

Cracks in the Online “Caliphate”: How the Islamic State is Losing Ground in the Battle for Cyberspace

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Abstract

This article argues that the Islamic State’s cyber jihad, fully launched in 2014, is currently undergoing a regression that is demonstrated by the weakening of its quality, coverage and effectiveness. Comparing the character, major forms and popularity of Daesh’s releases from 2014 and 2015 with its most up-to-date productions, one can notice evident alterations signaling the long-awaited, but limited as yet, impairment of the “Caliphate’s” propaganda machine, composed of such specialized cells as the Amaq News Agency, al-Furqan Media, al-I’tisam Foundation, al-Himmah Library, or the al-Hayat Media Center. This transition is caused by a multitude of factors, with both offline and online origins.

Keywords: ISIS, cyber jihad, Daesh, propaganda, Caliphate

Introduction

The phenomenon of cyber jihad has been thoroughly discussed by the academic community, blogosphere pundits, the media and government decision-makers around the world. Despite the fact that it has been ongoing for more than two decades, Islamist propaganda in cyberspace has only recently been widely recognized as a top international security threat.[1] This is mostly due to the fact that in 2014 the Islamic State launched the most advanced, massive and probably also the most efficient cyber jihad campaign ever. Its operations online resulted in, to use U.S. military doctrine terms, *shock and awe* among Western audiences. Images and recordings of brutally decapitated, shot or burned hostages, professionally recorded and directed, instantly proliferated over the Web 2.0 environment, reaching millions of Internet users. A similar phenomenon (but on a smaller scale) has occurred with other advanced releases of Daesh: battle footage, “documentaries”, online magazines, and *nasheed* music videos.

It is unsurprising that much has already been written about the character of the Islamic State’s activities on the Internet. Some academics have focused their research on the communication channels exploited by Daesh, while others have analyzed the content of its propaganda releases. Moreover, many scientists have attempted to assess the impact of its cyber jihad on international security.[2] All these monographs, papers and reports usually have one thing in common—they all agree that the Islamic State’s propaganda on the Internet is sophisticated, well-thought-out, and a threat to the internal stability and safety of developed states.

With this background in mind, this article argues that the Islamic State’s cyber jihad—fully launched at the turn of 2014[3]—is currently undergoing a regression that is demonstrated by the weakening of its quality, coverage and effectiveness. Comparing the character, major forms and popularity of Daesh’s releases from 2014 and 2015 to its most up-to-date productions, one can notice evident alterations signaling the long-awaited (though currently limited) impairment of the “Caliphate’s” propaganda machine, composed of such specialized cells as the Amaq News Agency, al-Furqan Media, al-I’tisam Foundation, al-Himmah Library, or the al-Hayat Media Center. This transition is caused by a multitude of factors, with both off-line and on-line origins.

This study has two major goals. The first is to compare the current characteristics of the Islamic State’s cyber jihad with its 2014-2015 features. There are several distinct differences regarding (among others) the distribution strategies exploited, the scope of propaganda proliferation, and the quantity and quality of various materials. The second goal is to provide an answer to an important question: What has influenced

the recent degradation of Daesh's psychological operations (PSYOPs) in cyberspace? This issue has crucial meaning for international security, as it may suggest which anti-*jihadi* solutions introduced by developed states are proving to be effective in the long run.

In order to achieve these goals, this article has been divided into three parts. The first contains an overview of the Islamic State's initial cyber jihad features, as well as the reasons why it became so successful. The second examines the major negative changes in the online activities conducted by Daesh that have taken place since the end of 2015. Finally, the last section of the article explains what has caused this degradation.

Islamic State's Online Blitz, 2014-2015

The Islamic State's full-blown propaganda campaign in cyberspace was launched at the turn of 2014, which slightly preceded the proclamation of the "Caliphate".[4] This does not mean that ISIS/ISIL did not devote its resources to cyber jihad before. It is clear that the organization had developed its information warfare capabilities throughout the Syrian conflict, which was proved by many releases posted online in 2012 and 2013.[5] The quality of these early productions varied. Some, like the famous rally video depicting probably the ill-famed *Jihadi John* and Abu Omar al-Shishani, were no different from other Islamist terrorists' productions at the time.[6] Others constituted glimpses of their future mastery in online PSYOPs. As early as November 2013, ISIS combat footage, recorded in high definition, had already drawn limited attention from Internet users on the popular video hosting service *LiveLeak* due to its unusual technical parameters and the proficiency of its director.[7] The upsurge in the quality and quantity of propaganda releases corresponded with fast territorial gains at the time. In effect, when the "Caliphate" was declared on June 29, 2014, the basic tools of cyber jihad—aiming to indoctrinate and gather the support of Muslim societies around the world, as well as to intimidate its real or imaginary enemies—were tried, tested and ready to go.

There are various opinions among academics concerning the major goals of the Islamic State's cyber jihad. On the one hand, according to Gabi Siboni, Daniel Cohen and Tal Koren: "ISIS's propaganda machine and the use of the social communications media fulfill two important functions (...) The first is psychological warfare, targeting the morale of the enemy's soldiers (...) The second involves gaining support from Western Islamic groups, while unifying the Islamic State's soldiers behind one goal." [8] In contrast, Lauren Williams argues that "Islamic State's media effort has a number of aims that target both sympathetic and hostile audiences. One goal is to recruit supporters (...) A second goal is to generate fear among its opponents, which has very specific advantages on the battlefield. A third goal is to assert its legitimacy and gain acceptance of its status as a state." [9] In this context, it must be stressed that the bulk of Islamic State's releases target Muslim societies around the world, although they also attempt to influence "disbelievers".

From day one, Daesh's propaganda has utilized advanced methods of distribution. This was one of the key reasons for its impressive success. To begin with, Al-Hayat Media Center, as well as other specialized cells, benefited from the vast popularity of both mainstream (Facebook, Twitter) and niche social media platforms. Unlike many other terrorist organizations, they relied on a massive network of tens of thousands of unaffiliated supporters in the Web 2.0 environment, which used the "share" function to transfer the propaganda to their followers and peers.[10] This in turn contributed to the creation of a specific "snowball effect" in cyberspace. As a result, one message posted in one place could potentially reach hundreds of thousands or even millions of Internet users. Clearly Islamic State perfected the use of social media to reach audiences, who would normally never seek *jihadi* materials online. The surprising efficiency of social networks in the Islamic State's strategy was accurately explained by Victoria Pues, who stressed that "young westerners encounter (...) terrorist content in their ordinary online environment. It makes a significant difference whether we see terror attacks in the format of the evening news or on our newsfeed on Facebook. Firstly, it is a more direct conversation between terrorist organization and target on a more individual basis (...) Secondly, the content is not framed by the news agency's comments but is reaching the user unfiltered

and framed by harmless tweets and posts of friends. Thirdly, the content published over social media does not have the format of ordinary advertisement.”[11] To summarize, thanks to the sophisticated use of social networking, as well as thousands of supporters online, the Islamic State’s ideological influences could reach a truly global audience.

The same trend occurred in other services corresponding technologically with social media—i.e., image, video and audio hosting services such as *YouTube*, *LiveLeak*, *Instagram* or *Tumblr*. Their popularity was utilized by Daesh to spread various types of propaganda, which quickly proliferated in the interconnected environment of Web 2.0, despite numerous counteractions by social media service administrators.[12] In fact, services which allow audiovisual content online to be posted played a crucial role in Daesh’s cyber jihad. This was manifested by the apparent “success” of a video series depicting the savage decapitations of Western citizens, such as James Foley, Steven Sotloff, David Haines, Alan Henning or Peter Kassig.[13] These videos spread instantly, just after their initial release, across the web, reaching massive audiences.[14] Moreover, they came to the increased attention of the mass media, which due to its alarming reports on these executions further fueled Internet users’ interest in Islamic State propaganda.

Aside from social media and hosting services, the Islamic State utilized several other channels of distribution. Initially, traditional websites and blogs, frequently located on the most popular blogosphere platforms (e.g. *BlogSpot*).[15] They were clearly secondary, backup channels of distribution, as in principle, they are much more difficult to find via conventional search engines. Moreover, they are frequently deleted, and thus their addresses tend to change. They have, however, two major advantages: they can be easily and quickly recreated (using blogger templates) and they can act as repositories, gathering all manner of content released by Daesh in one place. Another channel used by the Islamic State in cyberspace is the radio. Despite the fact that since its creation the “Caliphate” did not launch a proper online radio, it operates a conventional one called *al-Bayan*, which broadcasts locally in many *wilayahs*. According to the Memri Cyber & Jihad Lab, its content was, however, disseminated in cyberspace using various formats and channels, most notably through the *archive.org* website.[16] Finally, the Islamic State also exploited various online communication applications, such as *Skype*, *Signal*, *Whatsapp* and *SnapChat*. They were usually used for more confidential forms of contact. This kind of software was frequently utilized for recruitment purposes at the later stages of selection, as it provided a high degree of privacy and security for terrorists.[17]

Daesh propaganda releases can be divided into four major categories:

- audio (radio broadcasts, *nasheed* music)
- visual (memes, pictures, banners, symbols, infographics)
- audiovisual (execution recordings, battle footage, “documentaries”, interviews, *nasheed* music videos, short advertisements and reportages, such as *mujatweets*)
- text (websites and social media statements and news, leaders’ declarations, bulletins, online magazines)

The most influential and successful pieces of propaganda posted online in 2014 and 2015 were clearly videos, which depicted the sheer brutality of the Islamic State’s executioners. These materials proved to be unusual and exceptionally disturbing, when compared to the “mainstream” *jihadi* releases. They proliferated instantly over the Web, reaching millions of Internet users, and thus becoming the greatest success in the history of cyber jihad.[18] Equally sophisticated audiovisual content in the form of *nasheed* music videos, which frequently resembled the best American and Western European pop stars’ productions, was also hugely successful. This was perfectly symbolized by the infamous *nasheed* entitled *Fisabilillah*, which encouraged recipients to conduct terrorist attacks against the “disbelievers”. Only one of its sources, posted on the popular video hosting service *LiveLeak*, has been viewed more than 120,000 times since April 2015. It has to be

stressed that both the audio and visual layers of this music video were very impressive.[19] Other Islamic State productions—such as “documentaries”, interviews and reports (e.g. *mujatweets*, *Windows* episodes)—were clearly designed to look like the best programs from global TV networks. All of them were of the highest technical quality and contained sophisticated manipulation techniques. From the plethora of audiovisual content, only the ordinary (but still usually recorded in high-definition[20]) battle footage lacked this exquisite complexity, yet it was still an important method of glorifying IS members’ heroism and dedication to jihad, and thus encouraging recipients to follow in their footsteps.[21]

Texts, including primarily online magazines (“*Dabiq*”, “*Islamic State News*”, “*Islamic State Report*”, “*Dar al-Islam*”, “*Konstantiniyye*”, “*Istok*” or “*Furat Press*”)[22], Internet bulletins, as well as declarations and statements posted on the web usually had the same high technical quality, as well as exploited similar, advanced manipulation methods. Their roles were, however, narrower, as they usually aimed to enlist or strengthen the attitudes of jihadist supporters. For instance, “*Dabiq*” being the most recognized media outlet of this kind, frequently used narratives that encouraged Muslims living in the West to conduct *hijrah* [migration] to the Islamic State.[23] Other articles and statements regularly attempted to inform or to mislead global audiences about events which held importance for the al-Baghdadi organization. Thus, their importance when it comes to shocking and terrorizing “disbelievers” and “crusaders” was rather marginal.

The significance and form of the IS’s visual propaganda varied. Some—such as the ordinary pictures, symbols and banners—played rather decorative or informative roles, despite their high quality, as they were extensively used in online bulletins, social media, articles, magazines, and movies released on the Internet. However, within the wealth of Islamic State visual productions, memes and infographics stood out, as they both employed persuasion techniques, were easily exploitable via social media, and appealed to qualitatively different groups of receivers. Memes composed of a picture/-s combined with a short text message, on the one hand, were designed to reach younger, less educated and less aware audiences. They frequently contained references to mass culture canons, such as popular movies, music, ideas, gestures or symbols. These pieces of propaganda usually exploited humor and aimed to infect ignorant receivers with jihadist concepts, to recruit them or only to improve the organization’s image among the youth. Infographics, on the other hand, were designed to reach more demanding and conscious audiences, who usually need illusionary facts and statistics, in order to strengthen or to change their attitudes. Both, however, were easily transmittable via social media communication channels, and therefore, played a key role in the online strategy of the Islamic State.[24]

Audio propaganda fulfilled similar functions. *Nasheed* songs and radio broadcasts were usually designed to encourage Muslim audiences to enter the path of jihad, and to reinforce the attitudes of IS supporters. Some also provided false information to audiences. *Nasheed* songs frequently referred to such themes as war and fighting, which inspired some listeners,[25] while, radio broadcasts covered a much wider spectrum of issues, ranging from religious programs and *nasheeds* to news bulletins. The quality of these broadcasts often compared favorably to popular Western radio stations like NPR.[26] Nevertheless, this kind of content played a rather complementary role in the online strategy of the Islamic State in comparison to its audiovisual, visual or text propaganda.

In this context, the Islamic State’s cyber jihad in 2014 and 2015 had several outstanding features, which ensured its success:

1. Its initial creativity in the planning and realization of executions was somewhat surprising. In addition to beheadings, Daesh members shot, burned and crucified its prisoners, and some victims were also dropped from roofs. Sometimes, these executions were carried out by child soldiers, which was even more disturbing for audiences, as it was a visible sign of the complete dehumanization of the

Islamic State's propagandists. Obviously, this was done intentionally, in order to shock and intimidate "disbelievers", "apostates", "crusaders" and "heretics".

2. Many of Islamic State's audiovisual productions (e.g. "documentaries") were carefully directed and edited. As Charlie Winter described one of Daesh's videos: "undeniably, the production effort behind *Although the Disbelievers Dislike It* was formidable. It is clear that the content of the video was carefully considered and the individual (or individuals) who directed it were obvious perfectionists. The fact that they took between four and six hours to film a single scene using a number of different takes demonstrates this." [27] These features noticed by Charlie Winter could be observed in the majority of serious IS audiovisual productions, which exploited such professional methods of filmmaking as: aerial shots, crowd shots, ambient light, various camera angles (even first person), compilations, adjusting the range of colors, depth of field, and slow motion. [28] A recent study by Ahmet S. Yayla and Anne Speckhard indicates that these advanced techniques, contrary to popular belief, were employed not only by foreign-educated IS members, but also locals, such as Syrian engineers, using professional equipment. [29]
3. Post-production was also of the highest quality, which was proved by frequent and impressive special effects, as well as professional computer graphics (both 2D and 3D). For instance, *the al-Hayat Media Center* 3D official teardrop-like spinning logotype seen at the beginning of many videos can be viewed as proof that Daesh make use of a team of skillful and experienced CG artists.
4. The majority of productions, especially those aimed at non-Arabic speaking audiences, were released in high-definition, which was rare among other terrorist groups in 2014.
5. Its audiovisuals were usually well-thought-out and far more sophisticated than the average cyber jihadist messages. Aside from "traditional" content like forced prisoners' speeches, Daesh productions frequently referred to the most up-to-date political events, commented on statements of NATO/EU state leaders, contained professionally conducted interviews, street surveys, and presented the ordinary life of Islamic State citizens. Moreover, all of Daesh's propaganda materials, including "documentaries", reports, interviews, articles, *nasheeds* and the aforementioned executions, utilized advanced propaganda techniques. The most evident were: artificial dichotomy (demonizing the *kuffar* and "crusaders"), bandwagoning (presenting Daesh as the bright and only valid future for Muslims), testimonial, deification (appealing to the *Quran* and Allah), glittering generalities and the distortion of data (providing manipulated or forged statistics).
6. The propaganda strategy of the Islamic State was strongly supported by a number of professionals originating from NATO/EU states, which allowed the quality of its productions to be taken to a whole new level. Some of the best-known examples include the former German rapper Denis Cuspert (*Deso Dogg*, who was responsible for *nasheed* production), IT specialist Mohammed Emwazi (*Jihadi John*, who participated in the most ill-famed executions), and the British rapper Abdel-Majed Abdel Bary (*L.Jinny*, who conducted propaganda on Twitter). This could explain the unusual fitting of IS propaganda to mass culture and cyber culture canons in the Web 2.0 environment.
7. In principle, the campaign was also multilingual. Daesh published its releases not only in English and Arabic, but also in German, French, Russian, Polish, Mandarin Chinese, Bengali, Uyghur, Sorani, Indonesian and Turkish. [30] This effectively meant that it was the first cyber *jihadi* campaign to ever have truly global scope, reaching not only Muslim societies but also these nations and ethnic groups, which should not be an important target for Abu Bakr al-Baghdadi's organization. Such a solution

resulted in significant success, as even in relatively homogenous, Christian countries, this propaganda allowed some new members to be recruited. For instance, there were dozens of Polish citizens fighting for the Islamic State in mid-2016.[31]

Finally, it must be stressed that the early propaganda strategy of the Islamic State in cyberspace had a feature that is rarely discussed but which greatly contributed to its initial success: it employed methods of distribution similar to viral marketing. It seems that the propaganda cells of the Islamic State from day one attempted to generate a “viral effect”, which refers to attracting receivers’ interest in order to “infect” them with an idea, subsequently transferred by them to other users through social networks.[32] Viral marketing is an increasingly popular method of advertising products or brands offline and online, but it had not been utilized intentionally by terrorist organizations before 2014. And in this case, both the content, and the distribution methods of the IS clearly imitated this kind of innovative communication strategy. On the one hand, the vast majority of its productions were designed to strike audiences with unconventionality, which is a *sine qua non* requirement for something to “go viral”. As mentioned above, they were of the highest, exquisite technical quality, distinguishing themselves from the plethora of other cyber *jihadi* releases. [33] They also depicted unimaginable cruelty and referred to the latest popular culture trends, canons and fashions, such as games, Hollywood movies or humorous memes (frequently presenting cats).[34] This approach was clearly designed to enable Western audiences to fully embrace manipulated messages. [35] Yet, on the other hand, these pieces of *jihadi* content were primarily distributed with the use of the aforementioned, diverse social media communication channels, which enabled and increased the chances of the “viral effect” to occur.

Cracks in the Online Caliphate?

At first glance the Islamic State’s propaganda in 2016 did not change significantly in comparison to 2014 and 2015. The bulk of its audiovisual content seems to have the same features as the first, infamous videos which caused such major upset among Western audiences two years ago. Their quality, when it comes to directing, editing, post-production, special effects, and the manipulation techniques employed, usually not only remains at the same first-class level but also indicates certain improvements in a number of areas. For instance, Daesh has started to more commonly exploit drone videos[36], especially to make up SVBIED attacks and battle footage. Their intros based on computer-generated imagery (CGI) are also much more impressive than a year or two ago (e.g. *al-Battar* Media Foundation 3D logo). Moreover, its text propaganda has been enriched with a new type of online magazine—“*Rumiyah*”—which has a modern-looking layout and a slightly different focus and size than “*Dabiq*”. While still attacking enemies of the “Caliphate” and inspiring readers to conduct terrorist attacks against the *kuffar*, it frequently supports the use of knives and cars instead of less accessible guns and explosives.[37] Such appeals have been carried out before by the IS before, but never with such intensity[38] and to such a high level of sophistication. This move seemed to have had a significant impact on the latest Ohio State University attack, conducted by Abdul Razak Ali Artan, who rammed a car into pedestrians and stabbed them with a knife shortly after these releases.[39] Another innovative feature introduced by Daesh concerns a series of “photo reportages” depicting assassinations of its enemies in Yemen, shown in the first person perspective (FPP), which brings to mind the popular FPP video games genre.[40] Its activities are also increasingly focused on children, which was proved by the release of the mobile app *Huroof*, containing *jihadi* images and terminology.[41] Daniel Milton accurately notes that “Islamic State propaganda videos and executions routinely target children as the main audience. While a number of analysts have discussed the group’s use of child soldiers, the fact that children appear to be a target population of the group’s media efforts raises additional long-term concerns about deradicalization and the possibility of future threats.”[42]

A more detailed analysis of the Islamic State's cyber jihad in 2016 shows, however, that it is not as perfect as its members and sympathizers would like it to be. While still being the best Islamist online propaganda out there, a number of features can be noticed that indicate arising weaknesses and problems. To begin with, the Islamic State's productions while improving in certain areas, manifest some technical clumsiness in others. Some of the newest high-profile videos contain evident editing, montage and post-production mistakes, which were previously very rare. For instance, the video entitled *Glory Road* (length: 11:42), which was produced by the *al-Battar* Media Foundation in August 2016 and presented the Islamic State's viewpoint on the war in Libya, contains an embarrassing spelling mistake at 08:39: "Battles between the Islamic Statw and soldiers of Taghut in Sirte." [43] Such basic errors in the IS's promotional videos of 2014 and 2015 were rather unthinkable. This effectively means that al-Battar's members did not examine this film carefully before its final rendering and release, which may highlight personnel shortages, excessive hastiness or incompetence. Even the most publicized and carefully considered pieces of IS propaganda, characterized by outstanding technical quality, are not flawless. Some of the most significant, such as the one presenting John Cantlie's remarks on Daesh's anti-tank warfare from December 2016, contained some visible inconsistencies. Despite its remarkable introduction, the rest of the "documentary" is uneven at best. The interludes in the movie are of a much lower quality than the introduction and it lacks a proper ending. Moreover, it exploits well-known and already played out scenes depicting destroyed Abrams tanks, which were recorded in 2014 in Iraq. [44] Thus, it does not look to be a significant step forward in comparison to, for example, the infamous *Flames of War* (length: 55:14) [45] from 2014 or the short *No Respite* (04:13). [46]

The Islamic State is also becoming increasingly dependent on photo reports and short battle videos, bearing no signs of advanced post-production attempts, which in principle are much more apt for mass production and distribution. This has become especially evident since the beginning of the Mosul operation in Iraq in October 2016. Frequently these materials are re-used several times in various forms, such as compilations. [47] On the one hand, this trend increases the sheer scale of its cyber jihadist campaign. On the other, however, it may be a sign that the specialized propaganda bureaus have encountered problems with generating enough output of more sophisticated productions, and they are compensating for this by using a surplus of simpler and shorter releases. Such a trend, in consequence, lowers the efficiency of Daesh's online campaign. Reaching and terrorizing societies of developed states is much more difficult with this type of propaganda, as it is generally much less attractive for ordinary Internet users.

Audio propaganda has encountered some visible setbacks as well. Since its proclamation, the "Caliphate" has released dozens of *nasheeds* in cyberspace. [48] However, none of those published in 2016 were as popular and technically advanced as the infamous *Fisabilillah* music video from 2015 or the *Let's Go for Jihad* from 2014. [49] It is difficult to find a recording of this kind which attracted increased attention in 2016. Moreover, some analysts have noticed that recently the IS's frequency in publishing Arabic *nasheeds* has decreased, in comparison to the *al-Hayat* Media Center output, which is responsible for releases in other languages. According to Aymenn Jawad al-Tamimi, "it is possible the small output partly reflects a disruption to the Islamic State's media production in terms of killing potential Arabic *language munshids*, while al-Hayat media has continued to produce *nasheeds* in languages besides Arabic." [50]

The significant decrease in the output of the Islamic State's propaganda campaign was proven by the recent Combating Terrorism Center at West Point study, which collected more than 9,000 Daesh videos and about 52,000 photographs, released online between January 2015 and August 2016. According to its author, Daniel Milton, the Islamic State's monthly production of visual content dropped from 761 in August 2015 to 194 in August 2016. [51] This huge and steady decrease manifests serious malfunctions within the Islamic State's cyber *jihadi* machinery.

In this context, the biggest challenge that the Islamic State faces nowadays in cyberspace concerns the decreasing availability of online propaganda distribution channels, previously based mostly on social

media. Since 2014 top social media companies have reiterated attempts to curb Daesh's PSYOPs, which had previously brought rather limited effects. However, since the second half of 2015 the efficiency of the combat against *jihadi* content online seems to have increased. Twitter alone banned about 125,000 *jihadi* accounts (mostly related to the IS) since mid-2015 to February 2016.[52] Additionally, between January 2016 and August 2016, 235 000 accounts were deleted.[53] J.M. Berger and Heather Perez's study indicates that there were usually no more than 1,000 English-speaking pro-ISIS accounts on Twitter at any given time between June and October 2015. Moreover, they noted that the follower count of these accounts dropped due to an "aggressive wave of suspensions." [54] However, as Daniel Milton notes, "Islamic State social media accounts that have been taken down do not give up, but instead continue to reemerge on social media platforms under different usernames." [55]. Nevertheless, such a continuous reemergence usually does not allow them to fully reconstruct their former network of followers.[56] In effect, the general amount of Islamic State's propaganda accessible via *Twitter*, as well as via other communication platforms has been reduced.

It is not only social media administrators that have been fighting against *jihadis* in cyberspace.[57] The same trend is increasingly visible among many online media outlets and ordinary Internet users, who frequently ridicule Islamic State's members with humorous productions. One of the most famous cases concerns the video entitled *What It's Really Like to Fight for the Islamic State* published on *YouTube* by *Vice News* in April 2016. This piece was recorded by the headcam of a fallen member of the IS and depicted an extraordinarily clumsy fighter called Abu Hajaar during a firefight. The film instantly went viral (above 7 million views by the end of 2016)[58], as it depicted chaos, incompetence and frustration among the Islamic State's ranks, disenchanting the professional image of jihadists, created by Daesh propaganda.[59] Moreover, there are dozens of popular and comical memes concerning this subject, presenting for instance, Islamic State's "air force" in the form of flying camels.[60] Finally, its releases are also combated by hacktivists. 'Anonymous' conducted a massive hacking operation against Daesh's supporters on Twitter in June 2016.[61]

To recapitulate, it must be stressed that the Web 2.0 environment has become a much more hostile place for *jihadis*. There is notably less Islamic State propaganda in popular social networks nowadays. Its releases are also deleted much quicker than before. Obviously, accounts in social networks are easy to recreate, but it takes time to gather followers again. Therefore, the very coverage of Daesh's online campaign has seemed to plunge. Islamic State still attempts to use these outlets (e.g. *Twitter*), usually with little success in the long run, but at the same time, it has started to focus more on other communication channels. One can mention niche social media, message boards (*Ansar AlKhelafa Europe*), hosting services, blogosphere platforms, as well as encrypted applications, such as Telegram. Even there, however, al-Baghdadi's organization has decreasing room for maneuver. For instance, *Telegram*—which had become a leading and convenient communication tool for Daesh—has started to ban pro-IS channels recently.[62] Obviously, this does not mean that it is impossible to access this type of content anymore. Many pieces of the "Caliphate's" propaganda are still easily accessible via gore or no-censorship websites. Some are also available via the *Internet Archive* or multiple sharing platforms. Nevertheless, Islamic State is nowhere near reaching its former efficiency of propaganda distribution from 2014 and 2015. These services and platforms, such as *justpaste.it* or blogs usually offer limited reach, evanescence and lack of interconnectedness which impedes Daesh's communication strategy, previously based on the exploitation of the Web 2.0 environment and a kind of "marketing buzz". Effectively, none of the 2016 releases were comparable, in terms of their proliferation scale, to the infamous executions of James Foley or Steven Sotloff. Moreover, none of them—excluding the embarrassing recording released by *Vice News* -have gone viral.[63]

Reasons Behind the Shift in the Islamic State's Cyber Jihad

The aforementioned shortcomings of the IS's propaganda campaign in 2016 have several causes. To begin with, Islamic State's releases are gradually losing their uniqueness, which was so striking in 2014 and 2015.

Judging by the content of online magazines, *nasheeds* and audiovisual productions, their creators are suffering a serious creativity crisis. When the first major IS productions started to emerge online in 2014, they were fresh and unique in comparison to the earlier releases of other Islamist terrorist organizations. After two years, most potential audiences (including journalists) got somewhat weary with the similar issues addressed by the IS's cells over and over again. Their methods of presentation, excluding those mentioned above, were also not innovative. This trend is perfectly visible in the online magazines, which are usually repeating the same topics regularly. These include: martyred terrorists, calls to *hijrah*, attacks against the “disbelievers” and “crusaders”, boasting over the legitimacy of the Caliphate and successful operations, recruitment appeals, inspiration to conduct terrorist attacks against the *kuffar*, and various theological deliberations. Also the audiovisual content did not change significantly. The IS still publishes execution videos, as well as recordings depicting fallen enemies—such as Iraqi, Turkish or Syrian soldiers—but its bestiality has ceased to shock the majority of accustomed spectators. It basically means that there is far less chance that these productions will draw enough attention to spark a proper viral effect, unlike the 2014 executions.

Secondly, this state of affairs is also caused by the aforementioned policy introduced by leading social network companies, who—due to widespread criticism—have boosted their efforts in combating terrorism. *Twitter*, being the most frequently utilized by Daesh supporters, has not only deleted numerous reported *jihadi* accounts, but also increased “the size of the teams that review reports, reducing (...) response time significantly.” It has also introduced new tools to fight spam, initiated cooperation with law enforcement institutions and entered into partnership with organizations countering extremist content online (e.g. *PAVE, Institute for Strategic Dialogue*).[64] Moreover, in December 2016 *Twitter, Facebook, Microsoft* and *YouTube* teamed up to develop innovative tools of identifying terrorist imagery and videos. As their statement declares: “we commit to the creation of a shared industry database of “hashes”—unique digital “fingerprints”—for violent imagery or terrorist recruitment videos or images that we have removed from our services. By sharing this information with each other, we may use the shared hashes to help identify potential terrorist content on our respective hosted consumer platforms.”[65] The rising importance of this agenda in the activities of the leading social media groups was already reflected in the aforementioned Islamic State's distribution strategies.

Similarly, the same policy was introduced by many governments, which have developed two types of solutions. On the one hand, some institutions—such as the U.S. Department of State—have initiated a counter-propaganda campaign aiming to expose the brutality of the Islamic State. In principle, it was expected to curb IS recruitment efforts. Initiated in 2014, it was composed of multilingual videos and social media messages. An analogous solution was introduced a year later by the British Foreign Office, who created a *Twitter* account: “UK against ISIL”. Security services have started to monitor and disrupt communication channels used by Islamists, and have also increased their efforts to detect and arrest all those responsible for distributing Daesh propaganda. For instance, in 2016 New Zealand's court sentenced Imran Patel for making, distributing and possessing Islamic State propaganda.[66]

Cracks in the online “Caliphate” are also caused by serious offline problems suffered by the organization. Since 2015, the strategic situation of the Islamic State in the Middle East has aggravated significantly. Russian and Turkish interventions in Syria allowed some territories formerly under al-Baghdadi's control to be regained. In the second half of 2016 the Iraqi army—as well as its allied forces (the Peshmerga, militias)—also launched a massive operation aimed at recapturing Daesh's stronghold in Iraq, Mosul.[67] Additionally, it suffered significant defeats from the Syrian Democratic Forces in November and December 2016.[68] Moreover, constant aerial bombardments, conducted both by the U.S.-led coalition and Russia, are aimed not only against Daesh positions on the frontlines but also against its infrastructure, which causes logistical disruption and significant financial losses. According to the Wilson Center data from March 2016, the U.S. and its allies conducted more than 10,000 airstrikes against the Islamic State alone, which damaged or

destroyed more than 21,500 targets.[69] As reported by Israeli officials in October 2016, Daesh had lost about 10,000 fighters in the previous 18 months.[70]

On the one hand, it has to be stressed that due to these military defeats and aerial bombardments, Daesh has suffered a budget shortfall, which has forced its leaders to cut salaries of IS members by around 50%. Many of the fighters which were responsible for managing energy resources --a major source of revenue--have been killed.[71] According to the recent ICSR report, in just two years the group's income decreased by about 50%, to a level of \$520-\$870 million in 2016.[72] Considering the fact that the bulk of their funds must be destined for military expenditures, the propaganda arm is undoubtedly underfinanced.

On the other hand, available information on the U.S.-led airstrikes suggests that they are particularly focused on disrupting the organization's propaganda potential. Since 2016, they have successfully targeted and eliminated a number of key figures in the Islamic State's media arm, such as Abu Mohammed al-Adnani (IS's spokesman and chief propagandist), Wa'il Adil Hasan Salman al-Fayad (IS's minister of information, overseeing, among others, execution videos released online), Mahmoud al-Isawi (Daesh's propaganda supervisor in Raqqa), and Ibrahim al-Ansari (responsible for the recruitment of foreign fighters and online instructions for homegrown terrorists).[73] According to Missy Ryan and Greg Miller, "Adnani's death would damage the Islamic State in two areas that have made the terrorist organization particularly dangerous: its sophisticated use of social media to reach a global audience and its willingness to employ the crudest forms of violence." [74]

Islamic State has also suffered significant losses among lower-ranked propagandists of great importance. For instance, the infamous *Jihadi John* was killed by a drone strike in January 2016. As mentioned before, he was one of the key figures responsible for the unusual success of the first execution videos released on the Internet. It is worth mentioning that he also possessed advanced knowledge and understanding of digital technologies, as he was a graduate of Information Systems with Business Management from the University of Westminster. This meant that he could contribute to the high technical quality of the Daesh productions. [75] Former British rapper *L.Jinny* vel Abdel-Majed Abdel Bary abandoned the Islamic State's ranks in 2015. Until that moment, he was an important person in the IS's operations in Anglophone social media (*Twitter*). Furthermore, due to his music career in the West, he possessed invaluable knowledge and experience for the organization.[76] There were also false reports on the death of the infamous former German rapper *Deso Dogg* (Denis Cuspert), who has been engaged in the propaganda arm of the "Caliphate" since joining the group.[77] It may be, however, that his ability to act freely in Syria and Iraq has been limited, as he is one of the top figures being hunted by the coalition. All the aforementioned cases suggest that similar losses could be suffered among the ordinary members taking part in the production or distribution of cyber jihadist content.[78] This would explain the aforementioned uneven quality and errors in many recent Daesh productions, as well as their decreased output.

Summary

The Islamic State's extraordinary propaganda campaign, initiated at the turn of 2014, has finally experienced some setbacks after two years of constant progress. In 2016, the problems in the "Caliphate's" cyber jihad manifested themselves in the quantity and quality of the releases, as well as their reach. None of the IS's declining number of propaganda products sparked increased interest from worldwide audiences, as they are much more difficult to access, sometimes contain embarrassing mistakes, and they have lost the trait of uniqueness, which is crucial to generating the viral effect. Thus, the general popularity of the Islamic State's *jihadi* messages nowadays is much lower than two years ago. Daesh is indeed losing ground in the battle for cyberspace, as throughout just one calendar year it was forced to refocus from its already tried, tested and efficient communication channels to new and less popular ones, where the organization also encounters unexpected obstacles.

This essentially means that the combination of proactive antiterrorist measures employed by IT companies and security services in the Web 2.0 environment, the counter-propaganda campaign conducted independently by many Internet users, as well as massive airstrikes targeting IS's logistical backbone and key Daesh propagandists has finally led to some tangible effects. The Islamic State, nowadays, fails to maintain its former, top-notch level of cyber jihad, as it struggles with serious financial and personnel shortcomings, as well as with the increasingly hostile digital environment.

These first "cracks" in the online "Caliphate", as examined in this article, may be a great and unique chance for Western nations. The current situation is a fantastic starting point to develop a worldwide counter-propaganda strategy, which will take advantage of the troubles experienced by the Islamic State. Obviously, it will never be possible to completely block all extremist content in cyberspace without violating the fundamental rights of Internet users, such as the freedom of communication and the right to privacy. However, it is possible to curb the global resonance of Daesh's online broadcasts, especially considering the fact that it may lose most of its territories in the Middle East in the near future. Cutting off the logistics and financing behind this propaganda machine using troops and air forces active in the region, combined with the already initiated efforts in the online environment is the right way to go. This, in turn, would mitigate many contemporary threats emanating from the phenomenon of cyber jihad.

All the aforementioned considerations, to be clear, do not mean that the Islamic State's cyber jihad has already ceased to be a major threat to international security. Its presence in the most popular social networks, while diminishing over time, is still noticeable. Moreover, despite all the previously mentioned flaws, it is still the best example of Islamist propaganda on the Internet. Other terrorist organizations attempt to mimic its online solutions to a certain extent, but even the best among them, such as al-Qaeda, are nowhere near the competence of the *al-Hayat* Media Center or even the unofficial bureaus, such as the *al-Battar* Media Foundation. Some of their messages still surprise audiences, including academics, with their level of sophistication and proficiency in using manipulation techniques. To summarize, it is too early to state that the organization was pushed back to the "digital underground", but it is surely on the road to getting there in the future.

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Notes

- [1] There were academics who stressed the significance of cyber jihad at the beginning of the 21st century, but at the time other (mostly kinetic) aspects of terrorist activities attracted more attention of the global public and government decision-makers. See e.g. Gary R. Bunt, *Islam in the Digital Age: E-Jihad, Online Fatwas and Cyber Islamic Environments* (London: Pluto Press, 2003); Timothy L. Thomas, "Al Qaeda and the Internet: The Danger of "Cyberplanning," *Parameters* XXXIII, no. 1 (Spring 2003); Gabriel Weimann, "www.terror.net. How Modern Terrorism Uses the Internet," *United States Institute for Peace Special Report* 116 (March 2004); Maura Conway, "Terrorism and the Internet: New Media–New Threat?," *Parliamentary Affairs* 59, no. 2 (2006); Benjamin R. Davis, "Ending the Cyber Jihad: Combating Terrorist Exploitation of the Internet with the Rule of Law and Improved Tools for Cyber Governance," *CommLaw Conspectus* 15 (2006); Marco Gercke, "Challenges in Developing a Legal Response to Terrorist Use of the Internet," *Defence Against Terrorism Review* 3, no. 2 (2010); Philip W. Brunst, "Terrorism and the Internet: New Threats Posed by Cyberterrorism and Terrorist Use of the Internet," in *A War on Terror? The European Stance on a New Threat, Changing Laws and Human Rights Implications*, Edited by Marianne Wade, Almir Maljevic (New York-Dordrecht-Heidelberg-London: Springer, 2010); National Coordinator for Counterterrorism, *Jihadists and the Internet* (Hague: National Coordinator for Counterterrorism, 2010). For more recent publications one can mention: Henrik Gråtrud, "Islamic State *Nasheeds* as Messaging Tools," *Studies in Conflict and Terrorism* 39, no. 12 (2016); Celine Marie I. Novenario, "Differentiating Al Qaeda and the Islamic State Through Strategies Publicized in *Jihadist* Magazines," *Studies in Conflict and Terrorism* 39, no. 11 (2016); Ghaffar Hussain and Erin Marie Saltman, *Jihad Trending: A Comprehensive Analysis of Online Extremism and How to Counter It* (London: Quilliam Foundation, 2014); Roland Hickerö, "Cyber terrorism: Electronic Jihad," *Strategic Analysis* 38, no. 4 (2014).
- [2] See Adam Hoffman, Yoram Schweitzer, "Cyber Jihad in the Service of the Islamic State (ISIS)," *Strategic Assessment* 18, no. 1 (April 2015); Daniel Milton, "Communication Breakdown: Unraveling the Islamic State's Media Efforts," Combating Terrorism Center at West Point Report, October 2016; Daved Gartenstein-Ross, Nathaniel Barr, Bridget Moreng, "The Islamic State's Global Propaganda Strategy," ICCT Research Paper, March 2016; Christina Shori Liang, "Cyber Jihad: Understanding and Countering Islamic State Propaganda," *GSCP Policy Paper*, no. 2 (February 2015); Yannick Veilleux-Lepage, "Paradigmatic Shifts in Jihadism in Cyberspace: The Emerging Role of Unaffiliated Sympathizers in Islamic State's Social Media Strategy," *Journal of Terrorism Research* 7, no. 1 (January 2016); Mohammed Fahmi, "Cyber-Jihad is Becoming a Priority for Islamic State," European Strategic Intelligence and Security Center Briefing, October 26, 2015; James Scott, Drew Spaniel, "The Anatomy of Cyber-Jihad. Cyberspace is the New Great Equalizer," Institute for Critical Infrastructure Technology Briefing, June 29, 2016; Tal Koren, Gabi Siboni, "Cyberspace in the Service of ISIS," *INSS Insight*, no. 601 (September 4, 2014); Charlie Winter, *The Virtual 'Caliphate': Understanding Islamic State's Propaganda Strategy* (London: Quilliam Foundation, 2015); Henrik Gråtrud, "Islamic State *Nasheeds* as Messaging Tools," *Studies in Conflict and Terrorism* 39, no. 12 (2016); Thomas Flichy de la Neuville, Olivier Hanne, "État islamique", un cyberterrorisme médiatique?," *Res Militaris* (Juliet 2015); Miron Lakomy, "Internet w działalności tzw. Państwa Islamskiego: nowa jakość cyberdżihadyzmu?," *Studia Politologiczne* 38 (2015).
- [3] It does not mean that the Islamic State or its predecessors did not conduct propaganda operations in cyberspace before. Al-Qaeda in Iraq was one of the first terrorist organizations to use Web 2.0 environment to conduct cyber jihad. Nevertheless, the upsurge in quality and quantity of released propaganda products was visible at the turn of 2014. About the al-Qaeda in Iraq propaganda campaign see: Benjamin R. Davis, "Ending the Cyber Jihad: Combating Terrorist Exploitation of the Internet with the Rule of Law and Improved Tools for Cyber Governance," *CommLaw Conspectus* 15 (2006).
- [4] First releases of the *al-Hayat* Media Center, probably the best and most advanced IS's propaganda cell, started to appear online in May 2014. See "Month: May 2014," Jihadology, accessed November 5, 2016, <http://jihadology.net/2014/05/>; Olivia Becker, "ISIS Has a Really Slick and Sophisticated Media Department," Vice News, last modified July 12, 2014; URL: <https://news.vice.com/article/isis-has-a-really-slick-and-sophisticated-media-department>.
- [5] It has to be mentioned that the first important piece of its propaganda was released online in January 2012. This video was composed of various clips entitled "The Expedition of the Prisoners, #1". Its quality was, however, lacking. See Alberto M. Fernandez, *Here to stay and growing: Combating ISIS propaganda networks* (Washington: The Brookings Institution, 2015): 4.
- [6] The video was recorded without image stabilization. Moreover, its sound was also recorded unprofessionally. See "Is this Jihadi John in his first fanatical rant caught on camera?," *Mail Online*, accessed November 5, 2016; URL: <http://www.dailymail.co.uk/video/news/video-1163780/Jihadi-John-seen-ISIS-rally-video-2013.html>.
- [7] "ISIS propaganda video–Bad terrorists with a great Director," *LiveLeak*, last modified November 15, 2013; URL: http://www.liveleak.com/view?i=a06_1384565862.
- [8] Gabi Siboni, Daniel Cohen, Tal Koren, "The Islamic State's Strategy in Cyberspace," *Military and Strategic Affairs* 7, no. 1 (March 2015): 138.
- [9] Lauren Williams, "Islamic State propaganda and the mainstream media," *Iowa Institute for International Policy Analysis* (February 2015): 3.
- [10] See J.M. Berger, Jonathon Morgan, "The ISIS Twitter Census. Defining and describing the population of ISIS supporters on Twitter," *The Brookings Project on U.S. Relations with the Islamic World Analysis Paper*, no. 20 (March 2015); Lauren Williams, "Islamic State propaganda and the mainstream media," *Iowa Institute for International Policy Analysis* (February 2015): 3.
- [11] Victoria Pues, "The Islamic State on Tumblr–Recruiting Western Women," *International Institute for Counter-Terrorism Paper*, (February 2016): 8.
- [12] Miron Lakomy, "Internet w działalności tzw. Państwa Islamskiego: nowa jakość cyberdżihadyzmu?," *Studia Politologiczne* 38 (2015): 160-166.
- [13] Elliot Friedland, "The Islamic State," *The Clarion Project Special Report* (May 10, 2015): 19.
- [14] Only one, censored copy, posted on YouTube was viewed 1.7 million times until November 2016. See "ISIS Terrorists Behead American Journalist, James Foley," *YouTube*, last modified August 19, 2014; URL: <https://www.youtube.com/watch?v=vsrlgUqD70E&bpctr=1478430663>.
- [15] "Wilajet Kaukaz," Blogspot, accessed November 11, 2016; URL: <http://wilajetkaukaz.blogspot.com>.
- [16] "Exploring The Islamic State's Online Radio Broadcast Network," Memri Cyber&Jihad Lab, last modified February 19, 2016; URL: <http://cjlalab.memri.org/lab-projects/tracking-jihadi-terrorist-use-of-social-media/exploring-the-islamic-states-online-radio-broadcast-network/>.
- [17] See e.g. Anna Erelle, "Skyping with the enemy: I went undercover as a jihadi girlfriend," *The Guardian*, last modified May 26, 2015; URL: <https://www.theguardian.com/world/2015/may/26/french-journalist-poses-muslim-convert-isis-anna-erelle>.
- [18] Only one of many, censored copies of this recording available at YouTube was viewed 1.7 million times since August 19, 2014. See "ISIS Terrorists Behead American Journalist, James Foley," *YouTube*, last modified August 19, 2014; URL: <https://www.youtube.com/watch?v=vsrlgUqD70E&bpctr=1479676111>.
- [19] "New Daesh video in German: "Fisabilillah", which encourages Daesh supporters all over the world to kill the disbelieving neighbors with guns, knives," *LiveLeak*, last modified April 14, 2015; URL: http://www.liveleak.com/view?i=323_1429066834.
- [20] It was particularly visible in the products targeting non-Arabic speaking audiences.
- [21] See Alberto M. Fernandez, *Here to stay and growing: Combating ISIS propaganda networks* (Washington: The Brookings Institution, 2015): 4-7.
- [22] Artur Wejszkner, *Państwo Islamskie. Narodziny nowego kalifatu?* (Warszawa: Difin 2016): 140-160.
- [23] "Overview of Daesh's Online Recruitment Propaganda Magazine, *Dabiq*," Carter Center, last modified December 17, 2015; URL: https://www.cartercenter.org/resources/pdfs/peace/conflict_resolution/countering-isis/dabiq-report-12-17-15.pdf.

- [24] See e.g. "ISIS Releases Infographic Lauding Covert Units in Turkey," Heavy, last modified June 29, 2016; URL: <http://heavy.com/news/2016/06/isis-islamic-state-turkey-ataurk-airport-attack-claim-covert-units-amaq-news-infograph/>; "IS Fighters Release Infographic Mocking U.S. Special Forces Operation," Site Intelligence, last modified October 29, 2015; URL: <https://news.siteintelgroup.com/Jihadist-News/is-fighters-release-infographic-mocking-u-s-special-forces-operation.html>.
- [25] See Henrik Gråtrud, "Islamic State *Nasheeds* as Messaging Tools," *Studies in Conflict and Terrorism* 39, no. 12 (2016).
- [26] Charlie Winter, "ISIS' offline propaganda strategy," Brookings, last modified March 31, 2016; URL: <https://www.brookings.edu/blog/markaz/2016/03/31/isis-offline-propaganda-strategy/>; Swati Sharma, "Islamic State has an English-language radio broadcast that sounds eerily like NPR," The Washington Post, last modified June 4, 2015; URL: <https://www.washingtonpost.com/news/worldviews/wp/2015/06/04/islamic-state-has-a-daily-english-language-radio-broadcast-that-sounds-eerily-like-it-could-be-on-npr/>.
- [27] Charlie Winter, *Detailed Analysis of Islamic State Propaganda Video: Although the Disbelievers Dislike It* (London: Quilliam Foundation, 2014): 31.
- [28] About ISIS filmmaking techniques, see for example: Cori E. Dauber and Mark Robinson, "ISIS and the Hollywood Visual Style," *Jihadology*, last modified July 6, 2015; URL: <http://jihadology.net/2015/07/06/guest-post-isis-and-the-hollywood-visual-style/>.
- [29] See Anne Speckhard, Ahmet S. Yayla, *ISIS Defectors. Inside Stories of the Terrorist Caliphate* (Washington D.C.: Advances Press, 2016): 176-177.
- [30] See Christina Shori Liang, "Cyber Jihad: Understanding and Countering Islamic State Propaganda," *GSCP Policy Paper*, no. 2 (February 2015): 4; Shannon Tiezi, "ISIS Releases Chinese-Language Propaganda Video," *The Diplomat*, last modified December 08, 2015; URL: <http://thediplomat.com/2015/12/isis-releases-chinese-language-propaganda-video/>; "Islamic State *nasheeds* in 2015," Reddit, accessed December 12, 2016; URL: https://www.reddit.com/r/syriancivilwar/comments/3yy5bv/islamic_state_nasheeds_in_2015/.
- [31] "Polak w Państwie Islamskim. Jest czerwona nota Interpolu," *Wirtualna Polska*, last modified August 26, 2016; URL: <http://wiadomosci.wp.pl/kat,1356,title,Polak-w-Panstwie-Islamskim-Jest-czerwona-nota-Interpolu,wid,18481857,wiadomosc.html?ticaid=118407&ticsrn=3>.
- [32] Miron Lakomy, "Lessons Learned from the 'Viral Caliphate': Viral Effect as a New PSYOPs Tool?," *Cyber, Intelligence, and Security* 1, no. 1 (2017). About viral marketing and viral effect see: Petya Eckler, Shelly Rodgers, "Viral marketing on the Internet," in *Wiley International Encyclopedia of Marketing*, Edited by Jagdish N. Sheth, Naresh K. Malhotra (New York: John Wiley & Sons Ltd., 2010); Maria Woerndl, Savvas Papagiannidis, Michael Bourlakis, Feng Li, "Internet-induced marketing techniques: Critical factors in viral marketing campaigns," *International Journal of Business Science and Applied Management* 3, no. 1 (2008).
- [33] Charlie Winter, *Detailed Analysis of Islamic State Propaganda Video: Although the Disbelievers Dislike It* (London: Quilliam Foundation, 2014); Richard Barrett, *The Islamic State* (New York: The Soufan Group, 2014): 53.
- [34] Michelle Malka Grossman, "Watch: Islamic State's terror video game," *The Jerusalem Post*, last modified September 21, 2014; URL: <http://www.jpost.com/Middle-East/IS-claims-it-created-a-terror-video-game-375935>.
- [35] See Lauren Williams, "Islamic State propaganda and the mainstream media," *Iowa Institute for International Peace Analysis*, (February 2016): 1.
- [36] Don Rassler, "Remotely Piloted Innovation. Terrorism, Drones and Supportive Technology," *Combating Terrorism Center at West Point Report*, October 2016: 12.
- [37] See *Rumiyah*, issues 2 and 4.
- [38] It has to be mentioned that knife attacks were also promoted by the instruction video released by the Daesh.
- [39] Pamela Engel, "ISIS recently called for the type of attack that just happened at Ohio State," *Business Insider*, last modified November 29, 2016, <http://www.businessinsider.com/isis-calls-for-vehicle-knife-attacks-2016-11?IR=T>.
- [40] "PHOTOS: ISIL/ISIS First Person Shooter Assassination of Yemeni Airport Security Official," *ZeroCensorship*, last modified November 22, 2016; URL: <https://www.zerocensorship.com/uncensored/isil/isis-first-person-shooter-assassination-yemeni-airport-security-official-360987>.
- [41] Don Reisinger, "ISIS Has Launched A Mobile App-For Children," *Fortune*, May 11, 2016; URL: <http://fortune.com/2016/05/11/isis-mobile-app-children/>.
- [42] Daniel Milton, "Communication Breakdown: Unraveling the Islamic State's Media Efforts," *Combating Terrorism Center at West Point Report*, October 2016: 18.
- [43] "Watch: ISIS *Nasheed* Video Titled: 'Glory Road' Includes Montage of Past Executions& Battle Footage," *ZeroCensorship*, last modified August 11, 2016; URL: <https://www.zerocensorship.com/uncensored/isis/nasheed-video-titled-glory-road-montage-past-executions-battle-footage-307925>.
- [44] "WATCH: New ISIS Video Shows John Cantlie Discussing ISIL Attacks On Tanks," *ZeroCensorship*, last modified December 13, 2016; URL: <https://www.zerocensorship.com/uncensored/isis/new-video-shows-john-cantlie-discussing-isil-attacks-tanks-370755>.
- [45] "Flames of War – AMAZING Battle Footage," *LiveLeak*, last modified September 20, 2014; URL: http://www.liveleak.com/view?i=5c2_1411222393.
- [46] "No Respite – New Propaganda Video by ISIS," *LiveLeak*, last modified November 29, 2015; URL: http://www.liveleak.com/view?i=553_1448792160.
- [47] "Uncensored ISIS News," *ZeroCensorship*, accessed December 17, 2016; URL: <https://www.zerocensorship.com/uncensored/isis>.
- [48] "Islamic State – *Nasheed* Master Thread," Reddit, accessed December 17, 2016; URL: https://www.reddit.com/r/DankestNasheeds/comments/42s7xi/islamic_state_nasheed_master_thread/.
- [49] "al-Hayat Media Center presents a new video *nashid* from the Islamic State of Iraq and al-Sham: 'Let's Go For Jihad!'" *Jihadology*, last modified June 15, 2014; URL: <http://jihadology.net/2014/06/15/new-video-nashid-from-al-%E1%B8%A5ayat-media-center-lets-go-for-jihad/>.
- [50] Aymenn Jawad al-Tamimi, "The Convoy of Light' - New *nasheed* from the Islamic State's Afnan Media," Aymenn Jawad, last modified October 24, 2016; URL: <http://www.aymennjawad.org/2016/10/the-convoy-of-light-new-nasheed-from-the-islamic>.
- [51] Daniel Milton, "Communication Breakdown: Unraveling the Islamic State's Media Efforts," *Combating Terrorism Center at West Point Report*, October 2016: 21.
- [52] "Combating Violent Extremism," Twitter Blog, last modified February 5, 2016; URL: <https://blog.twitter.com/2016/combating-violent-extremism>.
- [53] Anthony Cuthbertson, "Hackers hijack ISIS Twitter accounts with gay porn after Orlando attack," *Newsweek*, last modified June 14, 2016; URL: <http://europa.newsweek.com/isis-twitter-accounts-gay-porn-orlando-attacks-anonymous-470300?rm=eu>.
- [54] J.M. Berger, Heather Perez, "The Islamic State's Diminishing Returns on Twitter: How suspensions are limiting the social networks of English-speaking ISIS supporters," *George Washington University Program on Extremism Occasional Paper* (February 2016): 4.
- [55] Daniel Milton, "Communication Breakdown: Unraveling the Islamic State's Media Efforts," *Combating Terrorism Center at West Point Report*, October 2016: 45.
- [56] J.M. Berger, Heather Perez, "The Islamic State's Diminishing Returns on Twitter: How suspensions are limiting the social networks of English-speaking ISIS supporters," *George Washington University Program on Extremism Occasional Paper* (February 2016): 4.

- [57] It has to be stressed that the social media policies sometimes spark controversies. See Robert Spencer, "Twitter not taking down ISIS accounts, but banning users who report terrorists," *Jihad Watch*, last modified March 5, 2016; URL: <https://www.jihadwatch.org/2016/03/twitter-not-taking-down-isis-accounts-but-banning-users-who-report-terrorists>.
- [58] "What It's Really Like to Fight for the Islamic State," *YouTube*, last modified April 27, 2016; URL: <https://www.youtube.com/watch?v=aM3EITvF52I>.
- [59] "Abu Hajaar," KnowYourMeme, accessed December 27, 2016; URL: https://www.google.pl/search?q=abu+hajaar+is&ie=utf-8&oe=utf-8&client=firefox-b-ab&gfe_rd=cr&ei=6ohiWMDpNfGv8we70Zsl.
- [60] "The Islamic State reveals its airforce," *MemeCenter*, accessed December 27, 2016; URL: <http://www.memecenter.com/search/isis>.
- [61] Anthony Cuthbertson, "Hackers hijack ISIS Twitter accounts with gay porn after Orlando attack," *Newsweek*, last modified June 14, 2016; URL: <http://europe.newsweek.com/isis-twitter-accounts-gay-porn-orlando-attacks-anonymous-470300?rm=eu>.
- [62] Colin Griffin, "Apps, YouTube, Twitter: ISIS and the Internet," *Foreign Brief*, last modified June 2, 2016; URL: <http://www.foreignbrief.com/apps-youtube-twitter-isis-internet/>.
- [63] See more in: Cameron Glenn, "ISIS Losses By the Numbers," *Wilson Center*, last modified March 25, 2016; URL: <https://www.wilsoncenter.org/article/isis-losses-the-numbers>.
- [64] "Combating Violent Extremism," *Twitter Blog*, February 5, 2016; URL: <https://blog.twitter.com/2016/combating-violent-extremism>.
- [65] "Partnering to Help Curb Spread of Online Terrorist Content," *Facebook Newsroom*, last modified December 5, 2016; URL: <http://newsroom.fb.com/news/2016/12/partnering-to-help-curb-spread-of-online-terrorist-content/>.
- [66] Anne Gearan, "U.S. attempts to combat Islamic State propaganda," *Washington Post*, last modified September 7, 2014; URL: https://www.washingtonpost.com/world/national-security/us-attempts-to-combat-islamic-state-propaganda/2014/09/07/c0283cea-3534-11e4-9f4d-24103cb8b742_story.html?utm_term=.badcdccdf08; Frances Perraudin, "UK launches Twitter account to combat Islamic State propaganda," *The Guardian*, last modified August 28, 2015; URL: <https://www.theguardian.com/world/2015/aug/28/uk-foreign-office-twitter-account-combat-islamic-state-propaganda-isis>; Kelly Dennett, "Men sentenced for Islamic State propaganda," *AucklandNow*, last modified June 23, 2016; URL: <http://www.stuff.co.nz/auckland/81376652/man-sentenced-for-islamic-state-propaganda>
- [67] See e.g. Abdul Basit, "Mosul Operation: The Endgame for IS?," *RSIS Commentary*, no. 269 (November 2016).
- [68] "Kurd-led forces press Islamic State near Syria's Raqqa," *Reuters*, last modified December 19, 2016; URL: <http://www.reuters.com/article/us-mideast-crisis-syria-raqqa-idUSKBN1480ZE>.
- [69] Cameron Glenn, "ISIS Losses By the Numbers," *Wilson Center*, last modified March 25, 2016; URL: <https://www.wilsoncenter.org/article/isis-losses-the-numbers>.
- [70] Lucy Pasha-Robinson, "Isis loses '10,000 fighters and quarter of territory in 18 months'," *The Independent*, last modified October 17, 2016; URL: <http://www.independent.co.uk/news/world/middle-east/isis-loses-10000-fighters-quarter-territory-18-months-a7365331.html>.
- [71] Cameron Glenn, "ISIS Losses By the Numbers," *Wilson Center*, last modified March 25, 2016; URL: <https://www.wilsoncenter.org/article/isis-losses-the-numbers>.
- [72] Stefan Heifner, Peter R. Neumann, John Holland-McCowan, Rajan Basra, "Caliphate in Decline: An Estimate of Islamic State's Financial Fortunes," *The International Centre for the Study of Radicalisation and Political Violence*, King's College London 2017: 10.
- [73] "IS group confirms spokesman al-Adnani killed in US airstrike," *France24*, last modified September 13, 2016; URL: <http://www.france24.com/en/20160913-group-confirms-spokesman-al-adnani-killed-us-airstrike>; Wladimir van Wilgenburg, "Islamic State's propaganda chief al-Ansari killed in coalition airstrike northern Iraq," *ARANews*, last modified April 1, 2017; URL: <http://aranews.net/2017/04/islamic-states-propaganda-chief-al-ansari-killed-in-coalition-airstrike-northern-iraq/>; Sedredin Kino, "US airstrike kills ISIS propaganda chief in Raqqa," *ARANews*, last modified January 7, 2017; URL: <http://aranews.net/2017/01/us-airstrike-kills-isis-propaganda-chief-in-raqqa/>; Paul Sonne, "Coalition strike kills Islamic State propaganda official: Pentagon," *The Australian*, last modified September 17, 2016; URL: <http://www.theaustralian.com.au/news/world/coalition-strike-kills-islamic-state-propaganda-official-pentagon/news-story/f6c4ab55993304214d7660a693029a9c>.
- [74] Missy Ryan, Greg Miller, "In potential blow to propaganda power; Islamic State reports death of senior leader in Syria," *Washington Post*, last modified August 30, 2016; URL: https://www.washingtonpost.com/news/checkpoint/wp/2016/08/30/islamic-state-reports-death-of-spokesman-and-senior-leader-in-aleppo/?utm_term=.1885db5c977e.
- [75] Dana Ford and Steve Almasy, "ISIS confirms death of 'Jihadi John'," *CNN*, last modified January 20, 2016; URL: <http://edition.cnn.com/2016/01/19/middleeast/jihadi-john-dead/>.
- [76] Chris Greenwood, "Rapper who became one of the first British jihadis to join ISIS has fled Syria after becoming disillusioned with jihadi life and is on the run in Turkey," *MailOnline*, July 12, 2015; URL: <http://www.dailymail.co.uk/news/article-3158464/Rapper-one-British-jihadis-join-ISIS-fled-Syria-run-Turkey.html>.
- [77] William Watkinson, "German rapper Deso Dogg dubbed 'Isis Goebbels' survived US air strike say spies," *International Business Times*, last modified June 15, 2016; URL: <http://www.ibtimes.co.uk/german-rapper-deso-dogg-dubbed-isis-goebbels-survived-us-air-strike-say-spies-1565709>.
- [78] It is especially probable considering the fact that, according to the Memri Jihad & Threat Monitor information from January 2017, pro-Daesh *Telegram* accounts recruit translators for the Islamic State's audiovisual productions. See: "Pro-ISIS Telegram Group Recruiting Translators for ISIS Video Productions in 12 Different Languages," *Memri Jihad & Terrorism Monitor*, last modified January 9, 2017; URL: <https://www.memri.org/jttm/pro-isis-telegram-group-recruiting-translators-isis-video-productions-12-different-languages>.