplatforming. Previous works [25, 39] show that although bans prove to be sufficient to eliminate specific discussions, behaviors, and users from one platform, those users tend to migrate to other platforms and become more toxic [3]. More specifically, Ribeiro et al. [20] show that although Reddit moderation measures cause only fractions of the banned user base to migrate to other platforms, leading to reduced activity and newcomers, at the same time, the new smaller community that migrated to other platforms tends to be more toxic than the banned one.

Newell et al. [32] study the 2015 Reddit bans on hateful communities to analyze changes in user behavior. They find that a small migration took part during the summer of 2015 and explain that a diverse ecosystem of social network alternatives emerged to suit different user preferences. Chandrasekharan et al. [10] collect 85M posts from Reddit's TheRedPill and The_Donald subreddits to examine the quarantine's effects on them. They find that quarantining subreddits makes it difficult to recruit new members, but the existing user base of those communities remained as toxic and racist as before. Habib et al. [18] explain that Reddit administrators struggle to prevent or contain toxic activity. They add that proactive identification strategies could potentially facilitate

⁵Gab is a social network alternative to Twitter [42].

early interventions, which is more appropriate than banning or quarantining towards mitigating problematic discourse.

Ribeiro et al. [19] collect data from Reddit’s The_Donald and Incels that reportedly migrated to their standalone platforms. The authors explain that the activity of these two communities on their new platforms was significantly decreased compared to the activity on Reddit. Notably, the authors explain that The_Donald community demonstrated higher toxicity on their new platform, similar to the findings of Ali et al. [3], which focuses on Gab users that were suspended from Twitter and Reddit.

Our work differs from previous research in that we study a platform’s shutdown where its users were informed beforehand and had time to organize an online migration. We are interested in understanding where the Voat QAnon-focused user base intended to migrate. Also, we focus on three functionally and aesthetically similar social networks to show how the overall QAnon user base has changed over the years. Furthermore, to the best of our knowledge, our work is the first to study Poal.

	Community	# Submissions	# Comments	Date Span
Reddit	/r/greatawakening	79,952	926,676	9 Jan 2018 - 19 Aug 2018
	/r/CBTS_Stream	30,176	267,744	20 Dec 2017 - 28 Feb 2018
Voat	/v/news	176,948	1,397,955	1 Oct 2016 - 25 Dec 2020
	/v/GreatAwakening	100,699	982,702	9 Jan 2018 - 25 Dec 2020
	/v/QRVoat	185,929	2,225,702	22 Sep 2018 - 25 Dec 2020
Poal	/s/News	26,919	74,431	29 Mar 2018- 6 Sep 2021
	/s/GreatAwakening	1,889	2,032	13 Jul 2019 - 6 Sep 2021
	/s/QPatriots	5,930	22,167	09 Feb 2021 - 6 Sep 2021
	/s/QStorm	19,966	109,358	12 Jul 2019 - 6 Sep 2021

Table 2. Number of submissions and comments collected from Reddit, Voat, and Poal.

4 DATASETS

For our analysis, we collect data from Reddit, Voat, and Poal. We attempt to show how QAnon conspiratory communities managed to regroup and stay active after being banned from one social network and having their second one shut down. In this Section, we detail the three datasets used in this work. Table 2 lists the dates of our dataset and the number of posts per community.

Reddit. We collect our Reddit dataset from Pushift [8]. We search Pushift for all the data regarding three popular QAnon-focused subreddits, namely, /r/greatawakening, /r/CBTS_Stream, and /r/The_GreatAwakening [37]. In this work, we only focus on /r/greatawakening and /r/CBTS_Stream since the /r/The_GreatAwakening dataset on Pushift is not complete; it consists of only 1.4K submissions, with no comment data.

Voat. Our Voat dataset includes data from /v/GreatAwakening and /v/QRVoat, the two most popular QAnon subverses on Voat, and /v/news, which we use as a baseline subverse to compare the activity of Voat overall later on. We collect the entire history of these three subverses from the public Voat dataset published by Mekacher and Papasavva [30]. We only consider data on /v/news created between October 2017 and December 2020 since any activity before the QAnon conspiracy is outside the scope of this work.

Poal. Since there is no previous research on Poal or publicly available datasets, we implement a custom crawler to collect Poal data. To this end, we followed the methodology in [34] and

implemented a DOM-tree scraper using HTTP requests and BeautifulSoup to visit Poal subverses and collect data.

Our online scraper operated between July 1, 2021, and September 7, 2021. Poal shows submissions and comments made on its platform without the need for registration. Therefore, our scraper could go back to the beginning of every subverse and collect data from then on. To guarantee our dataset's completeness, our scraper was following a list of subverses that it had to collect, and it would go through the entire history of every subverse on that list in a loop, after the list of subverses was exhausted, repeating this process constantly, until the last day of collection, September 7, 2021. This way, our scraper visited submissions that it had already collected, looking for new comments, if any. To identify QAnon subverses on Poal, one of the authors visited the full list of Poal subverses and checked every subverse for possible QAnon association.⁶ After careful inspection, we found tens of subverses devoted to QAnon, but they were mostly inactive, with less than a weekly submission and virtually no comments. To this end, we focus on three active Poal QAnon-focused subverses, namely /s/GreatAwakening, /s/QPatriots, and /s/QStorm. As a baseline, we also collect /s/News.

Ethical Considerations. For our Reddit and Voat datasets, we use publicly available data already published, discussed, and analyzed in previous works. Regarding Poal data collection, we followed the Terms and Conditions of the site and made no attempt to overload their services. In addition, the collection of our Poal dataset and the use of the public Reddit and Voat datasets was approved by UCL's department of Security and Crime Science ethics committee. We note that we make no attempts to de-anonymize users, and we use encryption mechanisms to protect users' privacy when the analysis is focused on specific usernames, as shown later in Section 5.2.

5 A LONGITUDINAL ANALYSIS

In this Section, we employ various analyses to showcase how the activity of the conspiracy adherents evolved over the years across the three platforms.

5.1 Temporal Analysis

To visualize the activity of QAnon adherents, we plot the number of submissions and comments on Reddit, Voat, and Poal in Figure 1. Note the log on the x-axis, along with red vertical lines marking the important dates shown in Table 1. In Figure 1(a), we plot the number of submissions on the three platforms. It is apparent that the conspiracy started discussions on Reddit on December 20, 2017, which is when the first submission appears on /r/CBTS_Stream. The subreddit /r/greatawakening appears shortly after, on January 9, 2018, which is the same date that /v/GreatAwakening makes its appearance on Voat as well.

The /r/CBTS_Stream subreddit went silent on February 28, 2018, since Reddit quarantined it before banning it on March 14, 2018. From March 2018 until August 2018, the activity of /r/greatawakening increased tenfold, likely due to /r/CBTS_Stream users turning to that subreddit for their discussions. On June 7, 2018, /s/GreatAwakening posted its first-ever submission on Poal.

On August 19, 2018, Reddit quarantines /r/greatawakening before banning it on September 12, 2018. We notice that immediately after /r/greatawakening is banned, the activity on /v/GreatAwakening increases by approximately ten times, from approximately 90 comments daily to more than 1K, on average, every day after the ban (Figure 1(b)). Notably, ten days after the /r/greatawakening ban, /v/QRVoat is created on Voat, posting more than 2.3K comments, on average, every day; more than double the pre-existing QAnon subverse on Voat. Overall, it is clear that /r/CBTS_Stream, /r/greatawakening, and /v/GreatAwakening needed some time before becoming popular. On the

⁶<https://poal.co/subs>

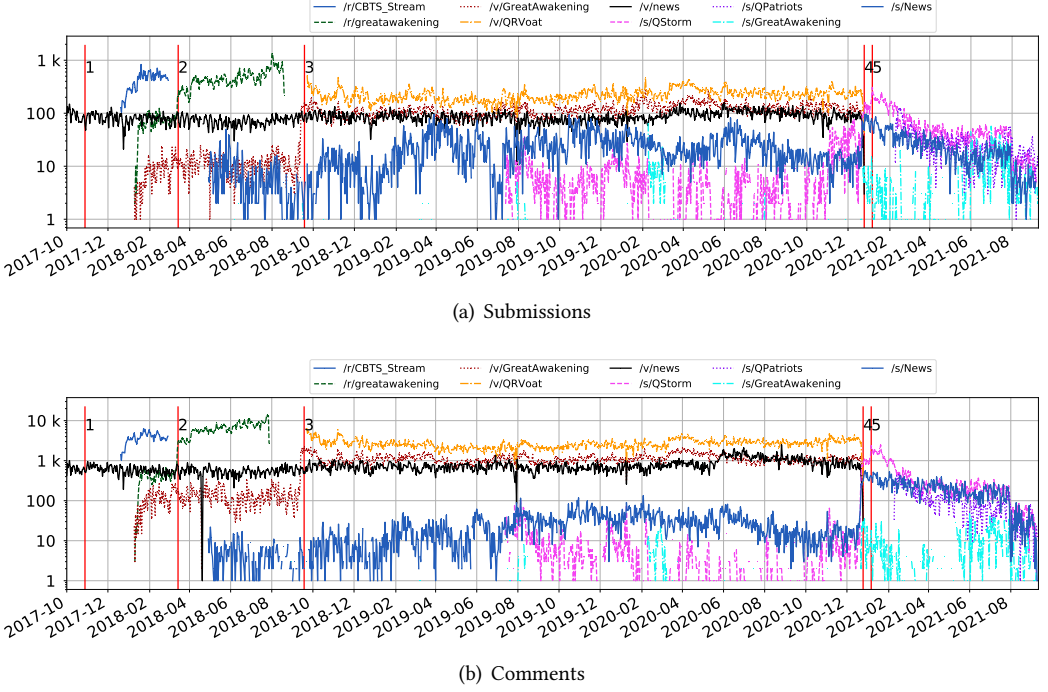


Fig. 1. Number of (a) submissions and (b) comments per day on Reddit, Voat, and Poal.

other hand, /v/QRVoat immediately takes over QAnon discussions on Voat since the first day it was created. This is a clear indication of coordinated action.

Turning to Poal, the subverse /s/QStorm appeared for the first time on September 2, 2019. It gained more popularity near the end of 2020, especially after the co-founder of Voat announced that the platform would shut down (event 4 in Table 1). After Voat shuts down, the activity on /s/QStorm and /s/GreatAwakening starts rising. Lastly, /s/QPatriots appears on Poal on February 9, 2021, and seems to be the second most popular subverse on the platform after /s/QStorm. Similar to /v/QRVoat taking over /v/GreatAwakening on Voat, /s/QStorm seems to take a second best place on Poal even though /s/GreatAwakening existed since June 2018.

Overall, we notice that the activity of Voat’s /v/GreatAwakening increased by ten times since the Reddit bans, but more importantly, /v/QRVoat appeared long after /v/GreatAwakening and takes over as the most popular QAnon subverse on Voat. Similarly, /s/QPatriots appears after /s/QStorm and /s/GreatAwakening but is almost as popular as /s/QStorm from its first week. Overall, this activity shows that the creation of specific communities was planned.

Regarding the baseline subverses /v/news and /s/News, we notice that the Reddit bans did not affect Voat’s baseline, but that is not the case for /s/News, which appears to be more active after Voat shuts down.

5.2 User Activity

Taking a closer look at user activity, we plot the unique number of submitters and commenters per day on Voat /v/news, and QAnon subverses, along with Poal /s/News and QAnon subverses in Figure 2. We omit Reddit data from this figure for better visualization. Again, the vertical red lines in the figure indicate the events listed in Table 1.

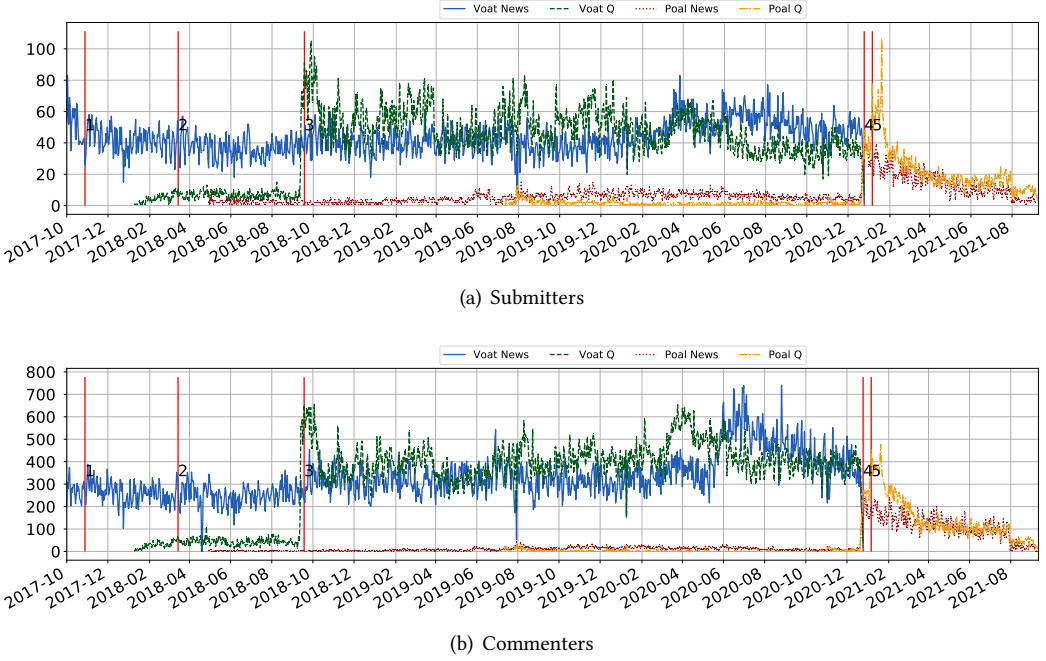


Fig. 2. Number of (a) submitters and (b) commenters per day on Voat and Poal.

Examining QAnon subverses on Voat (*Voat Q* in Figure 2(a)), we note that the range of daily submitters before September 11, 2018, is between 1 and 13. Immediately after the last QAnon subreddit was banned on September 12, 2018, the average number of daily submitters on Voat QAnon subverses is 43.2. Notably, the baseline subverse */v/news* receives more popularity after the Reddit bans, but it does not last for too long. Overall, the average number of */v/news* submitters was 42.7 before the Reddit bans and rose to 43.2 after the bans, indicating virtually no change. Turning to previous work [30], it is unsurprising that */v/news* receives virtually no additional activity since many fringe communities on Voat refrain from engaging with other communities.

Overall, we notice a peak in */v/news* activity between May 2020 and October 2020. This is due to new and many old users discussing various news and events taking place during that period, including gun control in Canada [31], the COVID lockdowns, Donald Trump denying links to Venezuela armed raid by US citizens [26], the George Floyd Black Lives Matter protests [12], etc. Considering the worldwide contemporaneous lockdowns, it is not unexpected to observe a peak in user activity during that period.

Closer to the end of Voat in December 2020, contrary to our expectations, the numbers of both unique submitters and commenters do not change much. More specifically, we expected “lurkers” to show up and comment on their plans of finding a new platform, but this was not the case. On the contrary, the activity of unique submitters and commenters per day on both QAnon and baseline subverses on *Poal* peaked immediately on December 21, 2020, when the Voat co-founder announced the Voat shutdown. Specifically, the average number of submitters on the *Poal* QAnon subverses was 4.8 and peaks at 239.7 per day after the announcement, while on */s/News*, the average unique submitters per day were 4.8 and after the Voat shutdown, it rises to 25.3.

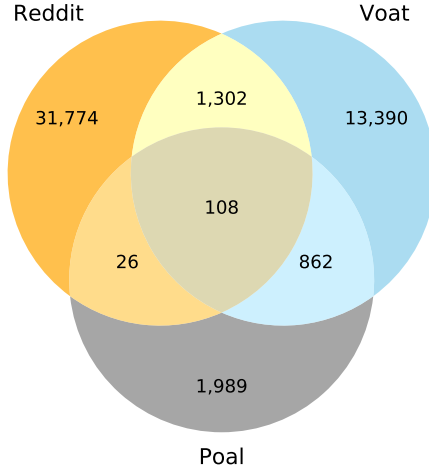


Fig. 3. Intersection of usernames on Reddit, Voat, and Poal QAnon communities.

Username similarity. Motivated by our findings in Figure 2 above, we now compare the usernames across all three platforms to detect any exact matches. In Figure 2(a) we observe a huge peak in new submitters on Poal on the day Voat announced the shutdown (event 4 in Table 1). We hypothesize that many users from Voat rushed to make a new account on Poal since it was mentioned frequently after the Voat shutdown announcement, and Poal is a social network whose features and functionalities are similar to Voat.

For this analysis, we plot the case insensitive, *identical* username intersection Venn diagram in Figure 3. We note that we only focus on identical usernames among Reddit, Voat, and Poal to measure the number of users that created an account, or started being active on Poal, shortly after the Voat shutdown announcement. To protect the anonymity of users, we encrypt all usernames across all three platforms using the hash function *SHA256*.⁷ This guarantees that we do not track usernames across platforms but rather demonstrate the existence of identical usernames across them.

Overall, we find 108 usernames that are exactly the same across all three platforms. Also, Reddit and Voat share 1.3K usernames (9.7% of Voat QAnon engaging users), while Voat and Poal share 862 usernames (43.3% of Poal QAnon engaging users). Although the username matches are not significant between Reddit and Voat (9.7%), it is clear that Poal attracted a noteworthy amount of users from Voat (more than 43% match). This analysis indicates that about half of the users on Poal had an account on Voat. Notably, our findings are aligned with previous work [20] that shows how activity on new platforms or the appearance of newcomers decreases after a ban. More specifically, looking at the face value of the numbers in Figure 3, if we consider that Reddit’s QAnon user base was 31.7K, then we see that Voat only had the 42.1% of QAnon users. Then, after the Voat shutdown, we observe that Poal only managed to attract 14.8% of users compared to its predecessor, Voat. Overall, we do notice that the QAnon communities tend to become smaller with every ban or, in this case, a shutdown.

⁷<https://docs.python.org/3/library/hashlib.html>

Voat Q before		Voat Q after		Voat News before		Voat News after	
Bigram	<i>f</i>	Bigram	<i>f</i>	Bigram	<i>f</i>	Bigram	<i>f</i>
president trump	207	zee bad	214	account deleted	33	stimulus bill	5
martial law	205	bad jew	211	covid vaccine	15	still beating	5
deep state	199	merry christmas	195	prc government	13	comment section	5
supreme court	131	god bless	128	united state	11	covid vaccine	4
united state	131	wwg wga	90	covid death	9	account deleted	4
john robert	127	q post	78	san francisco	9	election fraud	4
election fraud	120	gonna miss	77	trade fraud	7	opinion analysis	4
lin wood	115	greatawakening win	71	opinion analysis	6	analysis misleading	4
fake news	105	q larp	62	analysis misleading	6	misleading title	4
q post	104	free speech	55	misleading title	6	open source	4

Table 3. Popular bigrams on Voat QAnon subverses and news subverse five days before and five days after the Voat shutdown announcement.

6 HOW DO TOPICS CHANGE ON VOAT AND POAL?

Following the analysis in Section 5.1, we investigate how the discussions on Voat and Poal changed throughout the period of the Voat shutdown announcement. To do so, we perform bigram and statistical analysis. We note that, for Voat, we consider data five days before the Voat shutdown announcement (between Dec 16 and Dec 20) and data five days after the announcement (between Dec 21 and Dec 25). For Poal, we consider data five days before the Voat shutdown announcement (between Dec 16 and Dec 20) and data ten days after the announcement (between Dec 21 and Dec 30). We extend the data we use for Poal since we want to capture discussions possibly related to Voat shutting down and users being active on Poal after migrating there.

For this analysis, we first tried LDA and BERT topic modeling, but due to the small amount of content during those ten-day periods, our analysis did not yield coherent results regarding shifts in topic discussions; hence we turned to bigram and thematic analysis.

6.1 What are Voat Users Discussing?

In Table 3, we list the ten most popular bigrams on /v/GreatAwakening, /v/QRVoat, and /v/news before (*Voat Q before* and *Voat News before* on the table), and after (*Voat Q after* and *Voat News after* on the table) the Voat shutdown announcement (Dec 16 - Dec 20). The discussions before the Voat shutdown announcement focus on expected QAnon topics based on previous work [33, 34], like “president trump,” “martial law,” “deep state,” “election fraud,” and “q posts.”

After the announcement, we notice that the most popular bigram on QAnon subverses is “zee bad.” *Zee* in QAnon communities is a short for *Nazi*. The term *zee* tends to be very popular in QAnon discussions as adherents use it to describe anyone who is opposed to their ideas. This is quite surprising and contradictory, considering that the conspiracy is a far-right one. We manually inspect our dataset to explain the meaning behind these popular bigrams. In addition to “zee bad,” users also refer to “bad jew” as they blame Jews along with Nazis for taking down Voat. The terms “merry christmas,” “god bless,” “wwg wga,” and “gonna miss” are parts of many posts sharing wishes and last goodbyes with their comrades before the shutdown. Notably, “q post” does not have the same meaning on *Voat Q after* as the one found on *Voat Q before*. The “q post” term on *Voat Q before* on the table refers to actual Q drops, whereas later use of the term on Voat also refers to the *action* of Q posting on Voat to tell users where to go, as Q “supposedly” recommended users to migrate to Voat /v/QRVoat after the Reddit bans. More specifically, many users expect Q to post on Voat or

other platforms to let them know where they should go, as we find many posts explaining: “Q will post on here,” “Wait for Q to post [...] Q recommended QRV.”

The term “q larp” stands for Q Live Action Role Playing. Previous work [34] explains that this term was used to demonstrate that many adherents started losing faith in Q, explaining that Q is just role-playing with them. A manual examination of our dataset aligns with the findings of this study [34]. More specifically, users that are angry with Voat shutting down explain: “*Q-LARP is a proven jewish hoax*,” “*Q-LARP is entirely owned by jews*,” “*Q-LARP exists to create an Orwellian narrative about the bad people being arrested*,” and many more. Although the users that agree with this narrative are but a handful, they created enough content to achieve the top ten most popular bigrams, trying to convince their compatriots that Q will not come to save them now. Finally, the term “greatawakening win” refers to the Voat alternative forum GA.win, and “free speech” appears when users discuss other Voat alternatives like Poal, Parler, and Gab.

Turning our attention to Voat /v/news, we notice that, before the shutdown announcement, users discussed COVID, the government, the US, fraud, and misleading news. After the announcement, discussions are mostly similar, except they include “open source” (referring to alternative social networks) and “still beating” (referring to Voat being alive still).

Poal Q before		Poal Q after		Poal News before		Poal News after	
Bigram	f	Bigram	f	Bigram	f	Bigram	f
president trump	43	merry christmas	111	covid vaccine	5	covid death	9
supreme court	42	president trump	86	robert f	4	merry christmas	9
election fraud	23	election fraud	33	f kennedy	4	covid vaccine	8
dominion voting	20	united state	32	kennedy jr	4	immune system	8
covid vaccine	15	deep state	26	julian assange	4	news network	8
white house	15	electoral college	25	credit score	3	deep state	7
adverse reaction	15	insurrection act	23	billion dollar	3	common cold	7
live tv	14	jan th	23	bill gate	3	america news	7
deep state	14	white house	22	gate vaccine	3	white people	6
insurrection act	13	lin wood	20	gate foundation	3	voat shut	3

Table 4. Popular bigrams on Poal QAnon subverses and news subverse five days before and five days after the Voat shutdown announcement.

6.2 What are Poal Users Discussing?

On Poal, we find expected QAnon discussions regarding Trump, election fraud, and the deep state on QAnon subverses before the Voat shutdown announcement. We also find posts referring to “adverse reaction” and “insurrection act.” Manual inspection of the data posted between December 16 and December 20, 2020, on Poal QAnon subverses, indicates that “adverse reaction” refers to COVID vaccines. The bigram “insurrection act” refers to posts that question whether Donald Trump should invoke the Insurrection Act to arrest the ones responsible for the election fraud, for example: “*We are out of plays here. There is only ONE option left, and that is invoke the Insurrection Act [...] to get our Republic back.*”

After the Voat shutdown announcement, the most popular bigram is “merry christmas;” these wishes come from old users and newcomers alike. Other topics include expected QAnon discussions around “president trump,” “election fraud,” “united state,” and “deep state.”

Disturbingly, the term “*jan th*” appears among the top ten, with 23 mentions. Manual inspection of our dataset indicates that this is due to users discussing plans for January 6, 2021 attack on the

US Capitol. We note that the data used for *Poal Q after* in Table 4 spans between December 25, 2020, and December 30, 2020. Discussions regarding the January 6th US Capitol attack shown here are *premeditation* and *planning* discussions since these discussions took place before the attack. We quote some disturbing comments regarding the planning of the January 6 US Capitol attack here, as posted by users before the attack:

"I thought, it wouldn't start until after Jan 6th, but now it is clear that things are too broken, there seems to be no point in waiting that long any more."

"Trump wants a MASSIVE protest in DC on Jan 6, 2021."

"Jan 6th D.C., Capitol Hill is a party/rally no PATRIOT is going to want to miss!"

"President Trump Calls For Protest in DC on Jan 6., Says 'Be There, Will Be Wild'"

"Jan 6th will be D-Day."

Regarding Poal /s/News, discussions focus on COVID and the Bill Gates conspiracy [17] as the bigrams "billion dollar," "gate vaccine," "bill gate," and "gate foundation" feature prominently. Other discussions focus on John F. Kennedy and his son, Kennedy Jr., not surprising as QAnon adherents believe that Kennedy Jr. is alive and would be the next US Vice-president, along with Donald Trump as President [40]. Users also refer to the founder of WikiLeaks, Julian Assange. Overall, we find that discussions on /s/News tend to be very conspiratory. After the Voat shutdown announcement, discussions focus on COVID, Christmas wishes, American news, and white people. Although in small frequency, the Voat shutdown event also appears in the top ten most popular bigrams on Poal /s/News.

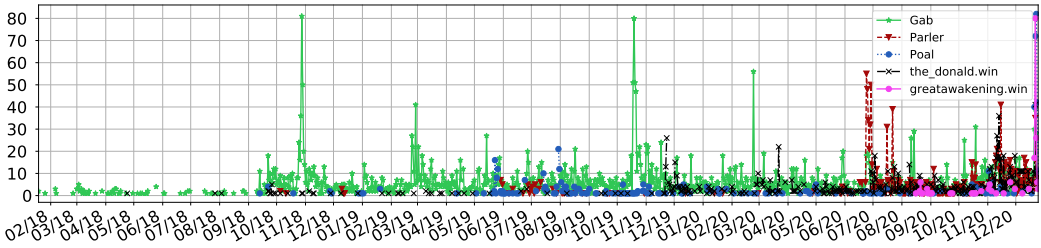


Fig. 4. Number of social networks mentioned on Voat QAnon subservers.

6.3 Mentions to Voat Alternatives.

In our bigram analysis above and via our thematic analysis of posts, we found many Voat posts referring to other alternative social networks. Motivated by that analysis, we plot the daily number of mentions of Poal, Gab, Parler, thedonald.win, and greatawakening.win (referred to as *GA.win* henceforth) over the last six months in Figure 4. We select these five social networks as they are the ones that appear most frequently when we manually inspect our dataset.

Overall, Gab was mentioned 5.2K times, Parler was mentioned 1.3K times, Poal was mentioned 621 times, thedonald.win 1.2K times, and GA.win 181 times. Although Gab is the most popular social network mentioned on Voat, it only rarely appears during the final days of Voat. Notably, Poal is the most popular social network mentioned in comments during the last week of Voat, with 79 mentions on December 24, 2020, alone. During the lifetime of Voat, the other social networks were discussed in general or linked for occasional discussion; however, only Poal and GA.win take the spotlight after the shutdown announcement.

To better understand what the Voat submissions and comments that mention Poal are about, we collect the posts that refer to Poal during the last days of Voat and find the most popular bigrams.

The most popular bigrams on posts mentioning Poal include: “open source,” “destroy voat,” “voat try,” “soap box,” “source decentralized,” “blog diaspora foundation,” “buddypress category,” “user signin,” “try friend,” “free speech,” and “going poal.” Although many users believe that Poal was created to “destroy” Voat, many others support moving to Poal. More specifically, many users mention that they already created an account on Poal and explain how the “user signin” process works, how Poal supports “free speech,” etc. In addition, we manually investigate our dataset and find many posts encouraging users to join Poal:

“Wanted to encourage everyone to head over to poal. It feels like home.”

“HEY GUYS LET’S ALL MIGRATE TO POAL!”

“POAL the Place to Go!”

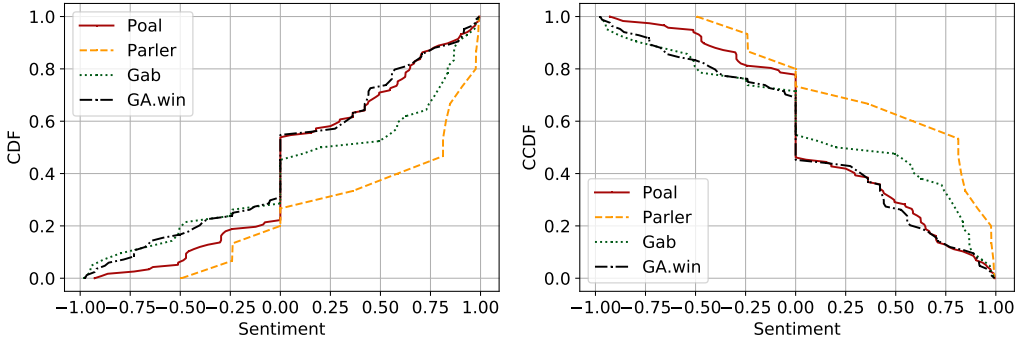


Fig. 5. CDF (on the left) and CCDF (on the right) of the compound sentiment value on Voat discussions mentioning Poal, Parler, Gab, and GA.win.

7 SENTIMENT ANALYSIS

Taking note of how many Voat users urged their fellow “patriots” to join them on Poal (or other alternatives), we perform sentiment analysis to understand the sentiment of Voat users towards the suggested alternative platforms. We decide to use sentiment analysis for this part of our study since users discussing alternatives is a similar concept to users rating products, on which sentiment detection performs well [27].

To this end, we employ a pre-trained VADER sentiment detection model [22] to detect the sentiment of posts mentioning other social networks. The model takes as input a string and responds with four values. *neg* indicates negative sentiment and ranges between 0 to +1, with 0 being the lowest indication of negative sentiment and +1 being the highest indication of negative sentiment. VADER returns the same range for *pos*, which indicates positive sentiment, and *neut*, which indicates neutrality. In addition to these three values, VADER also returns *comp*, which stands for *compound*. The *compound* score is computed by summing the *neut*, *pos*, and *neg* scores of each word in the lexicon of the string and then normalizes it to be within the range of -1 (extremely negative) and $+1$ (extremely positive). This value, *compound*, is the one we rely on to determine whether a post has positive or negative sentiment.

First, we take all Voat posts that mention Poal, Parler, Gab, and GA.win after the announcement that Voat will shut down (December 21, 2020). We focus on these four social networks as they are the ones that came up more often when we manually inspected our QAnon community dataset during the last days of Voat. For posts that mention more than one social network, we break down the posts into sentences and only send to VADER for analysis the sentence that mentions one social

network alternative to Voat. The parsing of the posts mentioning alternative social networks results in 118 Voat posts that mention Poal, 17 posts for Parler, 49 for Gab, and 85 for GA.win. Then, we remove all the links from these posts and feed them to VADER and use the compound score to plot the Cumulative Distribution Function (CDF) and Commentary Cumulative Distribution Function (CCDF) in Figure 5. Overall, 45.7% of the posts (54 posts) that mention Poal have positive sentiment polarity. More specifically, 28.8% of them (34 posts) have compound scores greater than +0.5, which indicates that those posts are very likely to show a strong positive sentiment polarity towards Poal. On the other end of the spectrum, only ~ 8% of the posts (10) indicate a strong negative sentiment towards Poal (meaning a negative sentiment score smaller than -0.5). Regarding Parler, 58.8% of the posts indicate strong positive sentiment polarity (10 posts achieve a compound value greater than +0.5), and 17.6% of them exhibit negative polarity (3 posts). 40.8% of the posts that mention Gab have strong positive sentiment polarity (20 posts), and 24.5% of them exhibit a negative one (12 posts). Lastly, 27% of the posts on Voat that mention GA.win achieve strong positive sentiment polarity (23), and 30.5% of them (26) have a negative one.

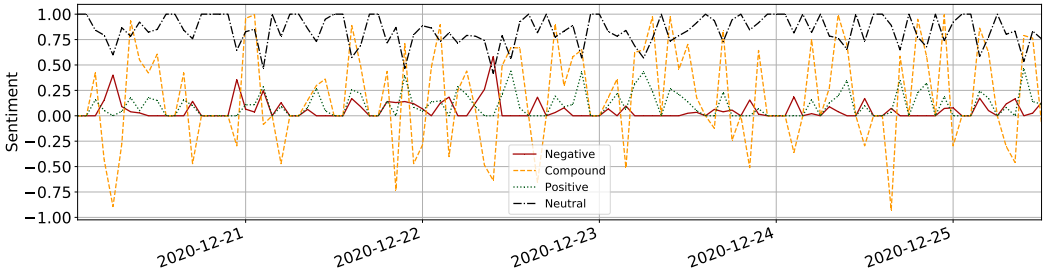


Fig. 6. Sentiment on Voat discussions mentioning Poal.

Although Parler has the highest percentage of posts that indicate positive sentiment, Poal was the social network mentioned the most on Voat during its final days. In an attempt to better understand the findings of Figure 5, we also use the Kolmogorov-Smirnov test [29] to detect whether the distributions are statistically significant. We reject the null hypothesis for the distributions between Poal and Parler, Poal and Gab, Gab and GA.win, and Parler and GA.win. That means that the four distributions are significantly different; they have no similarity ($p < 0.001$). The distributions of Poal and GA.win are not significantly different, so we cannot reject the null hypothesis ($p = 0.5$). The same is true for the distributions of Parler and Gab ($p = 0.18$).

As Poal was the most mentioned platform by far during Voat's last days, we also plot how sentiment polarity scores fluctuate per day in Figure 6. We do this analysis only for posts that mention Poal to understand how interest in this platform evolved among Voat users. In the figure, we plot all four scores that VADER returns per post. Most posts with a strong negative sentiment score toward Poal were posted on December 22, 2020. Alas, manual inspection of our dataset does not provide a conclusive indication of why that is. A closer inspection of the posts posted during the last two days of Voat (Dec 23 - Dec 25) indicates that this was when most of the strongly positive sentiment polarity posts were posted, urging more users to join them on Poal. Overall, most posts on Voat support the idea of moving to Poal, whereas the posts that indicate a negative attitude toward it are either the ones that lost faith in Q, the ones discussing "Q-LARP" in Section 6 above, or the ones that believe GA.win is a better option.

8 DISCUSSION

This study presented a mixed-methods, large-scale, multi-platform analysis of the shutdown crisis in QAnon-focused subverses on Voat. Notably, our work analyzes Poal, an alternative Reddit-like social network that was never before, to the best of our knowledge, studied. We set out to answer two research questions: 1) how did the activity and discussion change on Voat and Poal after Voat announced that it was going to shut down, and 2) what was the most preferred alternative social network discussed on Voat?

Did users indeed move to Poal? To this end, we collect data from Reddit, Voat, and Poal, indicating that shortly after Reddit banned QAnon-focused subreddits, the activity on Voat QAnon-focused subverses increased drastically. At the same time, a new Voat subverse, /v/QRVoat, takes over the QAnon discussions on Voat from the first day of its creation, exceeding the activity of the subverse that had existed on the platform since the inception of the conspiracy. We speculate that users migrating to Voat from Reddit decided to create their own subverse. In addition, we find evidence that Q, the “mastermind” behind the conspiracy, recommended users migrate to /v/QRVoat based on comments from adherents, listed in Section 6.

Another indication that Voat was the platform of choice for many QAnon adherents migrating from Reddit, is the finding that approximately 60 times more submitters and commenters appear on Voat after the Reddit bans. A similar event appeared to have taken place on Poal on December 22, 2020. Specifically, just one day after Voat announced that it would shut down, Poal received more than 230 new unique submitters. Our study proves that 43.3% of the users on Poal had an account on Voat too, which shows how Poal QAnon-focused subverses attracted about half of their user base from Voat (Section 5.2). A slightly unexpected finding is that, although the online migration of Voat users was premeditated, it did not result in the entirety of Voat’s user base migrating to a single platform, in this case, Poal. Aligned with previous work [19], the shutdown of Voat resulted in a smaller community compared to the pre-existing one. However, we also show evidence that the short four days given to Voat users to plan their migration allowed a larger part of the user base to migrate to a single platform than they would have in case of a sudden ban or shutdown. The above findings answer the first part of our first research question.

The chatter before the storm. Moving on to the discussion shifts on Voat and Poal, we find that the shutdown announcement caused havoc on Voat. Specifically, many users start blaming the “zees” and “bad jews” for destroying their online home, and others turn against the founder of the conspiracy, Q, explaining Q is LARPing. On the other hand, many users remain strong in their beliefs, expecting Q to come to their aid, as they did before, encouraging their fellow patriots to “wait for Q” to tell them where to go. Turning our attention to Poal, disturbingly, we find evidence of QAnon adherents preparing for the January 6th attack on the US Capitol shortly after Voat shuts down, calling for a “MASSIVE protest,” “rally,” and “D-Day.” Our findings indicate that the attack on the US Capitol was an event premeditated and discussed heavily online. More specifically, Q, for a long time, was calling adherents to arms, talking about usurpation and insurrection [33]. Therefore, when Trump asked his supporters to join him at the US Capitol on January 6, QAnon adherents, as expected, interpreted this invitation as the promised insurrection Q preached. These disturbing findings address the second part of our first research question.

“Poal, the Place to Go!” To answer our second research question, we employ VADER sentiment detection to detect Voat’s users social network of choice. We find that Poal was the most popular social network discussed during the last four days of Voat. Although the sentiment on Poal as a possible alternative was somewhat mixed, the majority leaned towards positive sentiment polarity. We show that during the last two days of Voat, many Voat users strongly encouraged their fellow

patriots to join them on Poal; thereby answering our second research question by identifying Poal as the alternative that reached the highest consensus among Voat users.

Directions for future work. Previous works discuss how online bans could cause communities to shrink in size [19, 25]. Usually, those bans are abrupt and without warning, but that was not the case for Voat. Voat co-founder, *PuttItOut*, wrote to Voat users, warning them that the platform would go down. Our work differs from previous works since, among other things, we study a premeditated online migration, but there are aspects that still need to be studied. First, we do not study the differences in toxicity between Poal and Voat, as it was outside the scope of this work but is part of future work plans. In addition, we plan to incorporate more data in a follow-up study, combining data from Parler, Gab, and GA.win to shed light on how the QAnon community reacted to this shutdown or other events like Q re-emerging and breaking their almost two-year-long silence [1]. Q's first return post was in June 2022, after the January 6th attack at the US Capitol. Finally, given that Poal is very likely to attract many dangerous individuals due to the platform's laxer moderation efforts, we encourage future work to dive deeper into Poal's various controversial communities.

9 CONCLUSION

This study collects data from Reddit, Voat, and Poal and follows the activity of QAnon-focused subreddits and subverses from the inception of the conspiracy in October 2017 until September 2021. This period covers major QAnon events, including the Reddit bans, the Voat shutdown, and the January 6th, 2021 attack on the US Capitol. We find that the Reddit bans caused an influx of activity on Voat, and subsequently, the Voat shutdown caused increased activity on Poal, with 43% of the Voat QAnon user base migrating to Poal. Although this percentage seems significant, the amount of QAnon adherents active on Poal is only a fraction of the tens of thousands of users the QAnon-focused subreddits once had.

We dive deeper into the sentiment of Voat users regarding Voat alternatives, finding that the most discussed alternative was Poal. We also study discussions on Voat and Poal, finding that Voat users blame the "jews" and the Nazis for the Voat shutdown. At the same time, shortly after Voat shuts down, Poal users, the majority of which are Voat migrants, start discussing and planning the January 6th attack on the US Capitol.

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