Social Media and the ISIS Narrative

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March 20, 2015

Abstract

The Islamic State of Iraq and Syria (ISIS) has attracted the world's attention and much of its wrath, primarily because of its rapid expansion in Iraq and Syria, its brutal treatment of religious minorities (e.g., Yazidis, Christians), and its beheadings of hostages from Western countries. At this point, it is unclear whether the group represents a global or a sectarian form of jihadism. Is it similar to al-Qaeda, which seeks to target the far enemy (i.e., Western countries such as the U.S. that some in the Muslim world believe exert a corrupting influence on Islamic countries), or is it more sectarian in that it focuses on targeting what it perceives to be the near enemies of Islam (i.e., "corrupt" Islamic nations)? In this paper we address this debate by examining ISIS's online presence on the social media platform, Twitter, which serves as a forum for supporters to post and receive messages, images, videos, and links to websites to and from a wide-audience. The speed at which users can transmit and receive information via Twitter suggests that an analysis of ISIS-related user accounts and the key themes and concepts they disseminate can contribute to a better understanding of the group's overall narrative. We examine ISIS's online presence by extracting from Twitter the semantic networks of its most influential users. We find that a shift may be occurring in the ISIS narrative, from one that focuses on the near enemy to one that focuses on the far enemy. Ironically, this shift may have resulted from the actions of the U.S. and its Western allies.

The Islamic State of Iraq and Syria (ISIS), which is also known as the Islamic State of Iraq and the Levant (ISIL), the Islamic State (IS), Da'ish, and the Islamic State of Iraq and al-Sham (ISIS), has attracted the world's attention with its rapid expansion in Iraq and Syria, its brutal treatment of religious minorities (e.g., Yazidis, Christians), and its well-publicized beheadings of hostages. It has also proven to be quite savvy in its use of social media, with teams working to create crafted statements with accompanying video or images that showcase ISIS's accomplishments. Some focus on successful attacks or the killing individuals who have been captured or found guilty of some offence, but others highlight the social services ISIS offers, such as the delivery of food and supplies to areas they control. ISIS utilizes a variety of social media platforms, such as Twitter, and even when these accounts are shut down, new accounts almost immediately reappear, enabling ISIS to reach its audience.

At this point, it is unclear whether the group represents a global or a sectarian form of jihadism. Is it similar to al-Qaeda, which seeks to target the far enemy (i.e., Western countries such as the U.S. that some in the Muslim world believe exert a corrupting influence on Islamic countries), or is it more sectarian in that it focuses on targeting what it perceives to be the near enemies of Islam (i.e., "corrupt" Islamic nations)? In this paper we argue that an analysis of social media data can provide insight into this debate. Social media platforms, such as Twitter, serve as forums for passive and active supporters to post and receive messages, images, videos, and links to websites to and from a wide audience. For example, ISIS's and other rebel group's (Free Syrian Army (FSA)) associated Twitter accounts have already transmitted an abundant amount of information regarding the conflict in Syria, on topics ranging from religious edicts to instructions on how to drive a captured Syrian Army tank. The speed at which users across the globe can transmit and receive information via Twitter suggests that an analysis of ISIS-associated user accounts and the key themes and concepts they disseminate will contribute to a better understanding of the group's overall narrative. We seek to do this through a social network and a semantic network analysis of ISIS-associated Twitter accounts.

The paper begins with a brief history of ISIS. This is hardly exhaustive. It is meant to provide a basic overview of ISIS's development, nothing more. The paper then turns to a description of the Twitter data we use in this paper, as well as the methods employed to analyze them. The data are network data where nodes represent user accounts and the ties between them indicate that users either messaged ("tweeted") one another or retweeted the message of the other. We first use social network analysis to identify influential nodes within the network, and then turn semantic network analysis to analyze the content of their tweets with the goal of identifying key concepts and themes in the ISIS narrative. The analysis is followed by a discussing of the results, including implications they have for combatting ISIS. The paper concludes with a summary of the paper's findings, as well as suggestions for future research.

A Brief History of ISIS

ISIS can be traced back to 1999 when it was founded by Abu Musab al Zarqawi as *Jama'at al Tawhid wal-Jihad* (Organization of Monotheism and Jihad). It changed its name in 2004 to *Tanzim Qaidat al-Jihad fi Bilad al-Rafiadayn* (Organization of Jihad's Base in Mesopotamia—more commonly known as al-Qaeda in Iraq (AQI))—when it pledged allegiance to al-Qaeda (Pool 2004). It became notorious for its involvement in the broader Iraqi insurgency after the U.S. invasion in 2003, not only for its violent attacks on coalition forces, but also for its suicide bombings of civilian targets and televised beheadings of hostages, sometimes by Zarqawi himself (BBC News 2004). AQI established control of Sunni neighborhoods where they enforced strict rules of behavior, such as banning smoking and music and listening to speeches by moderate clerics (Kilcullen 2013:138).

Zarqawi was killed in June of 2006 by a U.S. airstrike, and Abu Ayyub al-Masri succeeded him as the group's leader. In that same year, it merged with several other insurgent groups, calling itself the Mujahideen Shura Council (MSC) (Fishman 2008). In October of 2006 the MSC declared the establishment of the Islamic State of Iraq (ISI) naming Abu Omar al-Baghdadi as its Emir and al-Masari as its Minister of War. The group's stated goal was to seize control of the western and central areas of Iraq and turn it into a Sunni Islamic state. However, its indiscriminate use of violence led it to lose popular support and helped give rise to the "Sunni Awakening" where many former militants joined with coalition forces to combat it.

From 2008 to 2010 ISIS was on the run. In 2008 it was driven out of many of its safe havens, and its leaders declared that the group was in a state of "extraordinary crisis" (Phillips 2009:65). By 2010 thirty-four of its top forty-two leaders had been either captured or killed, including Abu Omar al-Baghdadi and Abu Ayyub al-Masri (BBC News 2010). Abu Bakr al-Baghdadi took over as the group's new leader (a position he has retained to this day), and he immediately began replacing the leadership vacancies, many of whom had served as military and intelligence officers under Saddam Hussein.

Helped along by a host social and political factors, including the heavy-handed policies of Iraqi Prime Minister, Nouri al-Maliki (Frontline 2014), which alienated the Sunni community and led to protests in 2012, ISIS began to make a comeback. The group actively sought to regain the ground it had lost in 2008 (Yousseff 2012), and when Iraqi Security Forces attempted to close a protest camp in Ramadi that led to a Sunni uprising that forced the ISF out of Fallujah and Ramadi, ISIS seized control of the cities (Parker 2014). ISIS also declared the beginning of a new offensive that sought to free ISIS members held in Iraqi prisons, and in 2013 the group carried out simultaneous raids on Taji and Abu Ghraib prison, apparently freeing more than 500 prisoners (Al-Salhy 2012).

After the Syrian Civil War broke out in 2011, al-Baghdadi sent ISIS members with guerilla warfare experience to Syria in order to recruit fighters and establish local cells,

and in 2012 Jabhat al-Nusra, more commonly known as the al-Nusra Front, was founded by Abu Muhammad al-Jawlani. It grew rapidly and gained popularity among Syrians opposed to the Assad regime. In 2013 al-Baghdadi announced that ISIS had established and financed al-Nusra and that the two groups would merge and become the Islamic State of Iraq and al-Sham (ISIS). However, al-Jawlani rejected the merger, claiming that Baghdadi did not consult him or anyone else from al-Nusra. Al-Nusra's resistance to the merger could have been because al-Qaeda had ruled against it, something that Baghdadi ignored, ultimately leading al-Qaeda to cut ties with ISIS in 2014, putting an end to their 10-year relationship.[1] Another reason might have been due to the differences between the two groups (Birke 2013). For example, while al-Nusra appears to be focused on overthrowing the Assad government, ISIS is more interested in extending its rule to areas it has conquered. And while al-Nusra pursued a strategy of slowly building support for an Islamic state, ISIS was far more ruthless, carrying out sectarian attacks and imposing sharia law immediately. Moreover, al-Nusra is seen by Syrians as being more of a homegrown group than is ISIS, which many describe as a foreign occupier. Regardless of the reasons, the merger between al-Nusra and ISIS has not gone as smoothly as Baghdadi had hoped. In fact, the two groups have sometimes fought one another. That said, some al-Nusra branches have pledged allegiance to ISIS.

In June 2014, ISIS proclaimed itself a worldwide caliphate, with Baghdadi as its caliph, and renamed itself the Islamic State (IS). As a caliphate, ISIS claims religious, political, and military authority over the world's Muslims, but most Islamic governments and Muslim leaders have rejected ISIS's claim. Baghdadi and his core allies have been able to maintain strength and enforce their authority throughout the areas ISIS controls via alliances with similar minded and violent groups. In August, after ISIS captured the towns of Zumar, Sinjar, and Wana, the United States simultaneously launched a humanitarian mission to protect religious minorities, such as Christians and Yazidis, as well as an aerial bombing campaign to protect Americans in Iraq and support Iraq in its fight against the group.

ISIS and Social Media

ISIS is quite sophisticated in its use of propaganda and social media. The group's ideological wing, which is supported by its Media Council, disseminates religious edicts, battlefield updates, and specific threats through official platforms that can reach sympathizers and new audiences via social media (TRAC 2014). In particular, shortly after it renamed itself the Islamic State of Iraq in 2006, it established the al-Furqan Institute for Media Production, which produces CDs, DVDs, posters, pamphlets, and web-related propaganda products (Roggio 2007). And in 2014 it established the al-Hayat

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[1] Al-Qaeda did not sever its ties with al-Nusra, however.

Media Center, which targets a Western audience and produces material in English, German, Russian and French (Gertz 2014). Beginning in July 2014, al-Hayat began publishing a digital magazine called Dabiq, in a number of different languages including English. This digital source provides articles related to a host of topics, including theology, strategy, and speeches given by ISIS's leadership, to name a few. Other official platforms, namely Mu'assassat al-Furqan, produce and release videos such as those showing the beheadings of James Foley, Steven Sotloff, and David Haines (Saltman and Winter 2014).

Information officially published by ISIS is regularly disseminated to new audiences and potential online sympathizers across the globe via social media platforms, in particular Twitter and YouTube. Moreover, sympathizers and followers, often referred to as "Fanboys," regularly circulate and distribute ISIS propaganda and information on these same platforms (TRAC 2014). For example, the group has utilized Twitter to distribute its message by organizing hashtag campaigns and by hijacking popular hashtags, such as those related to the 2014 World Cup. It also includes links to other websites for longer messages. ISIS has used both Archive.org's forums and Justpaste.it, a website where anyone can post messages and images anonymously, and it has even created its own app, "Dawn of Glad Tidings," to efficiently tweet messages to its followers (Berger 2014; Saltman and Winter 2014).

ISIS's social media networks have remained flexible and resilient in the face of efforts to dismantle them. In August 2014 Twitter administrators shut down a number of ISIS-associated accounts. ISIS recreated and publicized new accounts the following day, but Twitter administrators quickly shut these down. This back-and-forth pattern has continued to this day. ISIS is able to quickly spread information about new accounts by either providing backup account information in its profile or by using accounts that have not been shut down to spread the word about its new accounts. The conflict between ISIS and Twitter has even led ISIS to threaten one of Twitter's founders (Bacon 2015). The group has attempted to branch out into alternative social media sites, such as Quitter, Friendica and Diaspora, and VK; Quitter, Friendica and VK, however, almost immediately worked to remove ISIS's presence from their sites (Anti-Defamation League 2014).

The ISIS Narrative: The Near or Far Enemy?

In recent years Islamic revivalist movements, sometimes referred to as Salfists, have arisen in reaction to and with prescriptions for Islam's political and cultural decline over the last few centuries. Many argue that Islam's fortunes deteriorated because it became decadent, because it strayed from the righteous path of the Prophet. Thus, they argue that in order for Islam to recapture its "glory and grandeur" it must "return to the authentic faith and practices of the… Prophet Mohammed and his companions" (Sageman 2004:4).

Some Salafists advocate non-violent methods for doing so. These groups typically eschew politics and emphasize strict religious discipline with the goal of breaking the link between the corrupting environment and the individual. Others advocate peaceful political activism, seeking to create Islamic societies that merge modern science and technology with Islamic values and practices.

Still others, such as those inspired by Sayyid Qutb, reject peaceful solutions. They believe that the only way to bring about reform is through violence. Of these, some argue that they should target the "near enemy," namely, Muslim-majority countries, like Saudi Arabia and Egypt, which they believe have fallen back into a state of *jahiliyya*, a term often used to refer to the ignorance and barbarism of Arabic societies prior to the advent of Islam (i.e., the revelations of the Prophet). In their mind, these are not true Islamic societies, so the use of violence is justified. Other groups, such as al-Qaeda, reject this approach. Instead, they believe Salafists should target the "far enemy," namely the U.S. and its Western allies, believing this approach will more effectively lead to a downfall of apostate Arab regimes.

Of interest to us here is whether ISIS is more concerned about the "near" or the "far" enemy. To explore this we examine the data collected from Twitter over an extended period of time in September. Initially, we identify "influential" users within the ISIS Twitter network, and then we examine the content of their tweets. The details of our approach are to what we turn to next.

Data and Methods

The approach taken here is to identify "influential" actors within ISIS's twitter network and examine their use of ideological, cultural, and emotional terms and concepts to better understand the ISIS narrative. We collected Twitter data utilizing Arizona State University's Tweet Tracker as well as custom scripts, both utilized Twitter's API to collect the data. We searched for tweets containing "الدولة الإسلامية" ("Islamic State" in Arabic). While not everyone who uses this term is a supporter of ISIS, it is the term that they use to self-identify. The data analyzed were collected from August 27 to September 18, 2014, and a total of 952,612 tweets were collected that translated into 548,061 directed ties (tweets and retweets) between 85,746 user accounts. The directed nature of the ties allows us to know the source of a tweet or retweet along with the recipient (i.e., the target) of the tweet or retweet. Figure 1 presents a network graph of the data.

To identify influential nodes in the network we draw on the "Hubs and Authorities" algorithm that was initially designed for identifying important webpages (Kleinberg 1999) where a good hub is defined as a webpage that points to many authorities, and a good authority is a webpage that is pointed to by many hubs. The algorithm serves as the basis for the PageRank algorithm used by the Google search engine (Austin 2011). In the context here, the algorithm helps identify user accounts (hubs) that tweet often and have a

lot of prominent followers, as well as locating user accounts (authorities) that receive numerous tweets and information from hubs. Here we focus on hubs because we are interested in user accounts disseminating information, not those receiving. We ended up identifying the top 30 hubs. Figure 2 represents the ISIS Twitter network, except now the nodes indicate (i.e., they are highlighted) whether or not they are a hub.
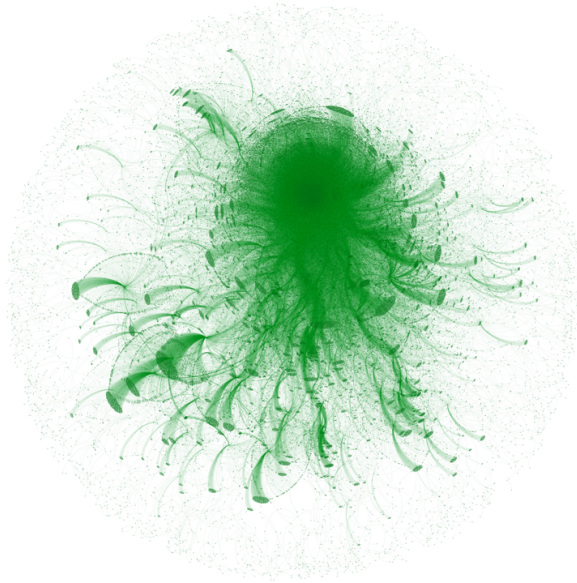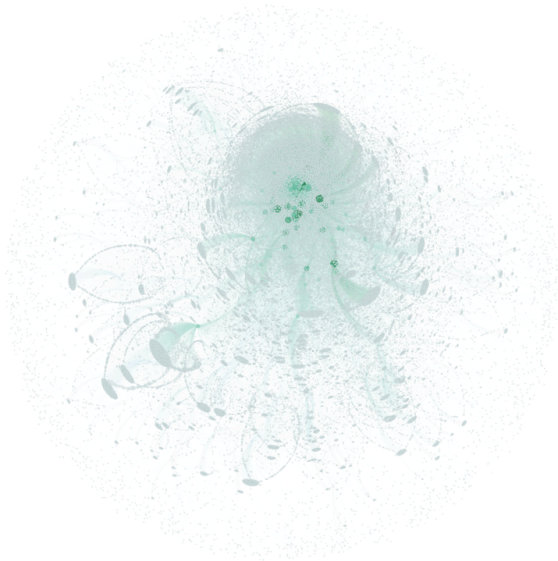
Figure 1: ISIS Twitter Network

Figure 2: ISIS Twitter Network with Hubs Highlighted

Once we identified influential user accounts, we extracted and, using Google Translate, translated the Arabic text of their tweets into English in order to use semantic network analysis to detect key themes and concepts embedded in the content. Semantic

network analysis is a set of theories and techniques used to interpret knowledge representation schemes involving nodes (concepts and themes) and the links between them. The words within each tweet, after removing and excluding "noise" such as the words like "of" or "and," were assigned to a specific conceptual or thematic category. For example, a tweet might include the term "Nusayri," which is a derogatory term for Alawites, along with the term "Bashar Assad." In this case, "Nusaryi" suggests a sectarian theme while "Bashar Assad" suggests a Syrian government one. A single user account, or several accounts, might use these words together as a way of derogatorily referring to Assad, which would suggest there is a tie between the two concepts or themes. Once we built out the network of themes and concepts, we examined which were the most prevalent and how they were related to one another using simple network analysis techniques and measures, such as degree and eigenvector centrality.[2] Figure 3 presents the ISIS semantic network.

Figure 3: ISIS Semantic Network

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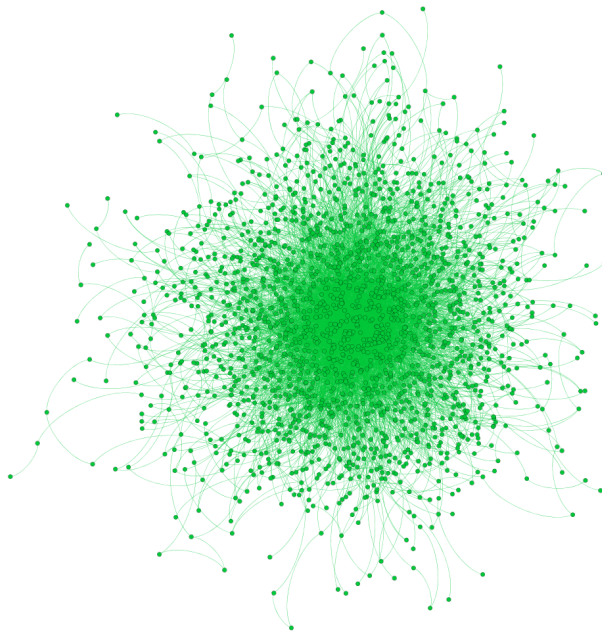
[2] Degree centrality is a count of the number of ties that a particular node has. Eigenvector centrality is similar to degree centrality, except that it weights a node's ties by the centrality of those nodes to which it is tied. With undirected networks, eigenvector centrality produces the same scores as the hubs and authorities algorithm (see e.g., Everton 2012).

Results

In an earlier analysis using Twitter data from August, the Arabic-speaking Hubs and Authorities emphasized key concepts and ideas relating to the "near enemy" rather than the "far enemy" (Cunningham, Everton and Schroeder 2014). The discussion focused on topics concerning Syria and Iraq more than concepts relating to the "West," the United States and Israel. The most frequently discussed and connected concepts, besides expected terms such as "Allah" and "Islam," were largely anti-Syrian or anti-Iraqi government/ military in nature (Iraq or Syrian "Army" and "Soldiers"), and they were often associated with negative terms such as "evil." That is not to say concepts such as the "West," "America," and "Israel," were never mentioned. In fact, the Twitter narrative still played on anti-western and anti-Israeli sentiment. For instance, "Israel," the "Gaza Strip" and "America" were mentioned numerous times and often in conjunction with negative terms such as "Crusaders."[3] Additionally, a comparison of concepts relating to Iraq and Syria suggests themes about latter country were more prevalent. For example, the prominent user accounts discussed Syrian's cities like "Aleppo" almost twice as much they discussed locations in Iraq.

The results also support the notion that ISIS's narrative was heavily focused on sectarian concepts, particularly directed toward Alawites and the Assad Regime in Syria. The concept "Nusayris," which is a derogatory term for Alawites, appears to be an important wedge concept used directly with concepts such as "Bashar Assad," "Syrian Military" and "Shabiha Militias" along with other derogatory terms such as "pigs," "dogs," "lackeys," and "evil." In fact, this term was used in conjunction (i.e. connected) with more concepts than any other concept identified in the analysis. The results also demonstrated an emphasis, albeit less of one, on "Iran" ("Safavids", etc.) and other concepts related to Shiites. Interestingly, it appears concepts referring to Sunni Awakening fighters, such as "awakening," were often used in conjunction with the terms "dogs" and "kill" and appear to have been an important element of the "near enemy" discussion on Twitter. Finally, the prominent Arabic-speaking accounts were emphasizing themes related to "Victory," including specific battlefield successes in Iraq and Syria and their access to weapons and ammunition.

However, the analysis conducted for this paper suggests there has been a shift in ISIS's narrative from the "near enemy" to the "far enemy." The most frequently discussed and connected concepts for this analysis include several terms referring to the "far enemy." Specifically, the themes of the "United States" and "President Obama" moved from the 36th and the 66th most mentioned concepts to 8th and 16th positions, respectively. The former also ranked 3rd in degree centrality while the latter ranked 14th, which is interesting given neither one ranked in the top 25 in the previous analysis.

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[3] We recognize this figure might be unordinary and greater than normal given the recent conflict in Gaza.

Moreover, the concept "West" jumped from the 163rd to the 37th most frequently mentioned concept. That is not to say concepts regarding the "near enemy" are no longer prominent in ISIS's Twitter narrative. In fact, ISIS-related user accounts still frequently mention "Iraq" and "Syria," particularly in relation to their militaries. The Sunni Awakening fighters ("awakening") are also still mentioned quite often, while regional enemies of ISIS, such as "Iran" ("Safavids," etc.) and "Jordan," are mentioned repeatedly as well. Interestingly, the derogatory term for Alawites was significantly less prominent in the recent analysis. In fact, the term "Nusayris" fell from the most connected and the 6th most mentioned concept to 48th in terms of frequency and 30th in terms of degree centrality. That being said, ISIS-related accounts continue to use concepts like "kill" in conjunction with both the "near" and "far" enemies. Figures 4 and 5 display the top 50 themes with node size varying in terms of degree and eigenvector centrality respectively.

Figure 4: Top 50 Themes of ISIS Semantic Network (Node and Label Size = Degree Centrality)
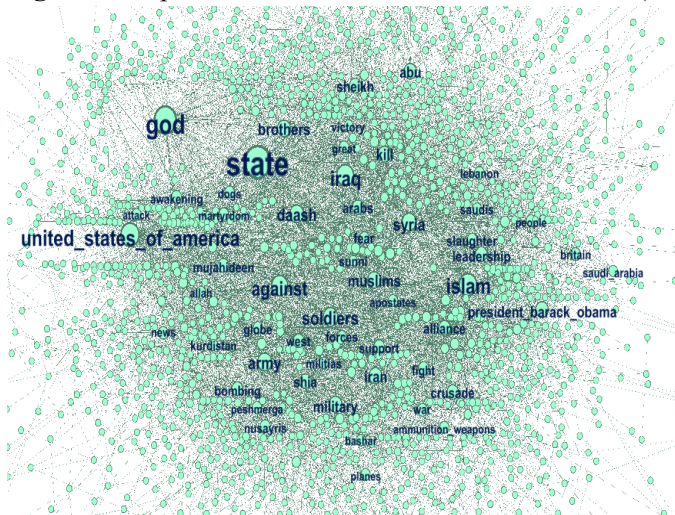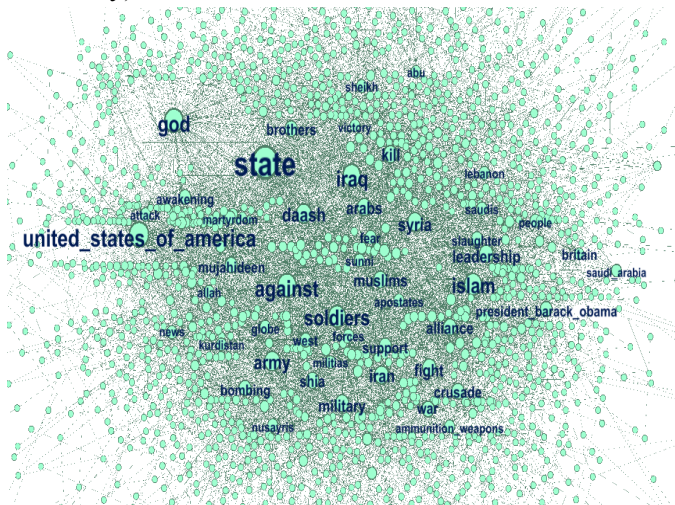

Figure 5: Top 50 Themes of ISIS Semantic Network (Node and Label Size=Eigenvector Centrality)

Ironically, the shift in the narrative is likely due, at least in part, to actions the U.S. has taken against ISIS. The United States has conducted regular airstrikes against ISIS in Iraq since Aug. 8, 2014, and in September it began conducting airstrikes in Syria as well (BBC News 2015). On September 2, 2014, ISIS released a video showing them beheading American Stephen Sotloff. In response during September, U.S. airstrikes increased, and on September 10, 2014, President Obama addressed the United States promising to "degrade and ultimately destroy ISIS." ISIS responded to these airstrikes in various ways. It released a video of the beheading of the British aid worker David Haines in which the killer states, "Your evil alliance with America, which continues to strike the Muslims of Iraq and most recently bombed the Haditha dam, will only accelerate your destruction and claim the role of the obedient lap dog" (Bothelo 2014).

Caveats and Conclusion

A few key points and caveats are worth noting. The first, and probably the most important, is that it is unlikely that the narrative on Twitter is coming directly from ISIS members, which could lead one to argue that the content extracted from the tweets is not representative of ISIS's narrative. However, one could also argue that the narrative spread via Twitter is a reflection, or proxy, of the actual organization's narrative for which Twitter serves to amplify to individuals around the globe, many of whom could potentially provide tacit or active support to the group. It is also possible to embed links to websites in tweets, which suggests that some may derive and include information from actual ISIS members, such as YouTube videos, while at the same time summarizing key themes and concepts of those videos. Thus, although many of the accounts in this analysis might not be used by actual (or perhaps central) ISIS members, the content of the tweets may still reflect the ISIS narrative. Indeed, the fact that many of the themes found in our initial analysis do align with their overall narrative lends supports to this notion.

We also recognize ISIS disseminates their narrative outside of Twitter and social media in general. For example, the group and its followers utilize YouTube and the aggregate site of "Justpaste.it" to disseminate their narrative, which is why future efforts will include data from these sources. Finally, we acknowledge that non-written and non-verbal messaging contributes to the network's appeal. For example, ISIS has used YouTube to disseminate videos demonstrating their success on the battlefield, which has attracted many viewers. Another example is the beheading of American journalist, James Foley. The brutal act and gruesome images alone, without the speech given by the perpetrator in the video, is also likely attractive to some potential recruits. Nonetheless, Twitter is being used to disseminate key concepts and themes that may resonate with large numbers of Twitter users, regardless of their actual affiliation with ISIS, and these concepts provide insight into their overall narrative and appeal.

In short, we believe that the analysis of social media can be a useful approach for gaining an understanding of movements such as ISIS. We have shown that it appears that its narrative has shifted from a concern with corrupt Islamic nations (i.e., the near enemy) to the U.S. and its Western allies (i.e., the far enemy). It is unclear at this point whether this is a permanent or a temporary shift. Continued analysis of the ISIS is certainly in order. This has potential strategic implications. For example, if ISIS is only concerned with overturning Middle Eastern Muslim countries, the West may be best served by just seeking to contain ISIS and letting it try to operate as a nation-state. As one of our colleagues put it, "let's see if they can get the trains to run on time." Failure to do so could call into question their declaration to be a caliphate. However, if ISIS truly has become concerned with the West, and its recent emphasis on the far enemy is not a fleeting reaction to U.S. airstrikes, then it may be necessary to adopt strategies that undermine ISIS's ability to carry out al-Qaeda style attacks.

Finally, we should emphasize that in spite of the wealth of information that can be gleaned from analyses of social media, there are some groups that simply do not utilize social media but instead use more traditional forms of communication. This should not come as a surprise. However, it is a reminder that there is seldom only one way to gain an understanding of movements such as ISIS. Just as they have adapted their narratives to a changing environment, so must we adapt our method for understanding them.

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