Paradigmatic Shifts in Jihadism in Cyberspace:

The Emerging Role of Unaffiliated Sympathizers in Islamic State's Social Media Strategy

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Abstract[1]

This paper provides an overview of the evolution of the concept of jihadism as it presently exists in cyberspace. From its roots during the Chechen conflict to the current use of social media by the Islamic State (IS), this paper identifies and examines three highly significant paradigm shifts: (1) the emergence of rudimentary Web 2.0 platforms and jihadist forums; (2) the advent of advanced Web 2.0 and social media platforms as methods of spreading jihadism; and (3) turn towards 'lone wolf' terrorism. In this paper, the author argues that IS' extensive reliance on unaffiliated sympathizers, who either re-tweet or re-post content produced and authorized by the IS leadership can be seen as a groundbreaking paradigm shift in the evolution of jihadism in cyberspace. Furthermore, it is also argued that IS' strategy of empowering of unaffiliated sympathizers represents a further development in the evolution of jihadism in cyberspace and can best be understood as an attempt to normalize and legitimize IS' existence through its efforts to dominate the 'IS narrative' across social media platforms.

Keywords: Islamic State; Cyber-Jihad; Unaffiliated Sympathizers; Social Media; Counter-Narrative; and Twitter

1. Introduction

In the heyday of al-Qaeda's operations in Afghanistan, from late 2004 through early 2007, the group produced numerous low-quality, amateurish, videos featuring battle triumphs both in Afghanistan and Iraq, as well as pronouncements from its leaders Osama bin Laden and Ayman al-Zawahiri exhorting young Muslims to jihad. The latter in particular often took the form of poorly lit, lengthy and theologically dense monologues, unlikely to captivate a wide audience. These videos, presumably produced on inexpensive video cameras and then uploaded to the internet from cafés in Pakistan and elsewhere were nonetheless a powerful reminder to the West that al-Qaeda's agenda to defeat the "far enemy" remained operational. Years of painful and expensive US and allied operations silenced al-Qaeda's core but then, rising from another quarter, al-Qaeda in the Arabian Peninsula (AQAP) metastasized in Yemen, dragging Western focus away from Afghanistan and Iraq. AQAP's addition to the jihadi media toolbox was a slick eMagazine entitled *Inspire* which featured how-to articles for what has been termed 'Do It Yourself Jihad.' Leading on from this, since taking over a third of Iraq and declaring the establishment of a caliphate in the summer of 2014, Islamic State (IS) has fascinated and disturbed the world with its highly sophisticated and, at times, shocking media operations; al-Qaeda's grainy battlefield videos and tedious 2-hour-long monologues have been replaced by IS' high definition steadicam shots – with carefully scripted and edited narration – and multilingual messaging aimed, in part, at radicalizing young Muslims, and at encouraging them to emigrate to the newly-

founded caliphate.

While the quality of jihadist material online has undoubtedly improved, this paper contends that the most important aspect of Islamic State's evolved use of the media and the internet concerns its initial methods of distribution and the role of unaffiliated supporters who further disseminate content, rather than the content itself. In other words, this paper argues that Islamic State's use of social media, notably Twitter, represents an important development within global jihadist movements; there has been a clear shift away from the highly organization-centric model advanced by al-Qaeda towards one where unaffiliated sympathizers can interact with and, to some extent, shape propaganda content in real-time by actively participating in its further dissemination, thus contributing to the organisation(s) whose message they convey. In order to provide an appropriate analysis of this ongoing and highly dynamic phenomenon, the first section of this research paper seeks to provide an overview of the evolution of jihadism in cyberspace, from its roots during the Chechen conflict to AQAP's contribution, by identifying and examining three highly significant paradigm shifts: (1) the emergence of rudimentary Web 2.0 platforms and jihadist forums, (2) the advent of advanced Web 2.0 and social media platforms, and (3) the move towards 'do-it-yourself' terrorism. The purpose of this is to provide a broad conceptual understanding of the evolving relationship between jihadism and cyberspace, and to highlight an important contrast between al-Qaeda's media efforts and the modernity, reach and effectiveness of the media operations of its former branch and new rival: Islamic State.

The following section begins by providing an overview and analysis of IS' main propaganda products, namely its online publications, its professionally edited videos, and the techniques it employs to leverage the power of social media platforms to reach a widening audience. The implications of Islamic State's social media strategy are then addressed, with particular attention to the new found role and strategic purpose of unaffiliated sympathizers in the dissemination of propaganda created by official IS media production units. It is argued that IS' strategy of empowering of unaffiliated sympathizers represents a further development in the evolution of jihadism in cyberspace and can best be understood as an attempt to normalize and legitimize IS' existence through the domination of the so-called 'Twittersphere.' Finally, this paper concludes by offering thoughts on how the adaptation of counterterrorism policy and practice could lead to more effective countering of online radicalization, thereby undermining IS' social media strategy and its growing appeal.

2. Jihadists in Cyberspace: A Brief Overview

Poor understanding of the early history of jihadi presence online is in large part due to the fact that, by the time cyberspace began to attract the attention of security agencies and scholars, jihadist groups' use of the Internet had already proliferated (Weimann, 2006).[2] Early attempts by jihadists to leverage the Internet included the establishment of azzam.com, which is self described as "an independent media organization providing authentic news and information about jihad and the Foreign Mujahideen everywhere" (as quoted in Awan and Al-Lami, 2009: 56). This is generally cited as the very first authentic jihadist website. The emergence of Azzam.com, along with the Islamic Media Centre and alneda.com, during the First Chechen War (1994-1996) and other nascent peripheral conflicts, aimed to "transmit a version of events different from that offered by the mass media from the other side of the battlefield" (Thomas, 2003: 120). Having recognized that conventional media could easily be censored or filtered by governments (Thomas, 2003), Chechen jihadists instead turned to e-mail distribution lists to transmit their message, uncensored and unfiltered, quickly to a highly targeted audience. In other words, the Internet allowed jihadist groups to explain their actions without the constraints of traditional media, thus offsetting both censorship and condemnation

(Thomas, 2003).

Whilst the jihadist presence in cyberspace remained limited until early 2000s, these websites laid the groundwork for the ascendancy of more sophisticated and interactive uses of the Internet in this century.

2. 1. The Emergence of Jihadist Forums

The generation of an explosion of interactive content and the connected user participation – allowed for by the emergence of early Web 2.0 capabilities and rudimentary online forums – meant users not only passively consumed online content but also actively contributed to its creation (Warren and Leitch, 2012; Hoeren and Vossen, 2009). The increased popularity of general interest online forums coincided with increased participation in jihadist forums, with a 2005 study uncovering upwards of 4,300 active jihadist forums (Weimann, 2006).

Awan and Al-Lami (2009) attributed the move away from traditional websites and the concurrent exponential growth of online forums to the shifting security paradigm in the aftermath of the September 11 attacks. In the months following the attacks on New York City and Washington, various groups of hackers engaged in complex campaigns to disrupt jihadist websites.[3] Similarly, law enforcement agencies ramped up their scrutiny and prosecution of jihadist online activities.[4] This sustained assault led to the realization of the necessity of decentralizing the jihadist presence online in order to ensure the continuity of the messaging. Therefore, in an effort to counter the "systemic disruption or removal of important jihadists websites," the transition was made from traditional websites to online forums in a conscious effort to delegate "responsibility … to a suitable large and diffused body of anonymous web users" (Awan and Al-Lami, 2009: 57-58).

Despite shifting to online forums, the production of jihadist media remained highly hierarchically organized and strictly regulated. In fact, in the aftermath of the mid-2000 invasion of Afghanistan, senior leaders of al-Qaeda increasingly sought to provide readily accessible information about the organization, its membership, ideology, and strategy, in order to compensate for its reduced capability to commit successful acts of terror (Brachman, 2014). This rhetoric remained inherently one-directional, as avenues for interaction between the global following and al-Qaeda's senior leadership were limited: messages were produced, disseminated and received, but no formal feedback mechanism was built into the process. In other words, "users on these forums were often more akin to traditional categories of passive media consumers that appeared inimical to the revolution in audience roles heralded by Web 2.0" (Awan and Al-Lami, 2009; 59).

2. 2. The Transition to Web 2.0

The paradigm shifted again with the emergence and growing popularity of increasingly sophisticated Web 2.0 platforms, namely file-sharing portals and social networking sites (Conway, 2012). The al-Qaeda core leadership based in Afghanistan and Pakistan maintained a considerable amount of of control over its narrative through its media groups. In addition to this, al-Qaeda affiliates such as al-Qaeda in Iraq (AQI) began utilizing this new media environment to disseminate downloadable content such as magazines, video and brochures. This paradigm shift is best embodied by the media strategy of Abu Musab al-Zarqawi and AQI in the interregnum between the demise of Web 1.0 and the fully-fledged Web 2.0. The release of a thirty-minute recording by al-Zarqawi, explaining who he was, why he was fighting, and providing details of the attacks he and his groups were responsible for heralded the start of al-Zarqawi's media offensive in early

2004 (Conway, 2012). As a veteran of the Soviet–Afghan War he sought to legitimize himself in the eyes of the al-Qaeda leaders who did not wish to recognize his affiliation and role as the "manager of [al-Qaeda's] Iraqi franchise" (Maggioni, 2015; 56). Paul Eadle described the recording as an example of a "comprehensive brand statement" aimed at gaining brand-recognition (Eedle, 2005; 124-125) and notoriety within the jihadi community. Subsequently, capitalizing on this newfound recognition, AQI released a video depicting al-Zarqawi beheading the American civilian contractor Nicholas Berg (Conway, 2012). This video, entitled *Abu Musa'b al-Zarqawi slaughters an American,* was uploaded to ogrish.com, a popular shock site, and was – as a result – viewed over 15 million times (Talbot, 2005). Moreover, despite some initial resistance by Aymen al-Zawahiri, Osama bin Laden's deputy, the video of Nick Berg's killing helped al-Zarqawi consolidate his position as al-Qaeda's chief in Iraq (Maggioni, 2015).[5]

The video of Nick Berg's beheading marked a significant change in jihadist propaganda. These "kidnapped narrative series followed a precise script including Westerners kneeling down with Kalashnikov-armed [jihadists] standing behind them" (Maggioni, 2015; 58-59). In addition, it became common for "improvised film-makers" embedded within fighting groups to produce videos of footage gained when "systematically following every action against coalition forces", and to then publish them soon afterwards "on jihadist and video sharing websites," thereby achieving wide distribution despite their "limited technological and narrative ability" (Maggioni, 2015; 58-59). The recognition by jihadist groups operating in Iraq and elsewhere of the power of easy-to-access video sharing websites such as YouTube as a novel arena led to their increased use for the dissemination of propaganda, and for the raising of funds. Aided by the popularity of such mediums,[6] and the fact that no Arabic language skills or high level of Internet literacy were now required to locate jihadist content, YouTube rapidly became a significant platform for jihadist groups and their supporters, fostering a thriving subculture which used it to communicate and share propaganda worldwide. In fact, a 2008 study analyzing the users' comments on YouTube videos depicting suicide operations in Iraq found that the majority of viewers resided outside of the Middle East and North Africa, with the largest percentage located in the United States (Conway and McInerney, 2008). This led to the conclusion that jihadist media was "spreading far beyond traditional Jihadist websites or even dedicated forums to embrace … video sharing and social networking – both hallmarks of Web 2.0 – and thus extending their reach far beyond what may be conceived as their core support base in the [Middle East and North Africa] region to diaspora populations, converts, and political sympathizers" (Conway and McInerney, 2008: 10).

The dissemination of jihadi messages outside of dedicated forums was, nonetheless, not entirely welcomed by all jihadist media organizations. A case in point is *al-Boraq Media*'s September 2006 publication of a detailed policy paper entitled *Media Exuberance,* which sought to curtail the proliferation and production of unattributed jihadist media. They feared that unpolished and unprofessional content by "scattershot individuals posting jihadist media materials without the sanction of a recognized" jihadist media group undermined the credibility of jihadist media and diverted attention from official sources (Kimmage, 2008: 5).

2. 3. *The Shift Towards 'DIY Terrorism'*

Despite the aforementioned opposition from some jihadist media groups, al-Qaeda strategists, such as Abu Mus'ab al-Suri, nonetheless quickly recognized the importance of the decentralization of their operations. Notably, in 2004, al-Suri penned his *Call for a Global Islamic Resistance,* in which he decried the hierarchical model of al-Qaeda as outdated and vulnerable, espousing instead the advantages grassroots leaderless resistance (Bousquet, 2011; Michael, 2013). Al-Suri's strategy of individual jihad is best illustrated by the

activities of al-Qaeda in the Arabian Peninsula (AQAP).

Another highly important paradigm shift, largely dependent on the power of the Internet, occurred with the 2010 AQAP launch of its widely distributed English-language online magazine titled *Inspire,* which encouraged individual jihad against Americans and Westerners (Michael, 2013). With slick production values and graphics, *Inspire* mixed ideologically driven material with pragmatic instructional and skill-building content in an effort to foster a do-it-yourself approach to terrorism (Lemieux et al., 2014). Moreover, this emphasis on a do-it-yourself ethos targeted at an English-speaking readership is an "especially interesting development in *Inspire* that set it apart from other examples of the al-Qaeda propaganda" (Lemieux et al., 2014). Through a section entitled *Open Source Jihad*, *Inspire* attempted to increase the motivation of individuals in the West, while lowering skill-based barriers that had previously hampered individuals attempting to carry out successful terrorist attacks. For example, one issue detailed how to conduct a random shooting in a crowded restaurant, while another instructed readers how to weld blades to the front of a pick up truck to "mow down the enemies of Allah"[7] (as quoted in Michael, 2013; 55).

The production of *Inspire* magazine is, in many ways, the incarnation of the strategic vision of Anwar al-Awlaki, a popular,[8] American born, online cleric affiliated with AQAP whose sermons were widely distributed on YouTube. Al-Awlaki is also credited with inspiring a number of terrorist plots and attacks.[9] According to Brian Jenkins (2011), al-Awlaki and *Inspire* led to a fundamental shift in al-Qaeda's strategy from organizationally-led jihad towards do-it-yourself terrorism. Similarly, Jarret Brachman (2014) claims that al-Awlaki and AQAP made do-it-yourself terrorism and its participants, the focus of their media efforts, rather than conceptualizing al-Qaeda's sympathizers as merely an audience. According to Bruce Hoffman, (2010), the ability of terrorist organizations–such as AQAP–to motivate and empower individuals to commit acts outside of any   chain of command, represents a change in the nature of terrorism itself."

As a result of this paradigmatic shift, online jihadist activity came to have standing in its own right. A 2012 article on electronic jihad, posted on the leading jihadist forums *alFida* and *Shumukh al-Islam*, stated that:

> "[A]ny Muslim who intends to do jihad against the enemy electronically, is considered in one way or another a mujaheed, as long as he meets the conditions of jihad such as the sincere intention and the goal of serving Islam and defending it, even if he is far away from the battlefield" (as quoted in Weimann 2014, 4).

Similarly, Muhammad bin Ahmad al-Salim's *39 Ways to Serve and Participate in Jihad* extolled "performing electronic jihad" as a "blessed field which contains much benefit" (as quoted in Awan et al 2011: 56). The sanction given to electronic jihad was particularly important in assuaging cognitive dissonance for individuals who wish to advance the jihadist cause but are unable or unwilling to partake in actual conflict, by providing them with a vindicatory rationale for this alternative and, as a result of such statements, a now entirely legitimate mode of action. As participation in indirect jihad became seen to be both a required and effective form of action, the call for electronic jihad inevitably did not remain unanswered in the wake of the Syrian Civil War.

3. *The Use of Social Media by IS*

As highlighted by Lewis (2014), the military victory of IS represents only one part of the equation in establishing its caliphate. The key battle for IS is not solely military and achieved by violence, but also includes the formation of "the practical basis of a society" (p. 11-12). In order to achieve this social objective,

IS relies on the dissemination of its message to foster support both domestically and abroad through a uniquely effective social media strategy.

Although all sides of the Syrian Civil War have adopted social media, the use of social media by IS appears to have generated far more attention, and consequently has been more successful than others. In addition, whilst various terrorist organizations, such as AQAP and al-Shabaab, have maintained Twitter accounts since 2010, they often did so as a secondary means of communication. The bulk of content was instead available on extremist forums, featuring downloadable content such as magazines, videos and brochures. In contrast, the distribution of information almost exclusively on Twitter has allowed IS to quickly reach a large audience. Therefore, the dissemination of its ideology and the advancement of its long-term objective, namely the legitimization of the consolidation and expansion of territory, has occurred more successfully than it might otherwise have done (Friedland, 2014).

In order to frame its message, IS has developed a range of exceptionally professional and sophisticated communication and social media initiatives that are exceptionally easy to access and highly attractive to their audiences, including publishing ebooks and eMagazines and professionally edited videos produced by a*l-Furqan and al-Hayat*.

On 5 July 2014, IS media group *al-Hayat* released in numerous different languages (including Albanian, English, French, and German) the first issue of its online magazine *Dabiq,[10]* a publication reminiscent of AQAP's *Inspire* magazine (Cambhir, 2014). With its slick and sophisticated production value, *Dabiq* defines itself as:

> *"a periodical magazine focusing on the issues of unity (tawhid), truth-seeking (mamhaj), migration (hijrah), holy war (jihad) and community (jama'ah). It also contains photo reports, current events, and informative articles on matters relating to the Islamic State" (as quoted in Maggioni, 2015; 71).*

Each issue of *Dabiq* reaffirms "key themes, strategic exploits and ideological constructions, as well as speech from [IS] leaders" (Saltman and Winter, 2014; 39) and contains powerful photographic imagery of IS' military and state-building endeavors such as images of wounded Iraqi Security Force soldiers; the distribution of food and water by IS fighters in regions under its control; victorious parades of militants in invaded cities; the destruction of Shiite and Sufi shrines; and the execution of prisoners and members of religious minorities (Styszynski, 2014). The content of *Dabiq* is evocative and aims at spreading a very precise message – which can both engage the reader and stimulate curiosity – in order to enlarge the potential readership. In this way, *Dabiq* targets readers who are already interested in political Islam, but not necessarily already convinced jihadists. Instead, *Dabiq* attempts to skillfully 'educate' the reader on the caliphate's aims, projects, and accomplishments.

In addition to *Dabiq,* Islamic State has also published series of ebooks, the "Black Flags Books," which are widely advertised on social media and jihadist forums (Lombardi, 2015), the first series of which, entitled *Islamic State 2015* and containing 8 volumes, was released in early January 2015. Although not particularly refined and of lesser quality than *Dabiq*, the ebooks' contents deals with similar themes. Perhaps most interestingly, they also often use information and infographics taken from Western media but presented from the caliphate's perspective (Lombardi, 2015). While the text itself adds little relevant information about the caliphate, it systematically organizes information already circulated on the internet and thus represents a useful tool of state propaganda which is easily accessible to those who seek out information about the caliphate: although the ebooks reveal nothing new, the content is reorganized to reflect the caliphate's view, and is aimed at a wider Western audience – particularly new recruits.

Apart from its e-publications, the Islamic State has also produced several high-quality videos. An analysis of these videos[11] reveals that, in general terms, Islamic State's propaganda can be divided into two genres that target different audiences. The first includes 'The Beheading Series' (the four videos depicting the decapitations of Western journalists and aid workers James Foley, Steven Sotloff, David Haines, and Alan Henning), and other depictions of atrocities and human rights abuses, such as images of wounded or dead Iraqi Security Force soldiers; the destruction of Shiite and Sufi shrines; and the execution of prisoners and members of religious minorities. The second category, meanwhile, largely focuses on imagery of genuine state-building exercises

Propaganda featuring acts of violence represents an effort to support IS' military activities and intimidate its foes. These videos are carefully scripted to achieve a high quality final product, which is not easy, even by Western production standards (Maggioni, 2015). For example, in February 2015, IS' *al-Furqan* media group released – via Twitter – a 22-minute video, entitled *Healing the Believer's Chests,* which depicted the immolation of captured Royal Jordanian Air Force Pilot, Muath Safi Yousef alKasasbeh. The video begins by building up to "'dramatic crescendo' using mixed images of effects of air strikes, flying pilots and interviews with [al-Kasasbeh's] family" as al-Kasasbeh is walked towards a cage in an area full of debris and surrounded by a handful of IS fighters "standing in a theatrical pose," their positions and movements seemingly carefully choreographed for dramatic effect (Lombardi, 2015; 94-95). The video, along with other *al-Hayat* and *al-Furqan* productions are all filmed and edited in a consistent matter, suggesting a single director or a small group who possess extremely sophisticated skills and are familiar with editing, writing, and cinematography techniques, drawing from both contemporary motion picture and videogame production. According to Vitale and Keagle (2014), these – often feature length – videos, punctuated with cinematographic effects, such as instant replays and slow-motion shots, "appear to be something from a Hollywood action film or a video game" (p. 9), thereby adding to their appeal to Western audiences.

However, while videos such as the 'The Beheading Series,' and the murder of alKasasbeh have gained a tremendous profile, particularly among Western audiences, their sister category of state-building imagery is arguably just as, if not more, important to IS. This second category of propaganda includes depictions of the enforcement of sharia law through the establishment of a religious police force; the establishment of religious schools; the distribution of food; and the introduction of road ordinances, currency, and, apparently, passports. This imagery of genuine state-building represents an entirely different genre of propaganda and is an integral part of the IS' strategy. For example, the videos *The End of Sykes-Picot, The Flames of War, The Clanging of the Swords I-IV,* and *Upon the Prophetic Methodology,* romanticize the daily lives of IS fighters, attempting to lure new recruits and to legitimize the existence of the Islamic State.

The development of this highly sophisticated media strategy relies upon the decentralized nature of social media, particularly Twitter, and has allowed for the mass dissemination of IS' multitudinous products. While content is created under the direct guidance of IS strategists, dissemination relies upon sympathizers at the grassroots level. Therefore, the message of IS' communications remains strategically unified despite dissemination being 'crowd sourced.' Page 80-81 of the Islamic State ebook entitled *Islamic State 2015,* under the subtitle *The Islamic State Online,* provides an interesting, albeit poorly written, insight into the way the Islamic State disseminates its propaganda:

> It is surprising to notice that the Islamic State does not have a website of its own. Its entire network of propaganda consists of the following media types:
>
> - Professionally edited videos. (ie. al-Furqan, al-Hayat)

- Social media accounts (ie. on Twitter).

- Ebooks and eMagazines. (ie. Dabiq magazine).

The Islamic State's Online world is similar to its practical real life world, in that everything is decentralised. Example: In real life, nobody knows where Khalifah Ibrahim (Abu Bakr al-Baghdadi) is located, similarly no-one has one centralised website they can visit to find the Islamic State and its content. This is really important because by hiding Khalifah Ibrahim's location, no-one can easily assasinate him. Similarly, by not having a website, no-one can hack it and claim online victory.

The Islamic State's content (videos, ebooks, social media accounts) are scattered all around the internet. Just like the different provinces of the Islamic State are scattered in different locations. Each province has its own responsibility in creating its own videos and social media accounts to share its successes. By decentralising everything from the core leadership, even if a province fails online or offline, the leadership and overall Khilafah (Caliphate) leadership project is still safe and can grow elsewhere.

Hashtags: whenever Islamic State members want to promote a cause or message, they will use hashtags (such as: #AllEyesOnISIS) to promote their campaign, message or to advertise a new release.[12]

This extensive reliance on unaffiliated sympathizers either re-tweeting or re-posting content produced and authorized by IS leadership has "no clear precedent" (Barrett, 2014; 51) and thus can be seen as a groundbreaking paradigm shift in the evolution of jihadism in cyberspace. This reliance on unaffiliated sympathizers was clearly exemplified on the day Abu Bakr al-Baghdadi declared the establishment of the Caliphate; IS began circulating pictures of his speech before a video of the speech was uploaded several times on YouTube. The links to these YouTube videos were then uploaded on the widely popular file sharing website *justpaste.it* by agents for IS' official media groups prior to being tweeted by IS to tens of thousands of sympathizers. These sympathizers, in turn, re-tweeted the links and – more importantly – copied and uploaded links to the video and the video itself, using various different accounts. These new links were then added to *justpaste.it* and tweeted again, in a repetitive manner (Barrett, 2014). This strategy, aimed at gaining maximum exposure and overcoming YouTube's attempt to suppress IS propaganda, has shown its efficiency on many other occasions. Another pertinent example of this strategy in action, showing "the ease" and "speed with which IS is able to spread its message" (Barrett, 2014; 52), is that of the film *Flames of War*. After two days of having been uploaded, one randomly selected page (amongst dozens of others promoting the video) had alone recorded 18,034 views within just a seven-hour timeframe.

Moreover, to further its strategy of crowd-sourced dissemination, IS affiliates developed an Android application called *The Dawn of Glad Tiding[13]* to enable users to keep up with the latest news about the activities of Islamic State. Vitally, the application also allows IS' main communication branch to send tweets periodically from the accounts of everyone who has installed the application, thereby flooding social media with IS propaganda without triggering Twitter's spam-detection algorithms (Berger, 2014). *The Dawn of Glad Tiding* first went into wide use in April 2014, but reached an all-time high of almost 40,000 tweets on the day IS marched into Mosul (Vitale and Keagle, 2014).

In addition, IS sympathizers also routinely engage in systematic 'hashtag hijacking,' manipulating Twitter to magnify IS' message. Hashtag hijacking involves the repurposing of popular and/or trending hashtags by adding those hashtags into unrelated tweets as a means of infiltrating conversations. For example, on the eve of the Scottish Independence referendum, an operative from Islamic State's al-Furqan media production unit,

using the Twitter handle @With_Baghdadi, advised his followers that *alFurqan* would soon be releasing a new video. The video, entitled *Lend me Your Ears,* showed kidnapped British photojournalist John Cantlie discussing British foreign policy and his captivity. Within minutes of being uploaded to YouTube, another propaganda operative, identified as Abdulrahman al-Hamid, asked his 4,000 Twitter followers to inform him of the highest trending hashtags on Twitter in the UK:

> *We need those who can supply us with the most active hashtags in the UK. And also the accounts of the most famous celebrities. I believe that the hashtag of Scotland's separation from Britain should be first (as quoted in Malik et al., 2014).*

Replies from his followers advised using #andymurray, #scotland, #VoteNo, #VoteYes and #scotlandindependence when re-tweeting the video in order to raise the video's profile and exposure (as quoted in Malik et al. 2014). Al-Hamid urged his followers to "work hard to publish all the links," while @ With_Baghdadi asked his to "invade [the #VoteNo hastags] with video of the British prisoner" (as quoted in Malik et al., 2014). IS sympathizers have also co-opted World Cup hashtags such as #Brazil2014 or #WC2014 (Vitale and Keagle, 2014) in order to increase the visibility of their messages. Utilizing popular and trending hashtags in conjunction with IS' own hashtags such as #theFridayofsupportingISIS, #Thought_of_a_Lone_ Lion and #AmessagefromISIStoUS, increases the exposure of the message. This strategy allows for a message which has effectively been crafted by only a handful of IS propaganda agents to be disseminated by thousands of sympathizers in order to reach millions of Twitter users. In fact, in the period between 17 September and 17 October 2014, the activities of IS supporters resulted in 4.1 million re-tweets (Barrett, 2014).

3. 1. Implications of IS' Social Media Strategy

Although there is nothing new in violent extremist groups quickly adopting new technology as demonstrated in the section detailing the evolution of the jihadist in cyberspace, what has hardly any precedent is the breadth of the communication strategy implemented by IS. Not only does IS use new technology to create the content which it releases, it also utilizes new technologies innovatively in the dissemination of that content. This strategy has, until now, been only sparsely covered in terrorism study literature. That being said, communications scholar Henry Jenkins' (2006) notion of convergence culture provides a useful theoretical framework to analyze the impact of IS tactics.

According to Jenkins (2006), convergence culture whereby "old and new media collide, where grassroots and corporate media intersect, where the power of the media intersect, where the power of the media producer and the power of the media consumer interact in unpredictable ways" (p. 2), is not a technological change. Rather, it is the embodiment of a social change where media consumers no longer passively consume material, but also engage in the creation of virtual communities, combining their collective intelligence and resources to achieve a defined purpose. The fundamental innovation of IS' media strategy is this exploitation of the collective resource which is its Western followers.

Fundamentally, IS recognizes that the majority of Western supporters will never engage in kinetic actions such as terrorist acts in their homelands, or fighting abroad. Instead, IS utilizes these supporters for the purpose of disseminating information and propaganda relating to their cause. Arguably, not requiring Western supporters to engage actively in physical violence allows IS to garner the participation of these supporters without asking them to cross moral boundaries they might not feel comfortable crossing. This perfectly embodies Brachman's notion of jihobbyists. Brachman (2008) contends that the rise of Web 2.0 allowed individuals who have largely driven their own radicalization without direct assistance, training, or

support "to move forward the Jihadist agenda" (p. 19).

In addition to increasing the exposure of IS' message, these disseminators also seek to move forward this jihadist agenda by aiding IS to gain recognition and acceptance. In other words, they are actively engaged in an attempt to normalize IS' narrative. IS media strategy can be understood in terms of soft power projection. While some of IS' propaganda is clearly aimed at intimidating Western audiences with depictions of atrocities and human rights abuse, these intimidation tactics have been punctuated with imagery of genuine state-building exercises. These images include the depiction of IS' engagement in administrative functions. Particularly relevant examples include: the enforcement of sharia law through the establishment of a religious police force; the establishment of religious schools; the distribution of food; and reconstruction projects (Lefler, 2014). The aim of these depictions is the advancement of the notion of Islamic State as a legitimate state in order to gain long-term support of the local populace. This is of critical importance to IS in its attempt to socialize the Muslim world to the ideas and values of Islamic State.

In order to socialize its global Muslim audience, the mass dissemination of IS' carefully crafted message seeks to dominate the narrative. The creation of an echo chamber amplifies and reinforces its messages through transmission and repetitions whilst also drowning out competing views. In order words, by ensuring that its narrative is louder than that of its opponents, IS' sophisticated use of social media creates an impression of large legitimate online support, which exceeds the actual reality. Whilst videos of beheadings and other atrocities have gained tremendous profile, possibly more important is the positive narrative created by IS videos which depict a unified community where pious men police the streets eliminating drugs and making sure everyone prays together. This offers a sharply idealized contrast to most states in the Middle East, where aging autocrats are seen to preside over irredeemably corrupt and stagnant governments, and can arguably be seen as IS' greatest success.

Despite IS' impressive social media strategy, its narrative remains vulnerable to challenges. Echo chambers are typically present within closed systems, such as online forums, which are hermetically sealed from divergent perspectives. However, Twitter in itself is not a closed system. As such, whilst any open system may be open to domination by a series of 'loud noises', this domination of narrative is only temporary and can be challenged by various competing views, which in this particular case weakens the 'absoluteness' of IS' message. Among these challenges the satire from within Muslim world has been particularly effective in slowly eroding the absoluteness of the IS narrative. For example, the *Burn the IS Flag* campaign, seemingly started by Muslims outraged by the actions of IS, has been trending on Twitter under the hashtags #BurnISISFlagChallenge and #BurnISIS. Based on the *ALS Ice Bucket Challenge,* the movement features people posting photos and videos of themselves burning IS' banner and then challenging their friends to follow suit (Palmer, 2014). Similarly, the US State Department's launch of a tough and graphic counter campaign uses IS' own images of barbaric acts against fellow Muslims in propaganda which counters IS' narrative. The corner stone of this counter-campaign is a video entitled *Run – Do Not Walk to ISIS Land,* which tells potential recruits that they can learn "useful new skills" such as "blowing up mosques" and "crucifying and executing Muslims," in a sarcastic attempt to illustrate the appeal of joining IS, whilst also offering an alternative to IS' seductive message (Logiurato, 2014). More recently, on August 4, 2015, the video agency *Verbalisation* launched a highly powerful and moving video on Twitter and Youtube as part of the Quilliam Foundation's #NotAnotherBrother campaign, which aims to highlight the effects of online radicalization. Drawing on months of research by military experts, psychologists, linguists, and crowdfunded by 150 donors, the video has been shared widely on social media ("Anti-Isis YouTube video," 2015). However, it remains too early to evaluate the impact, if any, it will have in countering Islamic States' narrative.

Conclusion

As demonstrated in this paper, IS relies on a global network of disseminators to promote its material. Instead of a single source acting as the monolithic voice of the organization, multiple messengers collaborate to communicate its message thus lending the appearance of authenticity and wide acceptance. It also creates a huge problem for the people attempting to curb the spread of IS's messages. Blocking multiple offending users as they pop up becomes a challenge, and squashing violent statements on Twitter brings up questions regarding free speech that are as yet unanswered. Moreover, relying exclusively on the administrators of social media platforms to effectively limit the spread of IS ideology through account closures and suspensions is unreliable at best. In this era of instantaneous global communication it is, for the most part, futile to close or suspend accounts unless this is nested within a wider, comprehensive anti-propaganda effort designed to neuter IS' domination of the narrative.

Perhaps the biggest mistake in the 'War on Terror' was the belief that the destruction of Al-Qaeda's training camps and leadership would lead to the demise of the group, its affiliated movements, and its ideology. In the same way that Islamic State's land grab is impressive, if shocking, the group's online actions have been even more deeply troubling. The pervasiveness of its ideology and message means that defeating the group will require more of Western governments than a simple military response in Iraq, or even elsewhere in the Middle East: the message itself needs effective countering as well. Western countries need to use an integrated, coordinated, and synchronized approach, with support from allied countries in the Islamic world and Muslim civil society more generally, in order to accomplish such a goal.

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Notes

[1] An earlier version of this paper was presented at the 6th International Terrorism and Transnational Crime Conference held in Antalya, Turkey on December 5-7, 2014. The author would like to thank Echosec and Paterva for their assistance in obtaining some of the software tools employed for the monitoring of IS' social media activities which has furthered this research.

[2] Evidence suggests that terrorist groups, irrespective of ideology, were quick to embrace the power of the Internet to pursue their strategic objectives. In fact, in 1998, fewer than half of the 30 groups designated as foreign terrorist organizations by the US State Department under the Antiterrorism and Effective Death Penalty Act of 1996 maintained websites. By the end of 1999, nearly all designated organizations had established an Internet presence (Weimann, 2006).

[3] Alneda.com was famously hacked and defaced with the words "'Hacked, tracked and now owned by the USA" by American pornographic site owner Jon Messner for five days in August 2002 before the site's administrators managed to regain control. (Awan and Al-Lami, 2009: 57). Similarly, between 2002 and 2003, the Internet Haganah, a self-described "global intelligence network dedicated to confronting Internet activities by Islamists and their supporters, enablers and apologists," shutd own more than 600 sites it claimed were "linked to terror" (Awan and Al-Lami, 2009: 57-58). The Internet Haganah also engaged in a campaign

requesting American based Internet Service Providers to shut down sites of concerns.

[4] A notable example was the arrest and subsequent extradition to the United States of Babar Ahmad, the creator of azzam.com, under the UK Terrorism Act (Awan and Al-Lami, 2009).

[5] On 27, December 2004, Bin Laden acknowledged al-Zarqawi stating: "we call for the unification of jihadist groups under one rule, recognizing al-Zarqawi as al-Qaeda's emir in Iraq" (as quoted in Maggioni, 2015; 56).

[6] YouTube was established in February 2005 as an online repository for sharing video content. According to YouTube, on average more than one billion users watch about six billion hours of video footage every month. Every minute, 100 hours of new videos are uploaded (Weimann, 2014; 10).

[7] A similar tactic, minus the blades, was employed in the West on at least three occasions: In 2006, Mohammed Taheri-Azar injured nine people with a sports utility vehicle on the campus of the University of North Carolina at Chapel Hill (Spencer, 2010); On 22 May 2013, a British Army solider was run over by a car before being stabbed and hacked to death by two converts to Islam in the southeast of London ("Return to old-style terror," 2013); and more recently, a Canadian solider was killed and another one injured after being deliberately struck by a car driven by a convert who had previously expressed a desire to travel to Iraq to fight with ISIS (Woods, 2014). This tactic embodies the essence of 'do-it-yourself' terrorism, as it "offers terrorists with limited access to explosives or weapons an opportunity to conduct a homeland attack with minimal prior training or experience" (FBI, 2010),

[8] A 2009 British government analysis of YouTube found 1,910 videos of al-Awlaki, one of which had been viewed 164,420 times (Weimann, 2014). Similarly, in 2008, his popular lecture *Constants on the Path of Jihad* was available on ummah.com, a mainstream site that received at the time approximately 48,300 visit per month from the US alone (Meleagrou-Hitchens, 2011).

[9] Al-Awlaki is believed to have been in contact with at least two of the 9/11 hijackers. He is also credited with inspiring or directing a number of other terrorist attacks: the failed 2008 Times Square bombing; the 2009 shooting inside the Fort Hood military base; the failed 2009 "underwear bomber;" and a failed 2010 bombing attempt involving a parcel bomb hidden inside a printer in the cargo hold of a passenger jet (Weimann, 2014). Moreover, Roshanara Choudhry, a Muslim student jailed for attempting to murder British MP Stephen Timms in May 2010, claimed that she was radicalized after listening to Awlaki's YouTube videos (Weimann, 2014).

[10] Dabiq is a town located in north Syria and is mentioned in a hadith (6924) which describes events of the Malahim (Armageddon) where the greatest battle between Muslims and the crusaders will take places before the Messiah returns (Saltman and Winter, 2014). Although it is worth noting that some advanced Koranic Studies experts regard this interpretation as a reductionary take on a very complex hadith, the jihadist groups has capitalized on this narrative (Maggioni, 2015; 71). In fact, al-Zarqawi had stated (prior to being killed by a U.S. missile strike in 2006) that: "The spark has been lit here in Iraq, and its heart will continue to intensify – by Allah's permission – until it burns the crusader armies in Dabiq." (as quoted in Maggioni, 2015; 71). This sentence appears above the index of each issue of *Dabiq* released thus far. Moreover, the executioner of Peter Kassig, known within media circles as Jihadi John, also references Dabiq in the now infamous video of Kassig's beheading, stating: "Here we are, burying the first American Crusader in Dabiq, eagerly waiting for the remainder of your armies to arrive," while the severed head of Kassig is shown on camera (as quoted in Maggioni, 2015; 71).

[11] For a more in-depth content analysis of videos published by IS media groups, see (Winter, 2015; and Zelin, 2015).

[12] The full text is available at http://syriancivilwararchive.com/PDF/The%20Islamic%20State%202015,%20 an%20E-Book%20that%20describes%20the%20battle%20strategies,%20training%20camps,%20and%20 future%20expansion%20projects,%20all%20from%20a%20Daesh%20supporter's%20perspective.pdf [Accessed August 15, 2015].

[13] *The Dawn of Glad Tiding* was available through the Google Play store prior to its removal for violating Google's terms of service.

Bibliography

Amble, J. C. (2012) Combating Terrorism in the New Media Environment. *Studies in Conflict & Terrorism,* 35(5), 339–353.

Anti-isis YouTube video aims to counter terror group's social media campaign. (2015, 4 August). *The Guardian.* Retrived from http://www.theguardian.com/media/2015/aug/04/anti-isis-youtube-video-notanotherbrother

Awan, A. N. and Al-Lami. M. (2009) Al-Qa'ida's Virtual Crisis. *The RUSI Journal,* 154(1), 56-64.

Berger, J.M. (2014, June 16). How ISIS Games Twitter. *The Atlantic.* Retrieved from *http://www.theatlantic. com/international/archive/2014/06/isis-iraq-twitter-social-media-strategy/372856/.*

Bousquet, A. (2012) Complexity Theory and the War on Terror: Understanding the Self-Organising Dynamics of Leaderless Jihad. *Journal of International Relations and Development,* 15, 345-369.

Burke, J. (2003). *Al-Qaeda: Casting a Shadow of Terror.* New York: I.B. Tauris.

Chittooran, J. T. (2013). The Syrian Conflict in a Connected World. *Council on Foreign Relations.* Retrieved from http://www.cfr.org/content/publications/attachments/Syrian_Conflict_in_a_Connected_World_ Rapporteur_Notes_7-2-13.pdf.

Conway, M. (2012) From al-Zarqawi to al-Awlaki: The emergence and development of an online radical milieu. *CTX: Combating Terrorism Exchange,* 2(4), 12-22.

Conway, M., & McInerney, L. (2008). Jihadi Video & Auto-Radicalisation: Evidence from an Exploratory YouTube Study. In proceedings of the 1st European Conference on intelligence and Security informatics.

Department of Homeland Security. (2013). Terrorist Use of Vehicle Ramming Tactics. (Report No. IA-0086-11). Retrieved from https://publicintelligence.net/ufouo-dhs-fbi-warning-terrorist-use-of-vehicle-ramming-tactics/.

Eedle, P. (2005). Al Qaeda's Media Strategy. In K. G. Greenberg (Eds.), *Al Qaeda Now.* Cambridge: Cambridge University Press, 2005.

Fieldland, E. (2014). The Islamic State (ISIS) Fact Sheet. *Clarion Project.* Retrieved from www.clarionproject. org/factsheet/islamic-state-isis-isil.

Gambhir, H. (2014). Dbiq: The Strategic Messaging of the Islamic State. *Institute for the Study of War.* Retrieved from *https://www.understandingwar.org/backgrounder/dabiq-strategic-messaging-islamic-state*

Gulmohamad, Z. K. (2014) The Rise and Fall of the Islamic State of Iraq and Al-Sham (Levant) ISIS. *Global Security Studies,* 5(2), 1-11.

Hoeren T. & Vossen, G. Manifest: The Role of Law in an Electronic World Dominated by Web 2.0. *Computer Science Research and Development,* 23(1), 7-13.

Hoffman, B. (2010, July 21). The American Jihad, Part II. *The National Interest.* Retrieved from http://nationalinterest.org/commentary/american-jihad-part-ii-3680.

Jenkins, B. M. (2003). Is Al Qaeda's Internet Strategy Working? *The RAND Corporation.* Retrieved from http://www.rand.org/content/dam/rand/pubs/testimonies/2011/RAND_CT371.pdf

Jenkins, H. (2006). Convergence Culture: Where old and New Media Collide. *New York: New York University Press.*

Kase, S. E., Mowman, E. K., Al Amin, T., & Abdelzahar, T. (June 2014) Exploiting Social Media for Army Operations: Syrian Civil War Use Case. *Army Research Laboratory.* (Report ARL-RP-0489). Retrieved from www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA60368

Kimmage, D. (2008). The Al-Qaeda Media Nexus: The Virtual Network Behind the Global Message. *Radio Free Europe/ Radio Liberty.* Retrieved from http://www.e-prism.org/images/AQ_Media_Nexus_-_March08.pdf

Kirdar, M.J. (2011). "al-Qaeda in Iraq." *Center for Strategic & International Studies.* Retrieved form www.csis.org/files/publication/110614_Kirdar_AlQaedaIraq_Web.pdf

Lefler, J. (2014). Life under ISIS in Mosul. *Institute for the study of War.* Retrieved from http://iswiraq.blogspot.com/2014/07/ life-under-isis-in-mosul.html.

Lombardi, M. (2015) IS 2.0 and Beyond: The Caliphate's Communication Project, in Twitter and Jihad: the Communication Strategy of ISIS, edited by Monica Maggioni and Paolo Magri, *Italian Institute for International Political Studies,* 84-120. Retrieved from http://www.ispionline.it/sites/default/files/pubblicazioni/twitter_and_jihad_en.pdf

Lemieux, A. F., Brachman, J. M., Levitt, J., & Wood, J. (2014) *Inspire* Magazine: A Critical Analysis of its Significance and Potential Impact Through the Lens of the Information, Motivation, and Behavioral Skills Model. *Terrorism and Political Violence,* 26(2) 354-371.

Lewis, J. D. (2014). The Islamic State: A Counter-Strategic for a Counter-State. *Middle East Security.* (*Report* 21). Retrieved from http://www.understandingwar.org/sites/default/files/Lewis-Center%20of%20gravity.pdf

Loguirato, B. (2014, September 5). U.S. releases mock ISIS recruitment video that shows jihadist group blowing up mosques, crucifying Muslims. *The National Post.* Retrieved from http://news.nationalpost.com/2014/09/05/u-s-releases-mock-isis-recruitment-video-that-shows-jihadist-group-blowing-up-mosques-crucifying-muslims/.

Lynch, M., Freelon, D., & Aday, S. (2014). Syria's Socially Mediated Civil War. *United States Institute of Peace.* Retrieved from http://www.usip.org/sites/default/files/PW91-Syrias%20Socially%20Mediated%20Civil%20War.pdf

Maggioni, M. (2015), The Islamic State: Not That Surprising, If You Know Where to Look, In Twitter and Jihad: the Communication Strategy of ISIS, edited by Monica Maggioni and Paolo Magri, *Italian Institute for International Political Studies,* 49-81. Retrieved from http://www.ispionline.it/sites/default/files/pubblicazioni/twitter_and_jihad_en.pdf

Malik, S., Laville S., Cresci, E., & Gani, A. (2014, September 24). ISIS duel with Twitter and YouTube to spread extremist propaganda. *The Guardian*. Retrieved from http://www.theguardian.com/world/2014/sep/24/isis-twitter-youtube-message-social-media-jihadi

Meleagrou-Hitchens, A. (2011). As American as Apple Pie: How Anwar al- Awlaki Became the Face of Western Jihad. *The International Centre for the Study of Radicalisation and Political Violence.*

Michael, G. (2013) The New Media and the Rise of Exhortatory Terrorism. *Strategic Studies Quarterly* Spring, 7(1), 40-68.

O'Callaghan, D., Prucha, N., Greene, D., Conway. M., Carthy, Joe., & Cunningham, P. (2014). *Online Social Media in the Syria Conflict: Encompassing the Extremes and the In-Betweens*. Paper presented at the International Conference on Advances in Social Networks Analysis and Mining.

Palmer, E. (2014, September 4). 'Burn Isis Flag Challenge' Goes Viral in Arab World. *Yahoo News.* Retrieved from https://uk.news.yahoo.com/burn-isis-flag-challenge-goes-viral-arab-world-124824439.html#71eHmsL.

Ramsay, G. (2009). Relocating the Virtual War. *Defence Against Terrorism Review,* 2(1), 31–50.

Rid, T., & Hecker, M. (2009). *War 2.0: Irregular Warfare in the Information Age.* Westport, CT and London: Praeger Security International.

Return to old-style terror. (2013, May 25). *The Economist.* Retrieved from http://www.economist.com/news/britain/21578453-shocking-killing-reminder-disorganised-jihadists-are-harder-stop-organised.

Saltman, E. M., & Winter, C. (2014). Islamic State: The Changing Face of Modern Jihadism. *Quilliam.* Retrieved from http://www.quilliamfoundation.org/wp/wp-content/uploads/publications/free/islamic-state-the-changing-face-of-modern-jihadism.pdf

Sageman, M. (2008), *Leaderless Jihad: Terror Networks in the Twenty-First Century.* Philadelphia: University of Pennsylvania Press.

Seabrook, J. (2013, January 12). Streaming Dreams. *The New Yorker.* Retrieved from http://www.newyorker.com/magazine/2012/01/16/streaming-dreams.

Spencer, R. (2010, October 12). Al-Qaeda Magazine Teaches How to Kill Americans, *The Telegraph*. Retrieved from http://www.telegraph.co.uk/news/worldnews/middleeast/yemen/8059725/Al-Qaeda-magazine-teaches-how-to-kill-Americans.html.

Styszynski, M. (2014). ISIS and Al Qaeda: Expanding the Jihadist Discourse. *Counter Terrorist Trends and Analysis,* 6(8), 9-14.

Talbot, D. (2014, February 1). Terror's Server. *Technology Review.* Retrieved from http://www.technologyreview.com/featuredstory/403657/terrors-server/.

Thomas, T. L. (2013) Al-Qaeda and the Internet: The Danger of 'Cyberplanning'. *Parameters*, 112-123.

Torres, M., Jordan, J., & Horsburgh, N. (2006) Analysis and Evolution of the Global Jihadist Movement Propaganda. *Terrorism and Political Violence,* 18, 399-421.

Torres-Seriano, M. R. (2013) The Dynamics of Creation, Evolution, and Disappearance of Terrorist Internet Forums. *International Journal of Conflict and Violence,* 7(1), 164-178.

Tsfati, Y., & Weimann, G. (2002) www.terrorism.com: Terror on the Internet. *Studies in Conflict & Terrorism,* 25(5), 317-332.

Vitale, H. M., & Keagle, J.M. (2014). A Time to Tweet, as well as a Time to Kill: ISIS' Project of Power in Iraq and Syria. *Institute for National Strategic Studies.* Retrieved from http://ndupress.ndu.edu/Portals/68/Documents/defensehorizon/DH-77.pdf

Weimann, G. (2014). New Terrorism and New Media. *Commons Lab of the Woodrow Wilson International Center for Scholars,* Retrieved from http://www.wilsoncenter.org/publication/new-terrorism-and-new-media.

Weimann, G. (2008) The Psychology of Mass-Mediated Terrorism. *American Behavioral Scientist,* 52(69), 69-86.

Weimann, G. (2006). Terror on the Internet: The New Arena, the New Challenges. *Washington, DC: United States Institute of Peace.*

Winter, C. (2015) I The Virtual 'Caliphate': Understanding Islamic State's Propaganda Strategy, *Quilliam.* Retrieved from http://www.quilliamfoundation.org/wp/wp-content/uploads/publications/free/the-virtual-caliphate-understanding-islamic-states-propaganda-strategy.pdf

Woods, A. (2014, October 26). How Martin Couture-Rouleau became an aspiring Islamic State fighter. *The Star.* Retrieved from http://www.thestar.com/news/canada/2014/10/26/how_martin_couturerouleau_became_an_aspiring_islamic_state_fighter.html.

Zelin, A. Y., (2015). Picture Or It Didn't Happen: A Snapshot of the Islamic State's Official Media Output. *Perspective on Terrorism,* 9(4), 85-97.