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WHEN JIHADI IDEOLOGY MEETS SOCIAL MEDIA

Jamil Ammar Songhua Xu

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palgrave macmillan Jamil Ammar Rutgers School of Law–Newark Newark, NJ, USA Songhua Xu New Jersey Institute of Technology Kearny, NJ, USA

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PREFACE

In response to its rapid territorial gains in Syria and Iraq and due to its brutality and human rights abuses, on September 10, 2014, Barack Obama, then President of the United States gave a speech signaling his wish "to degrade and ultimately destroy the terrorist group known as ISIL." At this moment, Obama added, "the greatest threats come from the Middle East and North Africa, where radical groups exploit grievances for their own gain...."

The U.S. led coalition and allied have been fighting the Islamic State in Syria and Iraq for more than two years. This begs the question: What is it that the US led campaign intends to achieve? Is it defeating the political agenda of the military group called the Islamic State or its "ideology"? If the ultimate aim is to defeat the political aspiration of ISIS in establishing a caliphate, then it would be feasible to characterize the Islamic States' recent retreat from Mosul and parts of Syria as a "degradation" to the Islamic State's military capabilities and thus a partial success in the war on terror.

If the ideological retreat of radical groups however what the U.S. led coalition is trying to achieve in the Middle East, then, it would appear that the Islamic State and its ideology is anything but defeated. It is certainly true that the Islamic State's military capability to defend its territory is depleted. This fact though should not be over celebrated. As early as 2014, al-adnani, the former spokesperson of the Islamic State, made it clear that the "land is not anymore the first priority for the Dawla" (the Islamic State). Further, while names, such as the Islamic State and al-Qaeda, might altogether disappear from the Middle East, already a significant number of less known, but equally radical groups, are ready and eager to take their place. The overwhelming majority of those newly emerged Salafi groups do not publicly approve ISIS's extreme media campaigns nor al-Qaeda international Jihadi agenda. However, to a great extent, most of those Salafi and Jihadi groups are "ideologically", but not necessarily politically, aligned. So much so that the U.S's efforts to build a "moderate" army in Syria to fight ISIS yielded a handful of soldiers at an eye-watering cost of \$384 million. Why and how to move forward are the questions this book tries to answer.

Newark, USA Kearny, USA Jamil Ammar Songhua Xu

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INTRODUCTION

The ever-evolving nature of extreme group's activities on social media continues to challenge the capacity of courts to respond to security violations in cyberspace. This book investigates the use of predominantly religious character or influence to advance political agenda and the challenges faced by the law when regulating such an issue with free speech-related challenges are firmly in mind. The book also examines the reasons behind the limited successes of leading initiatives to curb the surge of online extreme speech, such as Google's "Redirect Method" or the U.S. State Department's campaign called "Think Again." This book concludes by outlining a number of promising technical approaches that can potently empower tech companies to reduce religious extremist groups' presence and impact on social media.

This book is designed to provide specialists, spectators, and students with a brief and engaging exploration of trends and patterns of media usages by radical groups and the laws regulating these grey areas of Jihadi propaganda activities.

One of the major questions this book raises is whether the legal liability of spreading and glorifying violent activities committed by extreme groups should be ascribed to the jihadist perpetrating violence or uploading themselves such propaganda material onto social media, or whether the legal responsibility lays with radical clerics who suggest that violence for the sake of God is a religious mandate and therefore is a desirable endeavor. Apart from narrowly defined cases, in both sides of the Atlantic, free speech norms shift the legal liability of a religious hate speech from the speaker to the actor. The free speech norms dictate that a society must be open to all political and ideological ideas, including the notion of establishing a caliphate. This is usually the case even where, at least in theory, the advocacy for a caliphate, as an example, could virtually destroy the very political structure that allows such an idea to be expressed in the first place. In this context, applying orthodox free speech principles to a politically and religiously volatile region, such as the Middle East, where ubiquitous Sunni and Shia leaning religious TV stations and Arabic language social media platforms disseminate religious hate speech, raises a number of challenging concerns.

One of the examples studied in this book is the self-proclaim Islamic State, which during the last year alone, has struck in Syria, Turkey, Lebanon, Iraq, Bangladesh, France, Belgium, Germany and the United States, among others, reflecting how appealing and affective the Islamic Stats' narrative is. In most of the aforementioned terrorist incidents, up to 97 percent of related fatalities were innocent Muslims.¹ What is equally troubling is the fact that radical groups are using free speech as a rallying cry. While radical groups, such as Jabhet Fateh al-Sham (Jabhet Fateh al-Sham, which was known as Jabhet al-Nusrah, is currently refered to as Tahrir al-Sham), have ruthlessly and unapologetically tried to eliminate rivals Muslim Sunni groups, still, they have managed to convince a significant number of their followers, most notably in the Middle East, that they are the protectors of faith. How do they do it is another question this book will try to answer.

Extreme groups contend that, among others, the real reason behind the political, economic and social suffering of Muslims is that they follow a deluded version of Islam. Extreme groups provide a new school of thought that promises a purified version of faith. Based on this very simple, yet demonstrably effective branding strategy, radical groups have seized the hearts and minds of mostly, but not exclusively, deprived and demoralized populations, most notably in the Middle East. The thing to keep in mind here is that, as impressive as it may sound, the presumably temporary seizer of large swathes of land in Syria and Iraq by the Islamic State and the like-minded groups is not the most significant achievement of religious extremist nor it is the most impactful factor. Rather, it is the tailor-made ideological narrative that so far has insured the longevity of their extremist ideology. Most often, the propaganda of extreme groups contains long-winded hadiths of the Prophet and versus of the Quran about the virtue of jihad against the nation's adversaries; carrying significant rhetorical weight to millions of followers all over the world. In addition to its quality and method of delivery, the religious content of the messages disseminated along with the adventurous lifestyle for whose carrying it certainly plays a role in explaining why extreme groups in the Middle East have more appeal to some individuals than other moderate groups.

A notable example is the ongoing Syrian civil war. What started as a Syrian Spring, by the end of 2014, it turned into a clear Syrian winter. The initial pro-free speech and political reform movement were shouldered aside. The civilian demonstrators calling for the downfall of the Syrian regime to open up a true political and economic reform were gradually and systematically crushed by two violent forces: Extreme groups, such as the Islamic State and al-Nusrah Front, and al-Assad autocracy. From the very start, political reform and democracy were not a priority for al-Qaeda leaning groups in Syria. By the end of 2014, the Syrian revolution had become a Shia *versus* Sunni calamity; a fertile ground for all kinds of radical groups and tactics. Both Sunni and Shia radical groups have committed, in one way or another, atrocities against civilians, women and children; reawakening layers of civil and religious strife carried out in a contest to determine how Syria will be governed; tearing up the fabric of the Syrian society.

The success of extreme groups in Syria is contributed to a number of reasons. Frist, the partial dissolution of the brutal Syrian regime encouraged the Islamic State and al-Nusrah Front to consolidate their interpretation of sharia law at the expense of other, less funded and hopelessly disorganized moderate Sunni groups. Secondly, social media platforms inadvertently have enabled jihadist militant to advertise their goals, communicate with their supporters, communicate with their donors and, more importantly, to recruit new fighters well beyond the shores of the Mediterranean. The effectiveness of extreme groups in disseminating their messages on social media is contributed to two notable reasons. The first is that online support for Mujahedeen and their cause is a recognized form of Jihad.² The second reason for the success of extremist in spreading their propaganda is that they oftentimes rely on a hadith by the Prophet which states: "whoever points to a good deed is rewarded [by God] as the one who did it" in the first place.³ This hadith is usually combined with many online messages posted on Arabic language social

media platforms to encourage social media users to spread and share the news they deem good for the sake of God thus noticeably boosting the popularity of Jihadist. The strategy of utilizing social media has evidently paid off. Thousands of fighters from more than 80 countries have traveled to join the fight in Syrian and Iraq.⁴

Chapter 1 of this book examines the streams of thought contributing to the emergence of the Jihadi Salafism; briefly touching on the doctrinal and philosophical dimensions of religious extremist groups. In particular, this chapter highlights the scholarly works of four key Salafi scholars who have influenced and sometimes shaped the ideology of contemporary extreme groups as we know them. While the primary sources of sharia law provide written codes⁵ explaining a number of issues capable of being brought before a court, the final interpretation of many key issues is largely determined by the presiding cleric (sheikh). And it is here where the literature of radical Salafi scholars comes into play. It enables extremist to ideologically justify their brutal means to achieve their political ambitions by referencing the scholarly work of their own followers. For example, one of the thorny questions raised a few years ago was who has the right to establish a caliphate, such as the self-proclaimed one in Syria and Iraq, the scholars of the Islamic State, Muslim scholars worldwide or both? Who decides and why? Citing the work of its own supporters, the Islamic State has provided a "convenient" answer: Absent of consensus, it is permissible to use "force" to establish a caliphate.6 Ill treatment of civilians in conflict zones is another example. Citing the work of a number of radical religious scholars, extreme groups have effectively re-written their own ideologically based rules of war to justify atrocities against civilians, Muslims included. In many cases, the term a "civilian" itself is bluntly rejected; depriving innocent individuals from any form of protection.

Chapter 2 explores why religious extremist is on the rise in the Middle East. We start the discussion by, first, highlighting how the Salafi's textualization of faith has inadvertently enabled theocratic and autocratic regimes in the Middle East to cement their dictatorships; creating a state of "religious cronyism," where appointed clerics bolster the dictator's otherwise illegitimate reign by depicting him as a "faithful," and thus forcing Muslims to obey him. In this particular context, both Salafism and autocracies work hand in hand to secure the submission of otherwise rebellious population. Chapter 2 also discusses how a strict interpretation of the "obedience" principle in Islam effectively prevents Muslims

from revolting against a corrupted Muslim ruler without running the risk of being branded as unbelievers. Encouraging a strict literal and uncompromised adaptation of Sharia law therefore cements the position of otherwise corrupted rulers. Secondly, Chap. 2 highlights the interconnection between financing jihad and tax evasion. While there is no a straight rule as to when financing Jihad becomes a religious mandate, the conventional wisdom is that once a prominent Muslim cleric(s) calls for Jihad, supporting the Mujahedeen with all possible means becomes a religious mandate. In special cases, funding Jihad trumps other necessities. Examples include where Muslim fighters (Mujahedeen) are besieged or underfunded. In these cases, Muslim fighters are deemed poor, and, thus, helping them financially or otherwise becomes an absolute priority. Under such circumstances, many Muslims may choose not to pay taxes to their government. Instead, they may pay directly to the Mujahedeen, often using private channels. Finally, Chap. 2 explores the viability of extreme speech as a business model. This part indicates radical groups' realization of the need for a branding strategy to sure up their base. By systemically and meticulously linking their activities to verses of the Quran or hadith of the Prophet, and using extensive TV coverage, Salafi-Jihadist have succeeded in mischaracterizing criticism leveled against extremist's violent tactics as an attack on Islam and Muslims per se. This form of "religious dilution" has already reflected adversely upon Muslims well beyond the shores of the Middle East.

The practical research in Chap. 3 serves as a supplement and support of the theoretical discourse analysis. To build a comprehensive view of religious extremist media campaigns, the propaganda activates of two groups operating in Syria were followed, documented and analyzed, over a year and a half period. These groups are Jabhat Fateh al-Sham⁷ (a designated terrorist group previously known as al-Nusrah Front and lately merged with Hayat Tahrir al-Sham) and al-Haramoun Army, an allegedly "moderate" ruble group that has no connection with the Islamic State nor al-Qaeda and operates in the South West of Syria. The initial goals of our analysis are to assess the extent to which moderate and radical groups differ in their media strategies, and secondly, to examine how effective these media campaigns are and, more significantly, why. The results subsequently will be used to assess whether free speech-related legislations in the U.S. and Europe are will equipped to curb the surge of jihadi material on social media and, if not what to do about it. Other aspects of this qualitative approach were conducted by a group of 4 research assistants (three males and one female, ages 20–30's) in Arabic and English language social media platforms in the United States and in Europe. Two researchers with good IT skills sought to test how easy it is to get pro-Jihadi material on Facebook, YouTube and Twitter. A third has examined the effectiveness of Google' counter-Jihadi strategy. None of the researchers were given any advice or help on how or where to start. A fourth researcher surveyed Arabic language social media platforms and listed the names of the most prominent Salafi and Jihadi clerics in the Middle East. The goal of this data collection was to draw a map of Salafi clerics who shape the digital landscape. The dataset contains a list of 136 clerics from various countries. The overall dataset skews heavily toward the Arabian Peninsula which account for three courters of the 136 entries in the dataset. The analysis in Chap. 3 provides the detailed breakdown of the country-by-country records.

The results of our research indicate that there is hardly any difference between how a Salafi group and a Jihadi when conducting their propaganda campaign. The media campaigns of said groups make clear that it is the obligation of men, women and even kids at certain age to support Jihad and Mujahedeen. Both groups stress the point that smearing campaigns to undermine the reputation of the Mujahedeen and the legitimacy or their cause should not put people off teaming up with Jihadist. Another noticeable result is that both groups use demographic segmentation to specifically target subgroups women and kids, in addition to men. The Syria crisis indicates that the most prominent Salafi scholars, despite their own jihadi rigor, have tended to side with newly emerged Salafi groups over both the Islamic State and al-Qaeda. Most of those Salafi groups have refrained from publicly adapting a confrontational tone with the West and its allies. However, the difference between Salafi and jihadi groups should not be over inflated. Apart from few, mainly political difference, both Salafi and jihadi groups are ideologically aligned. The same extreme narrative adapted by Wahhabi leaning followers beefs up terrorist organizations' propaganda machine and lends them religious legitimacy. Focusing the efforts to curb the surge of extreme groups solely on designated terrorist organization therefore might not be the right move.

Having established that the Salafi ideology, perhaps inadvertently, provides the core Jihadi theological corpus for religious extreme groups in the Middle East, Chap. 4 examines the viability of free speech norms in

the United States and Europe in curbing the surge of extreme speech online. Under Brandenburg, it appears that criminalizing Taymiyyah's fatwas (a dominint Salafi-Jihadist scholar- 1263-1328) that merely advocate for the use of violence would likely be deemed unconstitutional. This is despite the fact that a number of Jihadi groups have cited and acted upon Taymiyyah's controversial fatwas to justify their crimes, including, Osama Bin Laden, Al-Nusra Front, and the Islamic State. While Taymiyyah's advocacy for violence, as an example, might not tantamount to preparing a group for action, it has nonetheless demonstrably produced many lawless actions, though not imminently. Still it is unlikely that a clear distinction between Taymiyyah's abstract advocacy of violence and incitements directed at and likely to produce imminent lawless action could be drawn under Brandenburg. For this reason, any regulation that would generally restrict the independent advocacy of violent action by Taymiyyah or any other religious extremist groups on social media platforms, without narrowing its application, is likely to be unconstitutional. According to Holder v. Humanitarian Law Project, it would appear that it might not be possible to burden Taymiyyah's followers independent advocacy of violence, even if it could be shown that designated terrorist originations, such as al-Qaeda or the Islamic States, are likely to benefit from that advocacy. It would appear that, under the United States free speech norms, the dissemination of pro-jihad materials on social media (on the Internet) would be shielded by the strict interpretation of the content-based test.

In Europe, The case law of the European Court on Human Rights permits advocacy for Sharia law and for the establishment of a caliphate, provided the speaker does not call for violence nor does he allude to individuals by names to be attacked. Glorifying Jihad or advocating for Sharia law to advance the interest of any particular group is however a different matter. According to Leroy v. France, glorification of terrorism is prohibited. The problem however is that a Salafi cleric could simply argue that, when calling for the killing of other sub-religious groups, his intention was not to glorify terrorism. Rather, his intention was to communicate his religious views through the citation of Quranic verses that call for Jihad. Further, most Salafi groups advocate for Jihad and Sharia law without publicly praising the Islamic State or al-Qaeda. With this in mind, it would appear that a significant bulk of the religious speech supported by controversial fatwas issued by extreme clerics and posted on social media is likely to be protected under Article 10 of the European Conversion on Human Rights.

Chapter 5 discusses how a variety of software technologies can be leveraged tackle extreme speech on social media. The chapter first overviews Google's strategy to direct extremist searches toward anti-radicalization websites and comments on its efficacy. The chapter then proceeds to propose two promising technical approaches that can empower private companies and relevant federal agencies to reduce religious extremists' presence on and impact through social media in a systematic and economically viable way.

The first approach leverages content analysis and multimedia mining algorithms to automatically detect content produced by extremists. Using the approach, immediately after a user uploads a document, picture, or video onto a social media platform, a backend engine equipped with a series of state-of-the-art computational content analysis algorithms will be deployed to analyze the types of topics latent in the uploaded material, which will enable social media platforms to discover materials intentionally mislabeled and mis-described by extremists in their attempt to circumvent the traditional keyword or text matching based detection mechanism. Leveraging the same backend content filtering engine, social media platforms can also automatically aggregate multiple files separately updated by one or multiple users independently according to the content similarity between these files. By detecting duplicate or nearly duplicate content on social media through the aforementioned algorithmic engine for automatic content analysis, computers can comprehensively and systematically aggregate otherwise isolated user behaviors associated with individual copies of essentially the same material to produce a consolidated view of content request and consumption for more effective content screening and surveillance.

The second approach algorithmically examines collective content consumption behaviors on social media to detect documents, pictures, and videos posted by religious extremists. This approach will detect content posted by religious extremists by observing and analyzing the information propagation pathways and consumption patterns on social media through an automatic and algorithmic approach. Compared with the current self-reporting-based practice, the computational approach can react more efficiently to detect content of concern even when the targeted audience chooses not to cooperate with the social media platform. Additionally, this approach can also save a significant amount of expert labeling effort to train the automatic algorithmic content detector. Overall, the approach will be able to automatically determine the true nature of the content carried by the concerned video regardless of any deceitful labels, titles, or description text the video's producer or distributor may purposefully associate the video with. The new approach will be able to automatically and systematically detect all videos carrying religiously inciting content in a way that is also much more efficient and comprehensive than the current user self-reporting-based practice.

Finally, the chapter concludes by briefly overviewing three categories of promising software technologies, including natural language processing, machine learning, and social network analysis technologies, which can be tremendously powerful for tackling religious extreme speech on social media.

Notes

- 1. Victims from a Muslim origin represent 82% to 97% of terrorism-related fatalities. http://www.globalresearch.ca/muslims-are-the-victims-of-between-82-and-97-of-terrorism-related-fatalities-us-government/5516565.
- Electronic jihad is listed at number 33 out of 39 forms of jihad; http://archive. constantcontact.com/fs140/1110058879679/archive/1113385914164. html.
- 3. For more information about this Hadith, see in general Islamweb.net, available at, http://fatwa.islamweb.net/fatwa/index.php?page=showfatw a&Option=FatwaId&Id=319507.
- 4. Beatrice B, and Patryk P, Cyber jihadist and their web, European Union Institute for Security Studies (January 2, 2015) at, 1.
- 5. These are the Quran and Sunnah.
- 6. Othman Tamimi, Ehlam al-Enam Bemelad Dowlat al-Islam (The announcement of the birth of the Islamic State), al-Forqan Organization (2007), at 13. http://www.jihadica.com/wp-content/uploads/2014/08/ilam-al-anam.pdf.
- 7. All Internet sources have been checked and updated as of April 28, 2017. The Front was designated by the Secretary of State as terrorist organization on May 15, 2014 (http://www.state.gov/j/ct/rls/other/des/123085.html).

Who Speaks for Islam? Extreme Religious Groups, the Exception that Proves the Rule

Abstract This chapter examines the streams of thought contributing to the emergence of the Jihadi Salafism. It highlights the scholarly works of key Salafi scholars who have shaped the ideology of the al-Salafiyya al-Jihadiyya movement as we know it. While the primary sources of Sharia law provide written codes explaining a number of issues capable of being brought before a court, this chapter discusses how the final interpretation of key issues is largely determined by the presiding cleric (sheikh). The scholarly work of those radical clerics effectively enables extremist groups to ideologically justify the use of violent means to achieve their "political" ambitions. Treatment of civilians is a notable example where radical scholars have effectively re-written their own ideologically based rules of war to justify atrocities against innocent population.

Keywords Al-Salafiyya Al-Jihadiyya · Wahhabism · Salafism Sayyad Qutb · The Islamic State · Ibn Taymiyyah

This chapter lays the foundations for the discussion that follows. It provides a brief ideological background of religious extreme groups in general and the so-called Islamic State and its roots in particular. Special attention is paid to the philosophy of prominent controversial theologians and political figures whose teaching has so far significantly shaped the narrative of extreme groups as we know them. For years, those radical scholars have systemically and meticulously blended the political survival of jihadi groups with the survival of Islam itself. By doing so, a criticism of the action of an extreme group is intentionally mischaracterized as an attack on Islam as a "faith."

Who speaks for Islam in terms of its relation with other ethnicities and Western countries is a question that so far has noticeably shaped the relationship between Muslims in the Middle East and the rest of the world. For the so-called Islamic State and like-minded groups, who decides who is a "true" believer and who is "not" is anything but trivial. It is about the political "survival of the fittest" among theologically driven organizations aim to re-examine and outright other subgroups. It is also about shoring up the base to ensure a steady stream of recruits. Put differently, speaking for Islam is a must have strategy without which few radical groups would survive, let alone prosper.

The difficulty of determining who truly speaks for Islam and Muslims lies in the fact that, unlike other monotheistic religions, Islam does not embrace a particular formal hierarchical religious structure. With the option of consulting specialists from all walks of life, the leader of an Islamic country or a group of people for that matter is both its political and religious leader and has the authority to adapt a particular interpretation of faith. For example, Turkey, Indonesia, and Saudi Arabia are all Muslim countries. Yet, in so many ways, they are world apart.

For religious extremist groups, the lack of a central unifying religious authority is a blessing in disguise. It enables them to maintain their own scholarly authorities. It also empowers them to boast about the legitimacy of their otherwise questioned code of conduct when waging wars against other groups. Abu Muhammad al-Adnani, the former official spokesman of the Islamic State highlighted this point. He stated, "if one wants to get to know the agenda of the State, its politics, and its fatwas, one ought to consult its leaders, its public statements, its own sources, rather than the sources of its enemies."¹

For millennium, the question of who represents Islam has widened the division and fueled the tension between extremist groups and the Muslim and non-Muslim worlds at large. In particular, the lack of central authority has inadvertently empowered prominent controversial theologians and political figures not only to shape the narrative of extreme groups, but more importantly, to cement their theologian legitimacy and thus boost their popularity on social media and beyond. To understand how religious extreme groups have managed to win the loyalty of many followers, a very brief look at how Islamic jurisprudence functions would be helpful.

Most nations follow the common law or civil law legal traditions. To Western readers familiar with the terminology and process of those legal systems, the principles of Sharia law can be confusing. While Sharia law has written codes² that specify some matters capable of being brought before a court, the applicable procedure and, sometimes, the appropriate punishment for each offense is largely determined by the presiding cleric (sheikh). As a result, in the way he chooses to interpret the Quran or hadith, a cleric plays an enormous role in shaping Sharia law. Before the Internet era, the ideological impact of an extreme group and its scholars was limited to the geographical area it controls. This is not anymore the case. In the previous few years, evens have shown us that a fatwa issued by a radical cleric in the Middle East and posted on social media platforms could have ramifications in France, Germany, or the USA as opposed to Syria or Iraq.

To explain this point, we first start by briefly highlighting the sources of Islamic law and its hierarchy. The goal of this part is twofold: first, to identify the sources of Islamic Law that bind Sunni Muslims all over the world. Understanding the streams of thought contributing to the emergence of the Jihadi Salafism however is not possible by merely looking at the primary sources of Sharia law. The emergence of the al-Salafiyya al-Jihadiyya as we know it is credited to a number of contemporary Salafi scholars. The second goal of this discussion therefore is to examine the scholarly works of those clerics, in particular, a number of controversial principles and fatwas that have contributed to the rise of religious extremist groups. To this end, we briefly examine the work of four key scholars who have influenced and sometimes shaped the ideology of contemporary extreme groups.

There are four major sources of Islamic law. In descending order, these are the Quran, the Sunna, Ijma, and Qiyas.³ If the legality of an issue was not addressed in the first source, then Muslim jurists consider the second source and so forth.

• The Qur'an is the oldest and most sacred text of Islam that was revealed to the Prophet Muhammad. Muslims believe the Quran to be the eternal and indisputable word of Allah and for this reason it is the most fundamental source of Islamic jurisprudence. If the Quran does not elaborate about a certain issue, it is permissible for Muslims to turn to the second source of Islamic law, namely, the Sunnah (customs and beliefs that make up a tradition).⁴

- The Sunnah is the normative practices of the Prophet Muhammad including, but not limited to, his habits and practices for living the life of a decent Muslim and the hadiths; which are simply the sayings of the Prophet transmitted by his companions and others. Because hadith were transmitted orally, some disagreement arose about the words and deeds of the Prophet. Again, if the Sunnah of the Prophet does not provide guidance or a solution to a given issue, then Muslims are expected to turn to the third primary source of Islamic law, namely consensus or agreement—Ijma.⁵
- Consensus is sought when it is not possible to find a specific legal ruling in the Quran or Sunnah. In this case, the Ijma of the legal scholars within the community as to how to solve the issue in concern is preferred. The principle of Ijma is spiritly debated. Whose opinions are relevant for Ijma is a question that is still relevant to most ideologically driven groups. For example, who has the right to establish a caliphate, such as the one proclaimed in Iraq and Syria, the scholars of the Islamic State, Muslim scholars worldwide, Muslim population or all? Who decides? When seeking the consensus of a community, what is meant by a community, a small village, a city, or a state? The above raised questions are still debated. The then Islamic State in Iraq (ISI) has provided its own interpretation of the doctrine of Ijma, in particular. Othman Tamimi (a delegate of the Sharia Committee in the Islamic State in Iraq) argues that as to the merit and timing of establishing an Islamic emirate, first, the consensus of established clerics is to be sought. Absent of consensus, a delegation by a Muslim Emam is also an accepted authority to establish an Islamic emirate. Otherwise, when possible, it is permissible to use force to establish an Islamic State.⁶
- Absent of legal ruling in the aforementioned sources, Muslim scholars may still refer to legal precedents and reasoning to decide pressing case (this is often referred to as Qiyas-analogy).⁷ A typical scenario is where a general principle is applied to a newly emerged situation.

Still, interpreting some sticky issues are not always straightforward. For example, when, if at all, the killing of civilians is allowed? The Quran categorically forbids the killing of innocent civilians, including women, children, and elderly.⁸ Nor does the Quran justify beheadings, at least according to a number of verses.⁹ This begs the question, given that the Quran is the oldest and most sacred text in Islam, is it permissible to harm innocent civilians? How about killing innocent Muslims? While, understandably, some might feel offended by the raising of such a question in the first place, the fact of the matter is that, as we will see very shortly, both the scholars of the Islamic State and al-Qaeda have justified torture, the enslavement of women belong to certain minority groups, and, in narrow circumstances, the killing of innocent Muslim and non-Muslim civilians.¹⁰ And it is here where the importance of radical Salafi scholars and their literature comes into play. While the primary sources of Sharia law provide written codes¹¹ to explain a number of issues capable of being brought before a court, the applicable procedure, the final interpretation is largely determined by the presiding cleric (sheikh). Next, we briefly examine the work of four key scholars and their impact on almost all religious extreme groups in the Middle East. To this we shall turn our attention.

Ibn Taymiyyah: The Godfather of Salafism

The roots of al-Salafiyya al-Jihadiyya School can be traced back to a prolific Hanbali scholar, Ibn Taymiyyah (1263–1328)¹²; a strict adherent of Sharia law known for sharply written fatwas and bedrock conservative views. His followers consider him one of the great scholars of his time. Due to the issuing of several controversial fatwas in which he called for the killing of sub-religious groups and the enslavement of their women however, others view Taymiyyah as a divisive figure.¹³

Taymiyyah's Salafi movement concerned with purifying the faith. Both the Quran and Sunnah are to be taken as literally and factually true. The faith is to be interpreted literally, where the ordinary (literal) meanings of the Scripture should govern its interpretation. Taymiyyah believed that Muslims have strayed from their "true" faith and thus they should refer to the Quran and the Sunnah of the Prophet Mohammed and, equally important, to the early Muslim community for guidance.¹⁴ Attempts to re-interpret or evaluate well-established religious principles are strictly forbidden. Such attempts were deemed by Taymiyyah and later by his fellow scholars and admirers as blasphemy and/or apostasy.¹⁵

However, more than ever before, the controversial views presented by Taymiyyah fellow scholars exert a significant, even decisive influence in the direction of many key radical groups, such as the Islamic State and Jabhat Fatah al-Sham.¹⁶ Three reasons explain why. First, in addition to being a prolific scholar, Taymiyyah's work elevated Jihad to the rank of the five official pillars of Islam,¹⁷ arguing that jihad is more significant than performing the grand pilgrimage.¹⁸ Second, Taymiyyah believed that groups worshiping or perceived to be worshiping tombs or saints, including all Shia Muslims, are guilty of shirk and therefore are all apostates.¹⁹ Third, Taymiyyah condemned few ethnic minority groups arguing that their "women are to be enslaved, and their fortunes are to be taken; they are to be killed wherever they are found; cursed as they are described."²⁰ Taymiyyah was also very harsh on his Sunni followers. When asked to cast an opinion on Muslims who do not pray or fast regularly, Taymiyyah had this to say: they must be ordered to pray and fast and must also be punished for failing to perform their religious duties. If they refuse, the "consensus of scholars is that they[Muslims] must be killed."²¹

Salafi-jihadist very often recasts these fatwas by Taymiyyah, among many others, to justify their actions against religious subgroups. Examples include Abdullah Azzam,²² Osama Bin Laden,²³ and ISIS.²⁴ Most recently, the representative of Jabhat Fatah al-Sham (previously referred to as al-Nusrah Front) in Syria has cited Taymiyyah to justify the fighting of another Sunni group, namely Jaysh al-Islam. The spokesperson of Fatah al-Sham has made it clear that unless they completely subdued to Fatah al-Sham and its characterization of Sharia law "all Jaysh al-Islam's fighters must be killed including those who have not fought Jabhat Fatah al-Sham" in the first place.²⁵

As we will see next, Taymiyyah's fatwas and the preaching of his fellow students, such as Muhammad ibn Abd al-Wahhab, Sayyad Qutb, Abdalla Azam, Osama Bin Laden and al-Baghdadi, among many others, provide the core Jihadi theological corpus for most religious extreme groups in the Middle East.

The Politicization of Faith: Muhammad Ibn Abd Al-Wahhab and the Emerging of Wahhabism

Muhammad ibn Abd al-Wahhab (a Hanbali scholar, 1703–1791) was among the most influential followers of Taymiyyah.²⁶ Abd al-Wahhab is the founder of Wahhabism, a subset of Salafism. Wahhabism

(Eighteenth-century reformist movement) which was adapted by the Saudi dynasty to wag jihad against perceived heretics across the Arabian Peninsula, a strategy which was wedded to all jihadi groups such as al-Qaeda, the Islamic State, al-Nusrah Front, and the like-minded groups and remains so today. Following the footsteps of Taymiyyah Salafi movement, Wahhabism called for a return to an idealized Islamic past through reassertion of monotheism and reliance on Quran and hadith. Most notably, Wahhabism adapts a hostile and violent attitude to what Taymiyyah framed as "shirk"²⁷ including activities, such as idolatry, shrine, and tomb visitation. In 1740, Abd al-Wahhab alliance with Muhammad ibn Saud led to the establishment of Saudi Arabia. Since then, the Saudi Kingdom has financed religious schools all over the world the ideological core of which adheres to the austere Wahhabist creed.

HASSAN AL-BANNA: THE DEMISE OF "SECULAR STATE"?

Al-Banna (1906–1949) was one of the first modern religious activists who advocated for an Islamic alternative to the secular national state.²⁸ Explaining viability of the Islamic direction, al-Banna argued that "the Islamic methodology has been tried before" and "history has testified as to its soundness."²⁹ Al-Banna then added that the focus of a Muslim citizen should be first and foremost to build a unified National Islamic system; before extending it to the entire Islamic world, which "will see us [religious activists] as brothers."³⁰ This hostility toward the concept of "secular state" in favor of adapting an Islamic model of governance is embraced and emphasized by the Islamic State and most religious extreme groups in the Middle East.

With respect to the non-Muslim minorities and foreigners, al-Banna argued that those should be treated with "peacefulness and sympathy" so long as they behave with "rectitude and sincerity" and do not oppose the efforts of Muslim to establish their nation.³¹ Those particular pluralistic and secular views however were bluntly rejected by Sayyad Qutb, a Muslim ideologist, in favor of more confrontational interpretations of the faith than the ones advocated by al-Banna.

SAYYAD QUTB: ALL OUT WAR?

In his book, *Milestones*, Qutb (1906–1966) rejected all "low associations based on race and color, language and country, regional and national interests." Instead, Qutb offered Islam as the only "pure way of life."³² The goal is to establish a civilization that is not based on nationality, ethnicity or race such as an "Arabic civilization," but rather purely an "Islamic civilization" that should eventually lead to global implementation of the Quran.³³ The implementation of Qutb's project rested on an ideologically pure vanguard who would totally reject what Qutb termed "unIslamic" values. Among many other, Qutb's views have been the rallying cry of Islamic fundamentalists in the Middle East. They are the militant doctrine of the Islamic State, the extremist militia Jabhat Fatah al-Sham and other groups.

In his book, *In the shadow of the Quran*, Qutb had declared war on the non-Muslim world; concluding that peaceful methods were use-less and tried and failed; adding that more aggressive tactics are perhaps needed.³⁴ Qutb's ideas were embraced by al-Qaeda organization which declared, among many others, the West and its partners in the Middle East as enemies.

Abdallah Azzam however, the founder of the Mujahedeen army in Afghanistan, called upon Jihadist to prioritize their goals. He advocated for Jihad against the nearby enemy, the USA's partners in the Middle East, rather than the West at large, which was termed by Azzam as the "far" enemies. This very same strategy is currently emphasized by al-Qaeda leaning groups such as Jabhat Fatah al-Sham (as we will see shortly). The Islamic State, by contrast, has not adhered to that school of thought and instructed its followers to attack all over the world.

Rewriting the Laws of War: Religious Extreme Groups and the Treatment of Civilians

In the time of war, civilian populations are protected by a comprehensive body of pubic international law that governs, among other issues, how civilians are treated.³⁵ To a varying degree, most countries adhere to this body of law. Religious extreme groups however do not recognize international law as such. When it comes to the treatment of civilians in conflict zones, extreme groups write their own ideology-based rules. In addition to a carefully selected number of Quranic verses, most groups rely on the teaching of their jihadi scholars to justify their atrocities against civilians. In many cases, the term a "civilian" itself is bluntly rejected.

The treatment of civilians by the so-called Islamic State is a notable example. The Islamic State is responsible for the killing of thousands of Muslims, the enslavement of a number of Yazidi women.³⁶ ISIS published a number of social media propaganda videos depicting the burning,³⁷ drowning, and blowing up of live hostages with rocket-propelled grenades³⁸ and the slaughtering and crucifying³⁹ of prisoners on camera.⁴⁰

The seeds of this savage treatment of civilian were sown by al-Zarqawi in Iraq in 2006; drawing very heavily on both Taymiyyah's teaching and the Wahhabi tradition.⁴¹ Much of the hostility against different ethnic groups advocated for by the aforementioned scholars were commended and taught by Jabhat Fatah al-Sham and the Islamic State.⁴² Capitalizing on al-Zarqawi's extremely violent and ruthless approach, the Islamic State has flooded social media platforms with pioneering short videos; elevating violence against civilians to a new level.

Using carefully chosen versus of the Quran and hadith of the Prophet, the Islamic State has also persistently tried to discredit political opponents criticizing its brutal tactics; sowing the seeds of hatred and division between Muslims and their moderate leaders; a tactic openly embraced to recruit fighters by some extreme groups long ago.⁴³ As early as 2007, Abu Umar al-Baghdadi (then the head of the Islamic State in Iraq) called upon all Sunnis, particularly the youth, from around the world to join his organization,⁴⁴ claiming that "the rulers of Muslim lands are traitors, unbelievers, sinners, liars, deceivers, and criminals … fighting them is of greater necessity than fighting the occupying crusader."⁴⁵ According to ISI, the strategic goal of jihadi is that no idolater remains in the world.⁴⁶ Going after the "apostate" unbelievers by attacking their homes is therefore a priority.⁴⁷ Whether he is a Muslim or non-Muslim, once branded as an apostate, a civilian has very little protection, if at all.

Civilians are not treated well either in al-Qaeda's literature. Anwar al-Awlaki, one of al-Qaeda's celebrated scholars, rejected the term a "civilian" altogether. Instead, he proposed the use of a "fighter" and a "nonfighter."⁴⁸ The impact of such terminological shift cannot be over stated. For example, according to al-Awlaki, the American population not only elected a president who waged war against Muslims but also funded its administration. That is way, the act of electing a president,

by itself, is an act of violence (fighting) and thus justifies the killing of American civilians.⁴⁹ Based on this interpretation, al-Awlaki concluded that all United States citizens are legitimate target for the Mujahedeen. American citizens are considered fighters and thus are not eligible for the protection of nonfighters (civilians).⁵⁰

Though al-Awlaki was one of the al-Qaeda's celebrated jihadi scholars, the latter has distanced itself from some of savage practices against civilians committed by the Islamic State. Al-Qaeda seems to be wary of the damaging impact of targeting innocent civilians on public opinion. In fact, as early as 2005, al-Zawahiri, then al-Qaeda second in command, reminded al-Zarqawi (the founder of the Islamic State in Iraq in 2006) that "... we [al-Qaeda followers] are in a battle and more than half of this battle is taking place in the battlefield of the media...We are in a media battle in a race for the hearts and minds of our Umma,"⁵¹ thus counseling against the use of extreme force against Shia Muslims.

Apart from al-Qaeda and the Islamic States' jihadi scholars, a few prominent Salafi clerics have publicly, not only justified, but even worse, they have glorified atrocities committed against civilians. Torture, enslavement, and the killing of men, women, and children are all "ideologically" permissible, so long as such activities are intended to "terrorize" the enemy of Islam, some argue.⁵²

Following on Taymiyah's literal interpretation of the Quran and the Sunnah of the prophet, one scholar contends that ISIS's extremely offensive tactics are in fact in line with the Quran and thus the Islamic faith, going as far as claiming that "terrorism" is permitted in Islam⁵³; a view clearly rejected by the overwhelming majority of Muslims. On Aljazeera Arabic TV, Almoradi has contended that:

our project is more important than making the image of Islam more acceptable for the US, Israel, and Iran. Secondly, we are the nation who built five empires without paying any attention to its image in the eyes of enemies ... When people lived under the banner of the Caliphate, they proffered it over other types of regimes ... The Quran says 'and prepare against them whatever you are able of power and of steeds of war by which you may "terrify" the enemy of Allah and your enemy and others besides them whom you do not know [but] whom Allah knows.' Terrorism therefore is God's will.⁵⁴

Such extreme narrative by allegedly a moderate scholar beefs up ISIS's and the like-minded groups' propaganda machine and lends them religious legitimacy. Almoradi's argument, as an example, is perfectly in line with ISIS's medieval method of treatment and cements its false claims as the defender of Islam.

OVERVIEW

The al-Salafiyya al-Jihadiyya movement deploys a wide ranging tactics to advance its rhetoric and theological positions basing its propaganda campaign on a number of themes. Animosity toward the West is one of them.⁵⁵ However a recent document published online by an al-Qaeda leaning scholar stresses the importance of striking a softer tone with the West in general and Israel in particular until Jihadi groups establish themselves in al-Sham (which includes Syria, Lebanon, Jordan, and Israel/Palestine).⁵⁶ How much of this counseled moderation is tactical and an attempt to find acceptance in the Middle East and to avoid a head-on collision with Israel and the West is not difficult to ascertain. Highlighting and stressing the ideological differences with other religious subgroups is another tactic used by extreme groups to advance their messages; next to stressing Muslim leaders' lack of ability or willingness to govern according to Sharia law⁵⁷; in addition to discarding the secular state model of governance in favor of establishing a caliphate as the most fit system of government for the Islamic world.

For all Salafi jihadi groups however, any formulation of a governing body or a conduct must be justifiable by reference to revelation, the Quran and the Sunnah or any other authoritative source of Sharia law. Like other monotheistic Scriptures, many versus of the Quran could be interpreted metaphorically. And it is here where jihadi scholars contribute the most. They cheery pick their own sources that resonate with their belief system. In the same vein, despite their political differences, many hard core Salafi clerics who are not known for their support for designated terrorist organization do, perhaps inadvertently, advocate for almost the same ideology advanced by ISIS and the like.

Notes

1. Muhammad al-Adnani, "Enama Aedukum Bewahida (I advise you on an issue), al-Furqan Organization, May 21, 2012. (at 30.05).

- 2. These are the Quran and Sunnah.
- 3. For general information see, Jonathan G. Burns, Introduction to Islamic Law: Principles of Civil, Criminal, and International Law under the Shari'a (TellerBooks, December 15, 2013), at 25.
- 4. Ibid.
- 5. Id.
- Othman Tamimi, Ehlam al-Enam Bemelad Dowlat al-Islam (The announcement of the birth of the Islamic State), al-Forqan Organization (2007), at 13. http://www.jihadica.com/wp-content/uploads/2014/08/ilam-al-anam.pdf.
- 7. For general information see, Burns (supra note 10), at 25.
- 8. Examples of Quranic verses that forbid the killing of innocents include, Surrah al- Maidah, verse 32 which reads: "Because of that, We decreed upon the Children of Israel that whoever kills a soul unless for a soul or for corruption [done] in the land - it is as if he had slain mankind entirely. And whoever saves one - it is as if he had saved mankind entirely". Surah al-Baqarah verse 190 also reads: "...And fight in the way of Allah against those who fight against you, but do not transgress. Surely, Allah loves not the transgressors". Available at, https://quran.com.
- 9. Surah Muhammad verse 4 reads: "So when you meet those who disbelieve [in battle], strike [their] necks until, when you have inflicted slaughter upon them, then secure their bonds, and either [confer] favor afterwards or ransom [them] until the war lays down its burdens. That [is the command]. And if Allah had willed, He could have taken vengeance upon them [Himself], but [He ordered armed struggle] to test some of you by means of others". Available at, https://quran.com.
- We will fully address this issue shortly, see Anwar al-Awlaki justification for the killing of civilians, available at, https://www.youtube.com/ watch?v=Q2TiXhheVFs (at 4:24).
- 11. These are the Quran and Sunnah.
- 12. Hanbali school of jurisprudence is one of the strictest schools in Sunni Islam.
- 13. Jamil Ammar and Songhua Xu, Yesterday's Ideology Meets Today's Technology: A Strategic Prevention Framework For Curbing The Use Of Social Media By Radical Jihadists, Albany Law Journal of Science and Technology, Vol. 26.2 (2017), at 241–244.
- 14. For general information see, Permanent Committee for Islamic Research and Issuing Fatwas, 2ed. the Faith, Fatwa No 1361: What is Salafism? at 165.
- 15. The term "blasphemy" includes the insulting or showing lack of respect for Allah or his Messenger. According to Taymiyyah, cursing the Prophet Mouhamad, in particular, is a crime punishable by death. Abd A Ebraheam, Moghnee Al-Moreed, (Albaz Publication 2000), at 2771. For information about Taymiyyah' views, see Abdur-Rahman ibn Muhammad

ibn Qasim, Majmu Fatawa Sheikh Al-Islam, Ibn Taymiyyah (The Ministry of Islamic Affair's Publications, Arabia Saudi, 2004) at 89–106, 163, 136–141, 149–160 and 161–162.

- 16. Ammar and Xu (supra note 13), at 241–244. Among many other examples, Taymiyyah's name was invoked by Osama Bin Landen when issued his infamous fatwa against the USA. Full version of this fatwa can be read here: http://fas.org/irp/world/para/docs/980223-fatwa.htm. Using the hashtag '#SuggestAWayToKillTheJordanianPilotPig', ISIS's followers relied on a fatwa issued by Taymiyyah to suggest an execution method for the condemned Jordanian pilot.
- 17. Abdur-Rahman (supra note 22), at 36-39.
- 18. Ibid., at 37.
- 19. Ibid., at 89-106, 163, 136-141, 149-160.
- 20. Ibid., at 161-162.
- 21. Ibid., at 89-90.
- 22. Abdullah Azzam relied on Taymiyyah's teaching to wage jihad. In a fatwa that was indorsed by the Grand Mufti of Saudi Arabia Saudi, Azzam pointed out: '...if a piece of Muslim land the size of a hand-span is infringed upon, then jihad becomes ... a personal obligation on every Muslim male and female, where the child shall march forward without the permission of its parents and the wife without the permission of the husband'. Emphasis added. A full version of this fatwa can be accessed here: Abdullah Azzam, 'Defense of the Muslim Lands, The First Obligation After Iman', available at, https://ia600504.us.archive. org/27/items/Defense_of_the_Muslim_Lands/Defense_of_the_Muslim_Lands.pdf (last visited August 10, 2016).
- 23. Bin Laden also cited Taymiyyah to issue the following fatwa: '...The ruling to kill the Americans and their allies—civilians and military—is an individual duty for every Muslim who can do it in any country in which it is possible to do it'. Full version of this fatwa could be read here: http://fas.org/irp/world/para/docs/980223-fatwa.htm.
- 24. ISIS cited a fatwa issued by Taymiyyah to justify the burning of a Jordanian pilot, cited in Mouhamad Almakdesi, Jihad in The Hanbali Doctrine (Books world publication 1985).
- 25. Damascus suburb (East Ghuta) Available at, https://www.youtube.com/ watch?v=zedYguS9evM.
- For general information, see Esther Peskes, Doctrine and Development: Critical Surveys in Islamic Denominations Series (Gerlach Press, September 30, 2015).
- 27. The term "shirk" means practicing in idolatry or polytheism.
- 28. For more information see a letter sent by al-Banna to the King of Egypt Farouk in 1947 titled 'Toward the Light', available at, https://www.

scribd.com/document/61057756/Towards-the-Light-by-Hassan-Al-Banna.

- 29. Ibid.
- 30. Id.
- 31. Al-Banna citing the Quran, Surah-al-Mumtahinah (60), verses 8 and 9, Ibid.
- 32. Sayyid Qutb, *Milestones*, at 28, available at http://majalla.org/books/2005/ qutb-nilestone.pdf.
- 33. Ibid.
- 34. Sayyid Qutb, In the shadow of the Quran (al-Shorouk Publication, 2003), issue 10, 1564–1700, at 1603–1613.
- 35. See in general, the Geneva Conventions comprising four treaties, and three additional protocols, that establish the standards of international law for humanitarian treatment in war. Available at, https://www.icrc. org/eng/war-and-law/treaties-customary-law/geneva-conventions/ overview-geneva-conventions.htm.
- 36. Kayleigh Lewis, *Yazidi Woman Held as Isis Sex Slave "Abused Every Day"* for Seven Months, THE INDEPENDENT (Mar. 14, 2016), http://www.independent.co.uk/news/world/middle-east/yazidi-woman-isis-sex-slaveislamic-state-jihadist-a6930251.html.
- 37. Rod Nordland & Ranya Kadri, Jordanian Pilot's Death, Shown in ISIS Video, Spurs Jordan to Execute Prisoners, THE NEW YORK TIMES (Feb. 3, 2015), http://www.nytimes.com/2015/02/04/world/middleeast/isis-said-to-burn-captive-jordanian-pilot-to-death-in-new-video.html.
- Lizzie Dearden, New ISIS Video Shows Hostages Divided Into Groups to be Decapitated, Blown Up or Drowned as Execution Methods get Increasingly Macabre, THE INDEPENDENT (June 23, 2015), http://www.independent. co.uk/news/world/middle-east/isis-decapitates-blows-up-and-drowns-16-men-accused-of-spying-in-iraq-10339255.html.
- 39. Sylvia Westall, ISIL Crucifies Eight Rival Fighters, Says Monitoring Group, REUTERS (June 29, 2014), http://www.reuters.com/article/us-syria-crisis-rivals-idUSKBN0F40HX20140629.
- 40. See id. (showing that the corpses of eight crucified rebel fighters were left out for the public to view for three days).
- 41. The following documentary is a good example: "The Islamic State," Vice News, August 2014, https://www.youtube.com/watch?v=AUjHb4C7b94. (last accessed February 1, 2017).
- 42. For example, Influential al Qaeda cleric from Saudi Arabia—Abdallah Muhammad al Muhaysini- publishes weekly on YouTube different type of videos calling for Jiahd and the extermination of other Shia groups. Some of these videos are watched over 20,000 times. "Uyghur Jihad Nasheed (with footage of Dr. Abdullah al Mohaisany at Syrian front-lines)" published on Jun 19, 2016. This video was viewed 20,566

times, https://www.youtube.com/watch?v=LWAP4RJ2djU. See also, Turky Bin Ali's article explaining the ideology of al-Adnani (the former spokesperson of ISIS) titled, Allafth Alisani Fi Tarjamit Aladnani (July 15, 2014) available at, https://thabat111.wordpress.com/2014/07/15/%D8%A7%D9%84%D9%84%D9%84%D9%81% D8%B8-%D8%A7%D9%84%D8%B3%D8%A7%D9%86%D9%8A-%D9%81%D9%8A-%D8%AA%D8%B1%D8%AC%D9%85%D8%A9-%D8%A7%D9%84%D8%B9%D8%AF%D9%86%D8%A7%D9%86%D9%8A-%D8%A8%D9%82%D9%84%D9%85-%D8%A3%D8%A8/.

- 43. Abdel-bari Atwan, Islamic State: the Digital Caliphate (Saqi Books 2015) at 83–98.
- 44. July 8, 2007, then-Islamic State leader.
- Abu Omar al-Baghdad, "Waad Allah", al-Furqan Organization, September 22, 2008. 31. Al-Baghdadi, "Qul Ena al Bayina Min Rabi," al-Furqan Organization, March 13, 2007.
- 46. Abu Omar al-Baghdad, "Humble on Faithful and Tough on Infidels" al-Furqan Organization, December 22, 2007.
- 47. Al-Baghdadi, "Fa Ama Al Zabad Fi Yadhab Jafia", al-Furqan Organization, December 4, 2007.
- 48. Anwar al-Awlaki, available at, https://www.youtube.com/watch?v=Q2TiXhheVFs (at 4:24).
- 49. Ibid.
- 50. Id.
- 51. A letter from Zawahiri to al-Zarqawi (2005), at 10.
- 52. In this video, a number of Salafi jihadi clerics have characterized torture and the killing and the enslavement of women as integral parts of Islam, https://www.youtube.com/watch?v=lqF8qCH9Bm8. In this second video, contrary to the views of many Islamic scholars, two particular Salafi scholars, Abn Othymeen and Al-Awlaki alleged that the killing of women and children is permitted in Islam, https://www.youtube.com/watch?v=Q2TiXhheVFs.
- 53. Nour Almoradi, Aljazeera TV, The Opposite Direction Program, 'Is the progress of ISIS a blessing or a curse?' (May 26, 2015) available at, https://www.youtube.com/watch?v=6w2PDZJayuU (The statement at issue was made at 19 mins and 25 s of the interview).
- 54. Nour Almoradi, Aljazeera TV, The Opposite Direction Program, 'Is the progress of ISIS a blessing or a curse?' (May 26, 2015) available at, https://www.youtube.com/watch?v=6w2PDZJayuU (The statement at issue was made at 19 mins and 25 s of the interview). See Ammar and Xu (supra note 13), at 279.
- 55. However a recent online document published by an al-Qaeda leaning scholar stresses the importance of striking a softer tone with the West in

general and Israel in particular until Jihadi groups establish themselves in al-Sham (which includes Syria, Lebanon, Jordan, and Israel/Palestine).

- 56. Abu Muhammad al-Maqdisi, Alwasaya Algaliya Leansar Alsharia Algalyia (2013), available at, http://ilmway.com/circles/index.html, at 9–10 (Available in Arabic only).
- 57. See supra note 45.

The Rise of Religious Extremism in the Middle East: A Triptych View?

Abstract This chapter explores why religious extremist is on the rise in the Middle East. It highlights how the Salafi's textualization of faith has inadvertently enabled theocratic regimes to cement their dictatorships; creating a state of "religious cronyism"; before concluding that encouraging uncompromised adaptation of Sharia law cements the position of otherwise corrupted rulers. This chapter also discusses the interrelation between financing jihad and tax evasion. It finally explores how Salafi-Jihadist have succeeded in mischaracterizing criticism leveled against their violent means to achieve their political agenda as an attack on Islam per se; creating a form of "religious dilution."

Keywords Sharia law \cdot Religious TV stations \cdot Political suppression Financing Jihad

This chapter seeks to answer the question of why extreme groups are on the rise in the Middle East. To this end, first, we investigate the interlink between Salafism and autocracy, highlighting the role of autocracies and theocracies in fueling extremism in the Middle East. Second, we examine how tax evasion is used as a mechanism to funding Jihad. Finally, we briefly assess the viability of religious extreme speech as a business model.

SALAFISM AS A FORM OF POLITICAL SUPPRESSION

Various findings in this book suggest a range of answers to the question of why radical groups are on the rise. A chief amongest them is the historic tension between Sunni and Shia¹—a toxic point that so far has made it easier for extreme sub-state groups to rally support for their cause. The tension between Shia and Sunni has increasingly become a noticeable destabilizing force in the Middle East, particularly in the aftermath of the Syrian cataclysm—the result of which has led to record a number of people displaced from their homes due to conflicts and persecution on political and/or religious grounds. Utilizing the power of social media, the conflict in Syria and Iraq has handed a golden opportunity to all types of extreme organizations to leverage the age-old tension between Sunni and Shia to their own political advantage, seriously pushing the European Union, Lebanon, Jordan, and Turkey to their limits.²

In this space, however, we limit our discussion to the following query: All considered, it is fair to argue that the Salafi Jihadist Movement clearly represents an unpopular and violent interpretation of faith, why then is it thriving? While there might not be one concrete answer to that question, one thing is clear: Autocratic regimes play a role in fueling extremism. Next we explain how and why.

As discussed above, one of the most notable aspects of the Salafi Jihadist Movement's ideology is the literal interpretation of faith. By relying on carefully selected verses of the Quran of hadith, textualization of faith is used as a principle to justify violence against other subgroups. The question to be raised here is why political establishments in the Middle East put up with such a clearly questionable school of thought? The answer is that the very same concept that makes Salafi Movement, at least in some people's view controversial, namely the literal interpretation of faith, does in fact, inadvertently, serve the interests of the autocratic elite in the Middle East. The stricter the interpretation of Sharia law is, the more stable autocratic regimes will be.

To understand the link between Salafism and autocracy, one has to pay regards to one of the Islamic concepts which has rarely been discussed in the context of religious extremist, namely the principle of "obedience" (the obligation to obey the Muslim ruler). According to the Quran,³ Muslims must follow and submit to their leader so long as he rules according to Islamic law. The Muslim ruler is entitled to the advice and support of his people if/when needed.⁴ A strict interpretation of this religious mandate makes it very difficult for Muslims to rise against a corrupted dictator (ruler) so long as he is a dedicated Muslim.

According to Taymiyyah, the Muslim leader, who might be a prince or a Muslim cleric,⁵ owes his followers absolute loyalty.⁶ So long as he does not violate God's orders, such as preventing his follow citizens from praying or fasting, they must not rebel against him.⁷ This principle also applies even when the leader serves his own interests—as appose to serving the community at large.⁸ The fact that the Muslim leader does not serve justice and treats his people unfairly does not justify violent rebellion against him.⁹ A corrupted, yet an ideologically dedicated leader, is not to be opposed using violent means.¹⁰ Those who rise against a Muslim ruler die as infidels, Taymiyyah argued.¹¹ Put differently, a Muslim may advise or criticize his leader but he may not go as far as revolting against him.¹²

The Salafi's textualization of faith has inadvertently enabled theocratic and autocratic regimes to cement their dictatorships in the Middle East, creating a state of "religious cronyism," where appointed clerics bolster the dictator's otherwise illegitimate reign by depicting him as a "faithful," and thus forcing Muslims to obey him.¹³ In this particular context, both Salafism and autocracies work hand in hand to secure the submission of otherwise rebellious population.¹⁴ This is where a strict interpretation of faith becomes handy. A rigid interpretation of the "obedience" principle means that a dedicated Muslim cannot revolt against his/her corrupted Muslim ruler without running the risk of being branded as unbeliever. From this perspective, among other issues and keeping the obedience doctrine in mind, encouraging a strict literal and uncompromised adaptation of Sharia law, inadvertently, cements the position of otherwise corrupted rulers.

Citing Taymiyyah and hadiths by the Prophet Mohammad,¹⁵ a prominent Salafi scholar, made it clear that a Muslim might revolt against his ruler upon two high threshold conditions: first, where the ruler clearly and "publicly" renounces Islam; second, where rebellions can demonstrably prove that they have enough power and public support to oust the ruler, and thus, are capable of establishing peace and stability.¹⁶ Absent of these two threshold conditions, it is in the interest of the Islamic nation not to revolt against the ruler.¹⁷ Offenders are to be killed, whoever they are.¹⁸

To cement their otherwise illegitimate reign therefore, despite their public disapproval of a strict interpretation of faith, autocracies, and theocracies in the Middle East take the privilege of "absolute obedience" seriously. For autocracies and theocracies alike, the radical organizations' strict and literal interpretation of faith acts as an insurance policy. It shields them against the fury of their deprived and disfranchised population. This, in part, explains why the political establishments in the Middle East, to a varying degree, tolerate extreme groups that do not directly challenge their reign.

EXTREME SPEECH AND TAX EVASION?

How extreme groups finance their activities is a question of great significance. In addition to other sources of income, does Salafi Jihadism provide extreme groups with a sustainable and legitimate source of cash?

The Quran encourages Muslims to spend their money for the "sake of Allah."¹⁹ It explains in detail how tax money should be spent, providing a list of eight categories of personal and activities that tax payers' money should be spent on, including the "poor," the "needy," and spending for the sake of Allah.²⁰ While there is no straight rule as to when financing Jihad becomes a religious mandate, the conventional wisdom is that once a prominent Muslim cleric(s) calls for Jihad, supporting the Mujahedeen with all possible means becomes a religious mandate.²¹ In special cases, funding Jihad trumps other necessities.²² Examples include where Muslim fighters (Mujahedeen) are besieged or underfunded.²³ In these cases, Muslim fighters are deemed poor, and, thus, helping them financially or otherwise becomes an absolute priority.²⁴ Under such circumstances, many Muslims may choose not to pay taxes to their government.²⁵ Instead, they may pay directly to the Mujahedeen, often using private channels.²⁶ Consensus as to who has the right to declare Jihad in a given community is hard to come by. Whose opinions are relevant for Jihad is a question that is still relevant to most ideologically driven groups. Does the scholar of a small community have the right to declare Jihad against a given enemy or a group of people as is currently the case in many areas of Syria? Is there a minimum number of scholars required to declare Jihad, as happened in Cairo in 2012 where roughly 500 scholars declared Jihad against the Syrian regime? Do the scholars of the Islamic State have the right to unilaterally declare Jihad? There is no straightforward answer to any of these questions. What is clear however is that by declaring Jihad and thus evoking the religious duties

of Muslims to help finance Mujahedeen, most extreme groups have so far managed to stay afloat.²⁷

MONETIZING JIHAD: EXTREME SPEECH AS A BUSINESS MODEL?

Religion plays a pivotal role in peoples' lives in the Middle East. Ideologically driven groups, such as Fateh al-Sham and the Islamic State, have to compete in a consumer marketplace with a myriad of other Islamic groups. The proponents of the al-Salafiyya al-Jihadiyya Movement seem to appreciate and significance of "religious branding."28 As a group with a clear political agenda,²⁹ Salafists realize the need for a moto to sure up their base. By systemically and meticulously linking their activities to verses of the Quran or hadith of the Prophet, Salafi-Jihadists have succeeded in characterizing criticism leveled against their agenda as an attack on Islam and Muslims per se and thus to rally huge crowed.³⁰ The self-proclaimed Islamic Caliphate's slogan "lasting and expanding,"³¹ concisely sums up this effective survival strategy. Radical Jihadists have long justified their own politically driven goals using carefully selected metaphoric verses of the Quran or hadiths of the Prophet.³² This form of "religious dilution"³³ has already reflected adversely upon Muslims well beyond the shores of the Middle East.³⁴

Al-Salafiyya al-Jihadiyya is a very powerful brand that enjoys the free publicity of a significant number of religious TV stations. The latter is a notable factor given that roughly 28% of all TV programs in the Middle East show religious themes.³⁵ Religious TV shows are a lucrative source of income. With the help of social media platforms,³⁶ a modest religious station could easily survive and profit. So much so that in a four-year window (2009–2013), the number of religious TV stations tripled.³⁷ A significant number of these stations adhere to the austere Wahhabist creed,³⁸ and most of them are lightly regulated and are privately funded,³⁹ giving them the opportunity to host some Salafi clerics who cite Taymiyyah's fatwas to justify or encourage hostility toward other sub-groups⁴⁰; using the current Syrian civil war and the atrocities committed by the Syrian regime against its own people to support radical Jihadists by depicting the Syrian calamity as "Jihad" and, thus, a religious mandate.⁴¹

Due to mostly political reasons, many Salafi scholars and religious TV stations oppose the political aspiration of ISIS, where the followers of the Islamic State are usually referred to as "Khawarij" (a group of ultra-Muslims).⁴² Still, the bulk of podcasted materials on those stations provide the ideological backbone for the Islamic State and its supporters.⁴³ Such free support intentionally or inadvertently helps lend legitimacy to the Islamic State and like-minded groups legitimacy that makes it easier for those groups to persist, to recruit members, and to raise funds, all of which facilitate more terrorist attacks.

Notes

- 1. Other examples include political and economic corruption, lack of justice, regime change agendas which have led to a vacuum of power in many areas of the Middle East; only to be replaced by extreme organization's supporters, general animosity towards the West and media bias which may have played a role in aggregating tension between the Middle East and the West.
- 2. According to the UN Refugee Agency, the number of registered Syrian refugees has reached 4,861,112 as of November 2016- in addition to 8.7 million predicted to be displaced inside Syria, http://www.unhcr.org/en-us/syria-emergency.html.
- 3. The Quran, Surah Alnisa, verse 59 states "... obey Allah and obey the Messenger and those in authority among you...."
- 4. Ibid.
- 5. Abdul Aziz bin Abdullah bin Baz, the former Grand Mufti of Saudi Arabia, available at http://www.binbaz.org.sa/article/208.
- 6. Abdur-Rahman, at 13-14.
- 7. Ibid.
- 8. Ibid., at 9.
- 9. Id., 13-14.
- 10. Ib., 13–14.
- 11. Id., 11-12.
- 12. Ibid., 10-14.
- 13. Ammar and Xu (supra note 13), at 244.
- 14. Ibid.
- 15. For instance, one of the Prophet's sayings goes: "...It is obligatory upon the Muslim to listen to and obey [the ruler] in his adversity and prosperity, in pleasure and displeasure, unless the Muslim is ordered to commit a sin...".
- 16. Abdul Aziz, http://www.binbaz.org.sa/article/208.
- 17. Ibid.
- 18. Id.
- 19. The Quran, Surah Al-Taubah, verses 41 reads "... Go forth, light or heavy, and strive with your wealth and your lives in the course of Allah. That is best for you, if only you knew".
- 20. The Quran, Al-Taubah, verses 60 reads: "The alms are only for poor and the needy, and for those employed in connection therewith, and for those

whose hearts are to be reconciled, and for the freeing of slaves, and for those in debt, and for the cause of Allah, and for the wayfarer-an ordinance from Allah". Emphasis added. Zakat is 2.5% of a year's total cumulative wealth, available at, http://www.islamic-relief.org.uk/about-us/what-we-do/zakat/zakat-faqs/.

- 21. See generally *Surah Al-Tawbah* 9:38, https://quran.com/9:38 (last visited January 6, 2017) (discussing adhering to the cause of Allah).
- 22. See generally *Surah Al-Baqarah* 2:195, https://quran.com/2:195 (last visited Jan. 6, 2017) (discussing spending in the cause of Allah to Jihad).
- 23. See generally *Surah An-Nisa* 4:95, https://quran.com/4:95 (last visited January 6, 2017) (discussing rewards given to those who fight for the cause of Allah).
- 24. Network News Sure 2, Hazem Salah Abu Ismail, Syria is a State, Major General Jihad and the Worship of Money and Weapons, YOUTUBE (May 26, 2013), https://www.youtube.com/watch?v=00nWtCWtz4c (in Syria, a number of Salafi-Jihadi clerics called for support for the Jihad. In this video, Hazem Abo Ismail stated that "while collecting money [for Syrians] for weapons, drugs, and food is, no doubt, part of one's religious duties, this should not be an excuse . . . not to do our real duties. As the companions of the Prophet did it before, we ought to pay our money to work and to wage Jihad as well."); HamzaBakour Channel, Urgent: Qaradawi Declares Jihad in Syria, #Duty [sic], YOUTUBE (March 4, 2012), https://www.youtube.com/watch?v=g2LxmoMV20M [hereinafter Qaradawi] (Yousef Al Qaradawi said that "the case to fight the Syrian regime is beyond question, and Syrian religious clerics should publicly declare their positions regarding that issue.").
- 25. See M. HASSAN KAKAR, AFGHANISTAN: THE SOVIET INVASION AND THE AFGHAN RESPONSE, 1979–1982, at 127–128 (the Regents of the University of California 1995) (referencing the priority of providing financial assistance to the Mujahedeen).
- 26. Tentative Jihad: Syria's Fundamentalist Opposition, INTERNATIONAL CRISIS GROUP 9 (October 12, 2012), https://www.ciaonet.org/cata-log/26471 [hereinafter INTERNATIONAL CRISIS GROUP] (addressing the competitive advantage afforded to Salafi-Jihadi groups, who receive private funding).
- 27. Ammar and Xu (supra note 13), at 248. See also, Tentative Jihad: Syria's Fundamentalist Opposition, INTERNATIONAL CRISIS GROUP 9 (Oct. 12, 2012), https://www.ciaonet.org/catalog/26471 [hereinafter International Crisis Group] (addressing the competitive advantage afforded to Salafi-Jihadi groups, who receive private funding).
- 28. See generally MARA EINSTEIN, BRANDS of FAITH: MARKETING RELIGION in a COMMERCIAL AGE 13, 57 (Routledge 2008), http://culturaldiplomacy.org/academy/pdf/research/books/nation_branding/

Brands_Of_Faith_-_Mara_Einstein.pdf (discussing the branding of religions to reach new consumers).

- 29. The agenda of Jihadi groups is to establish an Islamic state, as clearly seen in their literature. See *What is Jihadism*, BBC NEWS (December 11, 2014), http://www.bbc.com/news/world-middle-east-30411519 (discussing the Jihadist mission).
- 30. Ammar and Xu (supra note 13), at 248.
- See generally Lina Khatib, *The Islamic State's Strategy: Lasting and Expanding*, CARNEGIE ENDOWMENT for INT'L PEACE (June 29, 2015), http://carnegie-mec. org/2015/06/29/islamic-state-s-strategy-lasting-and-expanding-pub-60511.
- 32. See Husain Haqqani, Prophecy & the Jihad in the Indian Subcontinent, HUDSON INSTITUTE (March 27, 2015), http://www.hudson.org/ research/11167-prophecy-the-jihad-in-the-indian-subcontinent (noting that radical Islamists invoke the hadiths of the Prophet).
- 33. Ammar and Xu (supra note 13), at 252.
- 34. See generally ARIF KEMIL ABDULLAH, THE QUR'AN and NORMATIVE RELIGIOUS PlURALISM: A THEMATIC STUDY of the QUR'AN 152 (The International Institute of Islamic Thought 2014) (discussing the use of religion as a form of political gain).
- 35. Religious Channels Fueling the Conflict in the Middle East, AL-MASDAR (May 2, 2015) (arguing that there are around 100 religious channels that fuel sectarianism in the Middle East).
- 36. Most of these Salafi-Jihadi-leaning channels maintain a strong presence on social media, *See* Ammar and Xu (supra note 13), at 251.
- 37. Id.
- 38. See Ammar and Xu (supra note 13), at 251, discussing the popularity of religious programming in the Middle East.
- 39. Religious Channels Fueling the Conflict in the Middle East, supra note 35.
- 40. Sheikh Mohamad Alzobee, AL KHALIDIIA TV (May 19, 2009), https:// www.youtube.com/watch?v=gqmIcn3AStU (arguing that "Alnyseria are unbelievers... anyone who doubts that they are unbelievers is an unbeliever like them.").
- 41. HamzaBakour Channel, Urgent: Qaradawi Declares Jihad in Syria, #Duty [sic], YOUTUBE (Mar. 4, 2012), https://www.youtube.com/ watch?v=g2LxmoMV20M [hereinafter Qaradawi] (Yousef Al Qaradawi said that "the case to fight the Syrian regime is beyond question, and Syrian religious clerics should publicly declare their positions regarding that issue.").
- 42. For information about the meaning of this term, see Abdul Aziz bin Abdullah bin Baz, the former Grand Mufti of Saudi Arabia, available at http://www.binbaz.org.sa/noor/11822.
- 43. Ammar and Xu (supra note 13), at 245.

Extreme Groups and the Militarization of Social Media

Abstract The qualitative research in this chapter serves as a supplement and support of the theoretical discourse analysis. It provides a dataset of the most prominent religious clerics in the Middle East and their influence on religious extremist; identifying the names of a hundred and thirty six (136) of the most active Salafi and Salafi Jihadi clerics on social media. The results indicate that there is hardly any difference between how a Salafi or a Jihadi group conduct their propaganda campaigns. Another noticeable result is that both groups use demographic segmentation to specifically target sub-groups, such as women and kids. This chapter concludes that, apart from few negligible differences, both Salafi and jihadi groups are ideologically aligned.

Keywords Terrorism and social media · YouTube · Twitter · Facebook Online propaganda campaign

The bloody attacks in Syria, Iraq, Germany,¹ France, Turkey, as few examples, clearly illustrate the capability of religious extreme groups to punish over their weight. More importantly, they also reflect the lack of knowledge and thus ability of state and private actors to develop effective countermeasures; meanwhile extreme groups exploit social media to recruit fighters plan and execute attacks. In this part, we investigate the use of social media platforms, such as Facebook Telegram, and YouTube, by extreme groups; focusing on the technical and cultural aspects that

aid Jihadi groups to effectively utilize social media platforms to advance their cause and to rally support for their ideology. In particular, we highlight a number of factors and methods used to disseminate a puritanical pro-Jihad interpretation of faith. The goals are, first, to highlight how sophisticated and media-savvy some Salafi groups are, and, second, to highlight that, in some cases, both designated terrorist organizations and Salafi groups advocate for the same ideology. Third, as we explain in subsequent parts, due to this proximity between Salafi and extreme jihadi groups, it is quite challenging to regulate even the most incendiary type of religious hate speech.

Social media platforms are quite popular worldwide, including, in the Middle East.² Some social media platforms are more popular than others. For example, in Saudi Arabi, YouTube and Twitter seem to be more popular than Facebook.³ Most extreme groups in the Middle East have noticeable presence on social media and have a manipulative and skillful approach to attract followers. In this part, we investigate two particular themes. Social media platforms have stepped up their efforts to curb extreme speech online by suspending accounts belong to these groups. First, we analyze how extreme groups have counteracted such measures by developing what we will loosely call the "signaling function" of social media. The second part provides a comprehensive analysis of an ongoing recruiting camping conducted on Telegram, which we have termed as the recruiting function of social media.

THE "SIGNALING FUNCTION" OF SOCIAL MEDIA

Social media platforms have recently conducted a rigorous campaign the root out and delete propaganda materials belongs to, among others, religious extreme groups. For example, in its efforts to thwart terrorists-related accounts, Twitter alone terminated over 125,000 terrorists' related accounts.⁴ Extreme groups have counteracted this technique by opening a number of accounts the sole purpose of which is to alert their followers that an important news alert is going to be broadcasted soon; in addition to providing the link or the name of the account where the news is supposed to be broadcasted. Once the broadcasted material downloaded onto a personal computer or a mobile phone, it becomes virtually impossible to control it. The example below from Twitter is a good illustration. It reads: "Forthcoming at 10:30 pm.. important statement.. Regarding # Jabhat Fateh al-Sham [an al-Qaeda

ترقبوا .. الساعة 10:30 مساءً.. بيان هااام.. بخصوص #جبهة فتح الشام وصيحة نذير لأهل الشام. "الأشر اف" #الشام في أسبوع



View translation

Image 3.1 The "signaling function" of Twitter. https://mobile.twiter.com/ home, August 03, 2016, 3:24:55 PM

affiliated organization] and a warning to the people of Sham"[Syria].. "Admin," "Sham in a Week Program" [name of a program that is weekly broadcasted on YouTube (Image 3.1).⁵

The second example, noted below, posed by an account under the name of Abdullah al-Muhaysini, a prominent Saudi cleric and jihadist figure in Syria. The Tweet reads: "our followers: Share with use this post and spread it in all WhatsApp's groups and other applications—admin—Today at 9:00 pm: an important audio message titled how the MOC [military operations center to aid and organize Syrian rubles' activities in the South West of Syria] tricked rubles groups on telegram.me/mhesne#Aleppo" (Image 3.2).

4 t3 142 ♥ 176 mhammadbbd@د. المحسني - جديد 2h شار کنا یا محب في نشرها في كل المجموعات على الواتسا، وغيرها من التطبيقات. "الاشراف" sham islam1 الشام في أسبوع يَر قيوا . اليوم الساعة 9 مساءً رسالة صوتية هامة بعنوان: (كيف خدع "الموك" الفصائل) على telegram.me/mhesne uls#

Image 3.2 The "signaling and dissemination functions" of Twitter. https://mobile.twiter.com/home. August 03, 2016, 3:24:55 PM

Once an account or a YouTube channel is terminated, opening another account or a channel is not usually burdensome. For instance, after more than a year of uninterrupted broadcasting via YouTube, Jabhat Fateh al-Sham's official YouTube channel was closed down. Immediately, another channel was opened titled "Sham News" and it directs followers to follow its new channel and to like to content, as the example below explains (Image 3.3).⁶

It reads: "Important Note: All sheik al-Muhaysini's channels on YouTube are closed down. Currently, apart from Sham News, there is no other official channel. To get all sheik al-Muhaysini's posts, you can follow Sham News. Do not forget to like the content."

THE RECRUITING FUNCTION OF SOCIAL MEDIA

Religious extreme groups relay heavily on social media platforms to recruit new supporters, including women and children and using different languages, such as English, French, Turkish, Bengali, in addition to Arabic. Recently, some of these extreme groups, in particular, the Islamic State and al-Qaeda affiliated group, Jabhat Fateh al-Sham,⁷ have

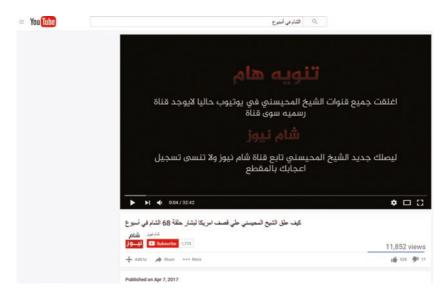


Image 3.3 The "signaling and dissemination functions" of YouTube. https:// www.youtube.com/watch?v=aPxTTvvUj68. Last visited Thursday, April 27, 2017, 5:14:08 PM

started using FM radio waves to live broadcast their propaganda materials. Some contents are recorded before being posted on YouTube. Until very recently, the Islamic State broadcasted local news twice daily via a YouTube channels (Images 3.4, 3.5).

Jabhat Fateh al-Sham in Syria has also started to broadest pro-jihad programs weekly. A notable example is a program called "Dayma." The image celebrates the commencing of the program on Youtue. It reads: "Dayma: with our permanent guest sheik / Dr. Abdullah al-Muhaysini" (Image 3.6).

Among many others, some episodes of this program are uploaded onto YouTube and are still available online for more than a year.⁸ Despite its pro-jihadi rhetoric and therefore its efforts to present the Mujahedeen in the best possible image, the contents of such programs are, mostly, family friendly and do not contain any graphic or violent materials.

To understand and assess their media techniques, analyzing a post or two does not give a comprehensive view of how extreme groups construct their media campaigns. This requires a wider examination of such



Image 3.4 ISIS's live news broadcast on YouTube. https://www.youtube. com/watch?v=Md4LAeeWrj8. Last visited, Tuesday, July 4, 2017

a phenomenon. To this end, we have followed, documented, and analyzed the propaganda activates of two particular groups operating in Syria for a year and a half, from December 2015 to April 2017. These groups are Jabhat Fateh al-Sham (a designated terrorist group operating all over Syria, particularly in the North) and al-Haramoun Army, an unknown allegedly moderate ruble group who has no connection with the Islamic State or al-Qaeda and operates in the South West of Syria. The initial aims of this section are, first, to assess the extent to which moderate and radical groups differ in terms of media strategies, and second, to examine how effective these media campaigns are and why? The results subsequently will be used to assess whether free speech and terrorism-related legislations are well equipped to curb the surge of jihadi materials on social media.

"Alshamikha" (a proud woman), as an example, is a glossy magazine issued by Alshamikha Media Center (an al-Qaeda media branchdiscontinued), which was specifically designed for women. The contents were mainly a number of Jihadi lectures to encourage women to embrace Jihad as a religious mandate under which they are expected to encourage

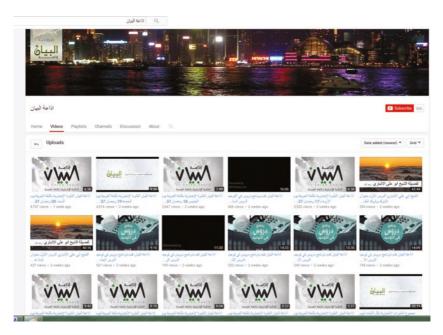


Image 3.5 ISIS's recorded news broadcast on YouTube. https://www.you-tube.com/results?search_query=%D8%A7%D8%B0%D8%A7%D8%B9%D8%A9 +%D8%A7%D9%84%D8%A8%D9%8A%D8%A7%D9%86. Last visited, Tuesday, July 4, 2017



Image 3.6 Pro-jihad programs on YouTube. https://www.youtube.com/ channel/UCwbA1vlH66jPSurIIHp1Mfw/videos. Last visited Wednesday, June 28, 2017, 3:09:32 PM



Image 3.7 The opening of a Jihadi Institute for Women in Idlib. https://www. youtube.com/watch?v=D6wRd-QETe4. Last visited, Tuesday, July 4, 2017

their husbands and sons to join the ranks of Mujahedeen.⁹ It would appear that such an attempt was not very fruitful and thus was replaced by a number of more engaging initiatives. The most notable example is the opening of the "Institute of Aisha, the Mother of the Faithful" for women.¹⁰ Among other issues, the institute provides pro-Jihad education for women, in addition to free care for kids and free transportation. Most activities are recorded and posted on YouTube, see (Image 3.7).¹¹

Kids are specifically targeted by religious extreme groups. For example, the Jihad's Callers Center in Idlib (a city in the North of Syria under the control of Jabhat Fateh al-Sham) has also established the "Religious Campaign for Kids," targeting children inside Syria and in refugees camps in neighboring countries (Image 3.8).

In addition to indoctrinating children, a number of semi-military activities are also carried out. The ages of targeted kids vary. Some as young as 4 years old (Image 3.9).

Recruiting kids is not limited to cities under the control of extreme groups. Jabhat Fateh al-Sham pays regular visits to refugees camp to deliver aids and to recruit young fighters. Below is an image of recruiting session in Ibn Al-waleed refugees camp (Image 3.10).

Al-Qaeda affiliated groups in Syria have been quite keen to reach out to international audience, particularly Jabhat Fateh al-Sham. The latter



Image 3.8 Jihadi campaign for kids, https://www.youtube.com/watch?v=GLuJpu07uZE. Last visited, Tuesday, July 4, 2017



Image 3.9 Kids for Jihad: how Jabhat Fateh al-Sham indoctrinates children with weapons, https://www.youtube.com/watch?v=35hv0Mb6Fyg. Last visited Tuesday, July 4, 2017



Image 3.10 Jihadi groups recruiting children at refugees camps, https://www. youtube.com/watch?v=E_fOmTHxI_Y. Last visited Tuesday, July 4, 2017



Image 3.11 Bilal Abdul Kareem interviewing Abdullah al-Muhaysini, a prominent Saudi cleric and one of the most influential Jihadi figures of Jabhat Fateh al-Sham in Syria. Image courtesy of on the Ground News, available at, https://www.youtube.com/watch?v=7HUzEKm6MjA. Last accessed April 10, 2017

has conducted one of the most comprehensive media campaign, including a significant number of interviews broadcasted in different languages (Image 3.11).

Bilal Abdul Kareem interviewing Abdullah al-Muhaysini, a prominent Saudi cleric and one of the most influential jihadi figures of Jabhat Fateh al-Sham in Syria. Image courtesy of On the Ground News.¹²



Image 3.12 The launching of a telegram channel to publish the statements of Hayat Tahrir al-Sham in al-Haramoun at Telegram.me/sebbbir and/or T.me/ fshamhrmon. Last visited April 1, 2017

The second example we discuss in this section is a social media campaign of a supposedly "moderate" group operating in Syria, namely al-Haramoun Army. Among others, we have been studying the media strategy of this group for a year and a half. All cited examples however are part of a very recent campaign (from February to April 23, 2017) that is still running on Telegram up to the moment of this writing.

Al-Haramoun Army group is part of the newly emerged Hayat Tahrir al-Sham, a collection of ruble groups, including Jabhat Fateh al-Sham (al-Qaedia affiliated group in Syria).¹³

It is often difficult to verify the political affiliation of groups operating in Syria. Both names and affiliations do change regularly. As the post below shows however, al-Haramoun Army is part of the recently born Hayat Tahrir al-Sham. The post reads: "...This channel is designated to publish the statements of Hayat Tahrir al-Sham in al-Haramoun...."¹⁴ The groups' affiliation therefore is confirmed (Image 3.12).

As the following examples show, this allegedly moderate group seems to adapt a very strict interpretation of faith where the duty of Jihad trumps almost everything else. All men, women, kids, and even disabled are under the duty to support Jihad, in one way or another.

According to the al-Haramoun Telegram channel, Jihad and all its military aspects are superior and thus more important than other forms of worship, including praying at Muslims holiest mosques. The post below reads: "monitoring the enemy is better than staying at the three mosques...Monitory is part of Jihad. It is more important than pil-grimage... The Prophet was asked which work is better? He answered, believing in God and His messenger. Then what? He said, pilgrimage... Taymiyyah's fatwas 146/5" (Image 3.13).

Abandoning the duty of Jihad brings both demise and suffering. "Neglecting Jihad brings death as people are experiencing in this life. And on Judgement Day, people [who do not support Jihad] will be punished by fire, Ibn Taymiyyah," the post below reads (Image 3.14).

Once Jihad is announced as a religious mandate, there could be very few justifications for not joining the ranks of the Mujahedeen. As the post below explains, only hypocrite would hesitate before joining the ranks of fighters. "... The longer the procrastination before joining Jihad, the higher the degree of hypocrisy. The worst hypocrites are those who unduly fail to join Jihad to avoid material loss, including security, safety, the loss of interests or a family member or a wife or all...Loving life and hating Jihad is the essence of hypocrisy..." (Image 3.15).

For a faithful, being a married with family and kids is not a good excuse not to join the ranks of Mujahedeen. The post below stresses that while it is abundantly clear that Jihad is more burdensome for married men in comparison with unmarried folks. The duties of a Mujahied toward his own family should not put him off jointing Jihad. God says "March forth light [being young or wealthy] or heavy [being old or poor], strive hard with your wealth and your lives in the cause of Allah." The Mujahied should be aware that God is testing him using his wife and kids. Will the Mujahied abandon his religious duty and relinquish Jihad to protect his wife or kids? Or will he be confident that God, Who has ordered his to fight in the first place, will take care of his family? "To the married Mujahied, do not be afraid that your kids will be poor. God who took care of them in their mother's womb will look after them in your absence" (Image 3.16).

Under no circumstances should Mujahedeen pay attention to those who criticize Jihad. The post below reads: "the longevity of the nation

Lul 🔲 7:13 AM Simple Mobile3G 🔟 🧧 🕷 جيش الحرمون الإعلامي 222 members جيش الحرمون الإعلامي المرابطة بالثغور أفضل من المجاورة في المساجد الثلاثة، كما نص على ذلك أئمة الإسلام عامة، بل قد اختلفوا في المجاورة فكرهها أبو حنيفة، واستحبها مالك وأحمد وغيرهما، ولكن المرابطة عندهم أفضل من المجاورة، وهذا متفق عليه بين السلف. حتى قال أبو هريرة رضى الله عنه : (لأن أرابط ليلة في سبيل الله أحب إليَّ من أن أقُوم ليلة القدر عند الحجر الأسود). وذلك أن الرباط من جنس الجهاد، وجنس الجهاد مقدم على جنس الحج، كما في الصحيحين، عن النبي صلى الله عليه و سلم أنَّه قيل له : أي العمل أفضّل ؟ قال : «الإيمان بالله ورسوله» قيلٌ : ثم ماذا ؟ قال : «حج مبرور». وقد قال تعالى : ﴿أَجَعَلْتُمْ سِقَايَةَ الْحَاجُ وَعِمَارَةَ المَسْجِدِ الْحَرَامِ كَمَنْ آمَنَ بِاللَّهِ وَالْيَوْمِ الآخِرِ وَجَاهَدَ فِي سَبِيل اللهِ لا يَسْتَوُونَ عِنْدَ اللهِ وَاللهُ لا يَهْدِي الْقَوْمَ الظَّالِمِينَ * الَّذِينَ آمَنُوا وَهَاجَرُوا وَجَاهَدُوا فِي سَبِيلُ اللهِ بِأَمْوَالِهِمْ وَأَنْفُسِهِمْ أَعْظَمُ دَرَجَةً عِنْدَ اللهِ ﴾ إلى قوله : ﴿ أَنَّ اللَّهَ عِنْدَهُ أَجْرُ عَظِيمٌ ﴾ [التوبة: ..[22-19 الفتاوى الكبرى لابن تيمية (5/ 146).. UNMUTE \triangleleft

Image 3.13 Jihad is more important than praying at masjid. Telegram.me/ sebbbir. Last visited April 1, 2017



Image 3.14 The dire consequences of abandoning Jihad, Telegram.me/ sebbbir. Last visited April 7, 2017

is based on four" ... 1- "being humble toward faithful, 2- being tough on infidels, 3- striving hard for the sake of God, and 4- not paying attention to blame". The post carries on stating that it is a bit weird that a Mujahied may scarify his own life and still might be worried what people may think of him or that they may... accuse attack or insult him. To the Mujahied, "go and do not look back" (Image 3.17).

No one should abandon Jihad, even the disabled. The post below depicts a disabled man on a wheel chair, allegedly fighting with Mujahedeen. The post companying the photo reads: "The status of this Mujahied [being disabled] ...makes me wonder why others do not join Jihad?" (Image 3.18).

This is clearly a pre-staged scene the goal of which is to persuade those who might have some doubles about the urgency of Jihad that the time is now.

The next example is designed to glorify Jihad by revealing some of the details of the life of a 17 years old Syrian boy who joined the fight and lost his life. The post below glorifies and romanticizes his death stating: "... This is the story of a hero from al-Sham [Syria]. He dressed



Image 3.15 Clinching to life and loathing Jihad is the essence of hypocrisy, Telegram.me/sebbbir. Last visited April 7, 2017



Image 3.16 Mujahedeen are not to hide behind their families! Telegram.me/ sebbbir. Last visited April 2, 2017



Image 3.17 The duty to join Jihad no matter what, Telegram.me/sebbbir. Last visited April 2, 2017



Image 3.18 Shame on those who fail to join the rank of the Mujahedeen. Telegram.me/sebbbir. Last visited April 3, 2017

up during the night of the battle, combed his hair and smiled as if he was a groom preparing for his wedding night. In the morning he was hit by a sniper bullet...and died. This roaring lion joined the ranks of Mujahedeen quite early. He initially wanted to combine both studying and Jihad... but ultimately Jihad was closer to his hear. He first attended a sniping course and then ...other fighting courses..." (Image 3.19).

The al-Haramoun army also applauds and celebrates the attitude of a Syrian couple who sent their kid to fight with Jihadists. The post below alleges that the couple sent their just under 17 years old son to fight with the Mujahedeen. The boy's mother sold her own gold jewelery to arm her son. Later on, the father informed the Mujahedeen that he and his wife agreed to enlist their son as a martyr (a suicide fighter)! "yes, martyr with his parents' consent. Yes brother in Islam, this is a fact..." the post concludes (Image 3.20).

The previous post was followed by another one encouraging followers to donate for Mujahedeen. As the screenshot below shows, the post not only provides an account ID for communication purposes but also encourages supporters to spread the news and to share the "donation request" with as many social media platforms as possible (Image 3.21).

As important and urgent as it may be, joining the ranks of the Mujahedeen however is not sufficient. Perseverance is needed. It is the essence of Jihad. Citing Abdullah Azzam, one of the Al-Qaeda leaders in Afghanistan, killed in 1989,¹⁵ the post below reads: "It is to be known that the path of Jihad is long and exhausting and, among the many enthusiasts, only few would be able to carry on the fight". It is important to persevere under the most stressful situations; absent of good training, eagerness to join Jihad is not good enough (Image 3.22).

For those who strive hard for the sake of Allah, the rewards are great. A place in heaven is guaranteed. Citing a hadith by the Prophet, the screenshot below reads: "...whoever dusts his feet for the sake of Allah is protected from going to hell..." This is a clear indication how important Jihad is. The mere fact that a Mujahied might get his feet dirty while striving for the sake of Allah protects him from going to hell. One can only imagine what the rewards would be for those who dedicate their entire time for Jihad, the post adds (Image 3.23).

By stark contrast, those who relinquish their duty and fail to join the Mujahedeen will be severely punished by God and will be replaced by a better more faithful people who are willing to fight for Allah. Citing two Quranic verses, the post below invokes Taymiyyah's teaching and



Image 3.19 The story of a young Mujahied, Telegram.me/sebbbir. Last visited April 4, 2017



Image 3.20 Praise to parents who enlist their 17 years old mujadied as a martyr, Telegram.me/sebbbir. Last visited April 2, 2017

للتبرع للمجاهدين؛ تواصل مع هذا المعرف تليجرام (Hamah1@) ♦ وإن لم تستطع التبرع فأقل شيء؛ أن ترسل هذا المنشور في كل الحسابات ومواقع التواصل حتى تنال مثل أجر المتبرعين بحول الله.. فأين المشمرون؟؟ فاين المشمرون؟؟ وأين المجاهدون بأموالهم في سبيل الله تعالى؟؟

Image 3.21 Soliciting donations for Mujahedeen, Telegram.me/sebbbir. Last visited April 4, 2017

warns that: "whoever abandons his duty of Jihad is severely punished and humiliated by Allah... This religion [Islam] is for those who defend it" (Image 3.24).

KEY FINDINGS

The al-Haramoun Army's recent media campaign reveals a number of key findings. Based on our preceding analysis, there is hardly any difference between how al-Haramoun Army, a moderate group, and Jabhat Fath al-Sham, a designated terrorist group conduct their propaganda campaigns. If anything, al-Haramoun Army's campaign appears to be worryingly systematic and thus persuasive. Both groups deploy a very sophisticated method of dialogue. It is simple yet comprehensive. In the aggregate, both campaign provide plausible answers to many of the spiritually debated issues concerning Jihad and its human and financial costs, such as whether to join Jihad in the first place, who is supposed to join the ranks of Mujahedeen and the potential costs of doing so. The media campaigns conducted by both groups also make clear that it is the obligation of men, women, and even kids at certain age to support Jihad and Mujahedeen. For these reasons, both groups stress the point that



Image 3.22 Perseverance is the essence of Jihad, Telegram.me/sebbbir. Last visited April 2, 2017



Image 3.23 Heaven is the reward of jihad, Telegram.me/sebbbir. Last visited April 3, 2017



Image 3.24 Humiliation in hell is the penalty for deserting Mujahedeen, Telegram.me/sebbbir. Last visited April 3, 2017

smearing campaigns to undermine the reputation of the Mujahedeen and the legitimacy or their cause should not put people off teaming up with Jihadists. To substantiate their claims, all casted opinions and suggestions provided by both groups are supported by verses from the Quran or hadiths of the Prophet. Another noticeable point is that both groups use demographic segmentation to specifically target subgroups women and kids, in addition to men.

The preceding discussion reveals how articulate and media-savvy some extreme groups are. More significantly perhaps is the fact that many allegedly moderate groups operating in Syria, that are not known for their extreme views, adhere to an austere interpretation of Islam similar to the ones adapted to by ISIS and the Nusrah Front, an al-Qaeda affiliate organization. With this in mind, from a counter-terrorism policy perspective, deleting a note or two or even completely banning a radical cleric from social media is unlikely to win the day. Focusing the discussion solely on designated terrorist or extreme Jihadi groups does not help either. The Syria crisis indicates that the most prominent Salafi scholars, despite their own jihadi rigor, have tended to side with newly emerged Salafi groups over both the Islamic State and al-Qaeda. This is partly due to their loyalty to the political establishment, as discussed before in this book.¹⁶

A second and, perhaps more important factor, is that many influential radical scholars have developed indispensable experience in shaping and influencing public opinion. Many recently emerged extreme religious groups have refrained from publicly adapting a confrontational tone.¹⁷ An important document published in 2013 by the jihadi Salafi leader Abu Muhammad al-Maqdisi supports that conclusion. The document gives an insider view as to how jihadi groups have counteracted the negative media impact resulted from ISIS's extreme use of violence against pretty much all its opponents, including Muslims.¹⁸ Al-Maqdisi encourages the Mujahedeen to avoid video typing the killing of the "so-called civilian or the killing or torturing of hostages and posting such scenes on screens" since such activates would enable the enemies of the Mujahedeen to rally support against them and against Islam.¹⁹ Al-Maqdisi also stresses the importance of avoiding the use of tarnished names, such as al-Qaeda. According to al-Maqdisi, the symbolic names of organizations are used to advance the tactical and political interests of the Mujahedeen. So long as Jihad is the strategic goal of a given group, the name under which the group is fighting is not important. Al-Maqdisi

then has expressed his satisfaction that, among other countries, the Mujahedeen in Sham (Syria) are aware of these issues (not to associate themselves with names such as al-Qaeda).

Al-Maqdisi goes on to advise the Mujahedeen not to issue outlandish statements that could unified the world against them, such as their wish to kill all infidels in the world. Instead, they should have a priority list and take one step at a time. From media perspective, it is important to avoid fighting some enemies for the time being. In Syria, as an example, the Mujahedeen should avoid talking about Israel and the Mujahedeen's real intentions toward it, "even if we consider Jews our worst enemies, still we currently have a lot on our plate [busy fighting the Syrian regime] ... this is not the right time...if we try too hard [fighting the Jews and the Syrian regime simultaneously] we might fail".²⁰ On April 4, 2015, another article published by the Salafi prominent cleric Abdulmonem Mustafa Halimah (often referred to as Abu Baseer Altartousi), in which pretty much has supported all the ideas advanced by the al-Maqdisi.²¹

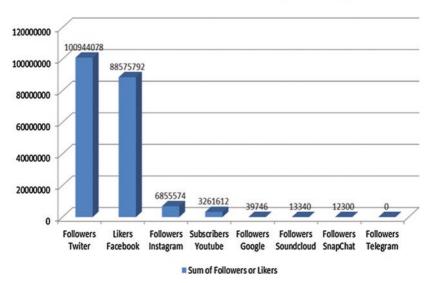
With the above in mind, when it comes to how to curb the surge of extreme religious groups, the difference between Salafi and jihadi groups should not be over inflated. Apart from few, mainly political difference, both Salafi and jihadi groups are ideologically aligned.²² For this reason, an extreme narrative adapted by an allegedly moderate group, namely, al-Haramoun Army, beefs up extreme groups' propaganda machine and lends them religious legitimacy. Such an extreme rhetoric is perfectly in line with ISIS's medieval method of treatment and cements its false claims as the defender of Islam. This is despite the fact that the group in question, al-Haramoun Army, has repeatedly and publicly condemned the Islamic State and its aggressive approach. Put differently, in the context of fighting violent extremism and apart from few exceptions, the difference between Salafism/Wahhabism and al-Salafiyya al-Jihadiyya is negligible. Many groups publicly oppose the Islamic State and still they adhere to, more or the less, the same ideology. For this reason, to have a realistic view of how popular the Islamic State or Jebhat Fateh al-Shams' model of governance is, one has to consider not only Salafi Jihadi clerics, but equally important, Wahhabi/Salafi clerics and there influence on social media.

Having highlighted the similarity between Salafi and Jihadi groups' propaganda mechanism the influence of Salafi groups on social media could be examined.

WAHHABISM DOMINATES SOCIAL MEDIA CONVERSATIONS

To investigate the influence of Salafi groups on social media, we have constructed a dataset specifically for this book. The dataset, which started by identifying the names of a hundred and thirty six (136) of the most active Salafi and Salafi Jihadi clerics on social media, mostly but not exclusively in the Arabic language social media, beginning in March 2016 until February 2017 (Fig. 3.1).

While the dataset includes the names of the most influential scholars and the number of their followers, it is not, by any means, exclusive. In addition to Turkey and the United Kingdom, our dataset scans the activities of scholars from 22 Arabic state, on YouTube, Facebook, Twitter, Instagram, Telegram, SnapChat, Soundcloud, and Google Drive. Some of the most influential Salafi scholars passed away for quite sometime. Still their literature is alive and well. Most of their achieved lectures are posted on social media platforms, sometimes anonymously and they still



Sum of Followers or Likers

Fig. 3.1 The total number of followers and likes of all surveyed religious scholars on social media

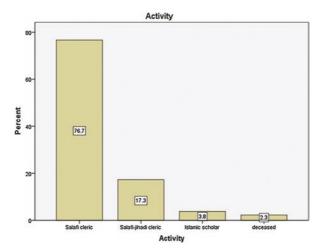


Fig. 3.2 Religious scholars on Arabic language social media, by activity/ characterization

have a sizeable number of followers. It is for this reason that we have included the names of few diseased scholars in our dataset.

We have defined "Salafism" as a movement that believes in the supremacy and the strict interpretation of the Quran and Sunnah, a principle articulated and developed by Taymiyyah. As a literalist, Taymiyyah believed that both the Quran and Sunnah must be taken as literally and factually true. Any figurative or metaphoric attempt to re-interpret or re-evaluate well-established Islamic principles is strictly prohibited.²³ The only notable difference between the followers of Wahhabism and the al-Salafiyya al-Jihadiyya school of thought is that the followers of the latter are simply prepared to go to war to enforce their views. For these reasons, it is pivotal to assess how popular Wahhabism and al-Salafiyya al-Jihadiyya clerics are on social media.

Based on our preceding definitions, the overwhelming majority of religious clerics on Arabic language social media platforms adhere to the Wahhabi strict interpretation of Islam.

To further illustrate this point, Fig. 3.2 contains information regarding the estimated total number of religious clerics. Of the 136 identified scholars, 76.7% adheres to Taymiyyah austere interpretation of faith. The percentage of scholars publically advocating for the al-Salafiyya

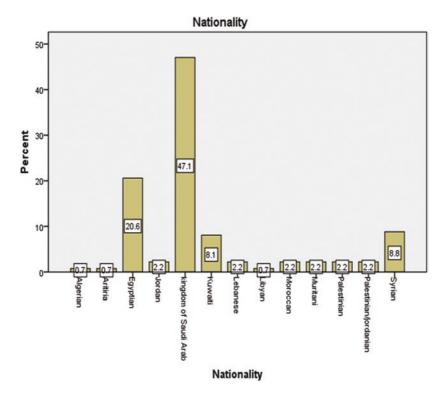


Fig. 3.3 Number of popular religious scholars in the Middle East, by nationality

al-Jihadiyya school of thought however is smaller. To identify this particular group, we have traced the most trusted news outlets for both al-Qaeda and the Islamic State and identified the names of scholars cited or referred to by those terrorist organizations.²⁴ Our dataset indicates that 17.3% of the total number surveyed publically support Jihad and the Jihadi activities of both the Islamic States and/or Jabhet Fateh al-Sham (Currently merged with Hayat Tahrir al-Sham).

Figures 3.3 shows that there are many countries in which our dataset was able to locate a decent number of Salafi and radical clerics. 47.1% of the surveyed clerics are Saudi nationals, by far, the highest percentage between all Arab countries. Egypt is next with almost 17.6% of the total dataset. Syria and Kuwait come third with 8.8 and 8.1%, respectively.

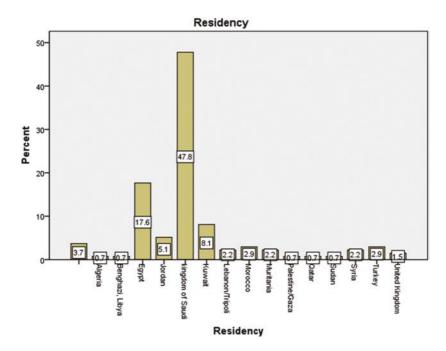


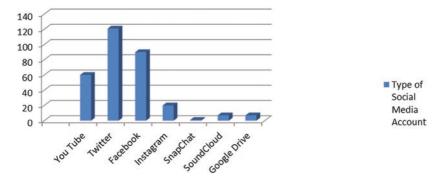
Fig. 3.4 Number of popular religious scholars in the Middle East, by place of residence

Figure 3.4 shows very similar results, where the majority of Salafi and Jihadi clerics reside in Saudi Arabia, Egypt, and Kuwait.

Figure 3.5 indicates that over 120 scholars have active twitter account. Facebook comes next, 90 clerics have accounts on Facebook. Of the total sample, only 60 scholars have active YouTube channel.

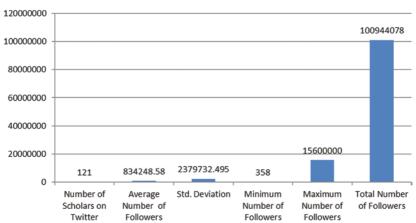
Figure 3.6 indicates that some Salafi scholars, such Alarefe and Alqarnee, who both adapted very pro-Jihad agenda during the Syrian civil war, are extremely popular and followed by as many as 15.6 and 13.9 m, respectively. An average Salafi cleric is followed by just under 1 million followers, a staggering number by all means.

Both Figs. 3.7 and 3.8 show that Salafi and Jihadi clerics enjoy a healthy member of followers. Unlike Twitter accounts, Facebook and YouTube seem to be used by scholars or their fans to post a selected number of videos that bluntly encourage and advance Jihadi agenda.



Type of Social Media Account

Fig. 3.5 Number of scholars with active accounts on social media

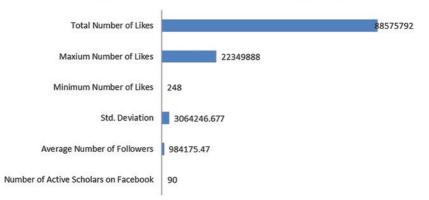


Number of Active Scholars on Twitter

Fig. 3.6 Number of active scholars and their followers on Twitter

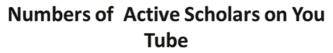
That could be the reason why many of these Facebook or YouTube channels are often terminated only to be replaced by new ones.

Given that Salafi and Jihadi clerics use quite similar ideological argument to rallying support to their cause and to rebut any criticism level against their violent activities, we next raise a question: To what extent,



Number of Active Scholars on Facebook

Fig. 3.7 Number of active scholars and their followers on Facebook



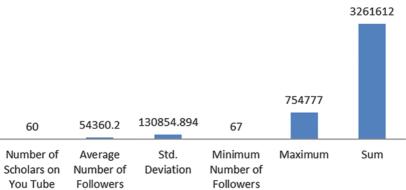


Fig. 3.8 Number of active scholars and their followers on YouTube

if at all, it is constitutionally viable to regulate pro-Jihad materials under free speech norms. Put differently, is free speech-related jurisprudence a suitable vehicle to curb extreme religious speech? To this we shall now turn our attention.

Notes

- Melissa E. and Alison S, Germany Releases Berlin Attack Suspect as ISIS Claims Involvement, the New York Times, (December 20, 2016); Laura Smith-Spark and Saskya Vandoorne, CNN, Paris shooting casts shadow over final day of French election campaign (April 21, 2017); Don Melvin, NBC News, Turkey and ISIS: Istanbul Attack Signals Descent Into 'Open War' (January 3, 2017).
- 2. Ammar and Xu (supra note 13), at 256.
- 3. Ammar and Xu (supra note 13), at 256. See also Simeon Kerr, *YouTube Taps Fast-Growing Saudi Arabia Interest*, FIN. TIMES (Mar. 17, 2014), http://www.ft.com/intl/cms/s/0/2407aala-adc3-lle3-9ddc-00144feab7de.html#axz3tkvvRUbX.
- 4. See generally Danny Yadron, *Twitter Deletes 125,000 Isis Accounts and Expands Anti-Terror Teams*, THE GUARDIAN (Feb. 5, 2016), https://www.theguardian.com/technology/2016/feb/05/twitter-deletes-isis-accounts-terrorism-online (showing that Twitter has deleted more than 125,000 accounts linked to terrorists since mid-2015).
- Started in January 20, 2016, 15,826 people subscribed to this channel and 2,330,919 view its programs. See, https://www.youtube.com/channel/UCwbA1vlH66jPSurIIHpIMfw/about. Last visited April 10, 2017.
- 6. This post reads: "Important statement: all channels of al-sheik al-Muhaysini in YouTube have been closed. Sham news is the only official channel. To follow to news of sheik al-Muhaysini, follow Sham News and do not forget to like the post". Available at, https://www.youtube.com/ watch?v=h-Uiaq9r2d8.
- 7. Previously referred to as al-Nusrah Front. The Front was designated by the Secretary of State as terrorist organization on May 15, 2014 (http://www.state.gov/j/ct/rls/other/des/123085.htm).
- https://www.youtube.com/results?search_query=%D8%A8%D8%B1%D9%8
 6%D8%A7%D9%85%D8%AC+%D8%AF%D8%A7%D9%8A%D9%85%D8%A9
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- 9. See for example, Alshamikha, Alshamikha Media Center, Issue one (February 2011).
- 10. A branch of the "Jihad's Callers Center" in Idlib, Syria.
- 11. Available at, https://www.youtube.com/watch?v=D6wRd-QETe4. Last visited April 10, 2017.
- 12. Image source, a snapshot of the interview, available at, https://www.you-tube.com/watch?v=7HUzEKm6MjA. Last accessed April 10, 2017.
- 13. This recent video posted on YouTube shows a number of jihadi fighters including former al-Qaeda members. See, a group of clerics belong to Hayat Tahrir al-Sham, March 22, 2017. Available at, https://www.youtube.com/watch?time_continue=383&v=ES7fuv0r_eo. Last accessed April 11, 2017.

- 14. Please note that quotation marks are used to indicate literal interpretation of the Arabic text.
- 15. For more information about Azzam, see Ammar and Xu (supra note 13), at 243.
- 16. See chapter two.
- 17. Ammar and Xu (supra note 13), at 257.
- Abu Muhammad al-Maqdisi, Alwasaya Algaliya Leansar Alsharia Algalyia (2013), available at, http://ilmway.com/circles/index.html, at 9–10 (Available in Arabic only).
- 19. Ibid.
- 20. Ibid.
- 21. Available at, http://www.abubaseer.bizland.com/.
- 22. The Islamic State seems to be the most aggressive between all Jihadist groups, including al-Qaeda or the Muslim Brotherhood. Ideologically speaking, one of the notable differences between ISIS and al-Qaeda is that the former does not recognize the lack of knowledge as a justification for not punishing Muslims who do not slavishly follow the Islamic State's creed. See Al-buhuth and al-eftaa Committee (The Islamic State, December 2014), 32–36 (Arabic text).
- 23. Ammar and Xu (supra 13), at 238.
- 24. Among other sources, we relied on three particular news outlets: These are, http://ilmway.com/circles/index.html, a website provides access to influential Jihadi scholars, including the infamous Minbar al-Tawhid Wa'l-Jihad by Abu Muhammad al-Maqdisi and the second source is the Ghuraba Media Foundation.

Extreme Groups Propaganda War Under a Free Speech Lens: The Unwinnable Battle

Abstract This chapter examines the viability of free speech norms in the United States and Europe in cubing the surge of extreme speech online. It concludes that, in the United States, criminalizing pro-Jihad propaganda materials that "merely" advocate for the use of violence is likely to be deemed "unconstitutional". The case law of the European Court on Human Rights, by contrast, permits advocacy for Sharia law and for the establishment of a caliphate, provided the speaker does not call for violence nor does he allude to individuals by names to be attacked. Glorifying Jihad or advocating for Sharia law to advance the interest of any group is strictly prohibited.

Keywords Article 10 of the European Conversion on Human Rights *Brandenburg* case · *Holder v. Humanitarian Law Project* · Free speech The first amendment

Freedom of speech is a fundamental precept of all democracies. Different democracies however differ when addressing the constitutionality of legislations regulating hate speech.¹ In the United States, for instance, the Supreme Court's case law protects the public expression of the most noxious and incendiary speech. By contrast, courts in Europe are more whiling to accord considerable leeway to regulate extreme expressions. Based on our preceding analysis of two media campaigns by a Salafi and a Jihadi group, this chapter assesses the extent to which free speech norms is the right vehicle to tackle the rise of religious extreme groups on social media. Few things to keep in mind. User generated contents (UGC), such as propaganda videos, are created by the users themselves and, in many cases, advance free speech. Further, social media platforms, such as Facebook and YouTube, are 'intermediaries' rather than 'traditional' publishers and thus it is very challenging to hold them liable for all content published by them. Finally, monitoring information online is not possible without imposing some kind of censorship. The real challenge is therefore where to draw the line.

Examining the best approach to tackle the extreme narrative (speech) advanced by an extreme group is not without limitations. For example, the media apparatus of the group changes constantly; the number of operators and posts also change over time; not to mention that much of the propaganda materials posted on social media platforms are not stable. In the case of religious extreme groups in the Middle East, a significant impediment to curb the surge of extreme speech is that the vast majority of propaganda materials posted online are wrapped in a cloak of religious legitimacy, infusing them with an aura of divine righteousness. In other words, Jihadi groups present their political goals as the will of God.

A second challenge is that the most prolific online fandoms are, oftentimes, devoted to the most extreme version/interpretation of Islam. This raises a cluster of legal issues when dealing with extreme group's propaganda videos under free speech norms. A draconian approach to limit the existence of extreme groups' presence online not only stifles free speech but also would be counterproductive and could advance a pro extreme groups' message.

A third challenge is the labeling of the war on extreme groups. What is it that the International Community would like to achieve with regard to the Islamic State and the like-minded groups? Is defeating extreme groups' ideology or their political agenda, namely, establishing a caliphate, the primary purpose of the war on terror? If the goal is indeed to defeat the political agenda of these groups, then it would be feasible to characterize the Islamic States' retreat of swathes of land in Syria and Iraq as a "defeat" to a powerful extreme group and thus a partial success in the war on terror? The problem with such a strategy is that such a claim is contingent on how one defines defeat and in which areas such an evaluation is made. Without such a definition, interested parties may present a group such as the Islamic State as far more weaker, in its ideopolitical efforts than it actually is. If the defeat of the group is measured by the size of the swathes of lands it controls and the quantity of fighters it attracts, the collation against terrorism appears to have had some success. More than 40,000 recruits have traveled to join the fight in Syria and Iraq.² Not anymore. The suggestion here is not that ISIS has not been weakened. Nor is the point that the group is invincible. Rather, it is that the question of "defeat" remains untested and largely anecdotal. Are we talking about an ideological retreat of extreme groups or a geographical one? If defeating ISIS's political agenda is the goal, then one should keep in mind that Aladnani, the former spokesperson of Islamic State, pointed that land is not anymore the first priority for the Dawla.

If the ideological retreat of radical groups what the International Community is trying to achieve in Iraq and Syria, then it would appear the Islamic State and its ideology is anything but defeated. While the overwhelming majority of Salafi groups do not approve ISIS's extreme media campaigns, including the slaughtering and burning people alive, this aside, Salafi groups and the Islamic State are ideologically aligned. And it is here where the importance of free speech jurisprudence comes into play. It is one of the key pillars of countering extreme speech. Alas, as this chapter will demonstrate, to a great extent, free speech jurisprudence in both sides of the Atlantic is ill equipped to affectively curb the use of social media by radial groups and thus a new approach is needed.

FREE SPEECH IN THE USA

The aim of this part is to study the extent to which courts in the USA and EU have succeeded in curbing the surge of religious extreme speech. A second related question is whether the broadly drafted principles of free speech hinder policies designated to shut down a media channel or to limit advocacy of extreme religious speech on behalf of broadly designated terrorist organizations, such as the Islamic State or Jabhat Fateh al-Sham.

The United States First Amendment, by default, is in tension with the idea of imposing restrictions on freedom of speech. In particular, content-based and viewpoint-based limitations on speech are not very often allowed.³ Free speech principle however is not absolute.⁴ This is particularly the case where a speech could threaten the stability of the government or the lives of its citizens. The Supreme Court of the United States has provided a list of categories of speech that may be subject to regulation, including fighting words⁵ and incitements of imminent violence,

which could be restricted by the government.⁶ As such, Courts may allow the government to place restrictions on protected speech under certain circumstances, such as content-neutral time, place, and manner restrictions on speech, as long as such restrictions serve significant interests and are narrowly tailored to directly advance those interest.⁷

When a restriction applied to speech based upon its subject matter (content-based restriction), courts apply a high threshold test, namely, strict scrutiny.⁸ This very same test applies when restriction is placed based upon viewpoint expressed: Speech expressing a particular viewpoint on a subject such as negative views of a racial group such as ISIS is referred to as "viewpoint discriminatory."⁹

To satisfy the strict scrutiny principle, two high threshold conditions must be met: The speech restriction must directly advance a compelling government interest; and, second the restriction must be the least restrictive means for achieving that interest.¹⁰ Satisfying this test is burdensome. According to *Williams-Yulee v. Fla. Bar*, "rare case... in which a speech restriction survives strict scrutiny."¹¹

A different less burdensome test is applied by courts when considering restrictions not directed at content of speech or viewpoint expressed referred to as intermediate scrutiny.¹² A content-neutral restriction on protected speech is often enforceable providing that the government restriction meets two conditions: First, the restriction advances a substantial government interest; and, second it is narrowly tailored to achieve those interests.¹³

With the above in mind, it would appear that fatwas issued by extreme religious clerics that bluntly advocate for violence and law breaking, let alone the propaganda materials posted by radical groups such as al-Haramoun on Telegram (discussed in the previous chapter), might be protected under the First Amendment.

In *Brandenburg v. Ohio*, the Supreme Court overturned a conviction under Ohio's criminal syndicalism statute, which prohibited "advocate[ing] ...the duty, necessity, or propriety of crime, sabotage, violence, or unlawful methods of terrorism as a means of accomplishing industrial or political reform."¹⁴ At issue was a comment made by a Ku Klux Klan members stating: "We're not a revengent organization, but if our President, our Congress, our Supreme Court, continues to suppress the white, Caucasian race, it's possible that there might have to be some revengeance taken."¹⁵ The Supreme Court reasoned that "the mere abstract teaching ... of the moral propriety or even moral necessity

for a resort to force and violence is not the same as preparing a group for violent action" and thus cannot be restricted by the government.¹⁶ The Court added that constitutional guarantees of free speech and free press do permit a state to forbid or proscribe advocacy of the use of force or of law violation to restrict a speech providing the following two high threshold conditions are met: (i) where advocacy is directed to inciting or producing imminent lawless action and (ii) the speech is likely to incite or produce such action.¹⁷ According to the Supreme Court, Ohio's statute was very broad because it does not distinguish between "mere abstract teaching" and "preparing a group for violent action" and thus the restriction on the advocacy of violence or lawlessness is unconstitutional.¹⁸ In the light of Brandenburg therefore, it would appear that advocacy for Jihad on social medial as such is likely to be protected under the First Amendment so long as the advocacy for Jihad is mere "abstract teaching" rather than preparing a group of jihadist for violent action. The Court however has not articulated how exactly the concept of 'imminence' is to be interpreted. More recently, in Bible Believers v. Wayne Cty,¹⁹ the Court reiterated that the "state cannot proscribe advocacy of the use of force or of law violation except where such advocacy is directed to inciting or producing imminent lawless action and is likely to incite or produce such action."²⁰

In Hess v. Indiana, the United States Supreme Court found that Hess's words ("we'll take the fucking street later," or "We'll take the fucking street again") "amounted to nothing more than advocacy of illegal action at some indefinite future time."²¹ Put differently, there was no evidence that Hess's words were "intended to produce, and likely to produce, *imminent* disorder," the Court reasoned²²; even though the speaker was urging the crowd that had already engaged in violence to become violent again. In other words, Hess's words could not be prohibited by the State on the ground that they had a "tendency to lead to violence." The government therefore should not be allowed to punish radical political advocacy unless the effect of a given utterance can be accurately foreseen. In the political advocacy realm, this means that a state may only regulate a speech that leads to "concrete" and probably only physical, harms.²³ This conclusion is supported by the fact that the Supreme Court has consistently focused on the harm of physical violence or public disorder. Examples include NAACP v. Claiborne Hardware Co; in which the Court stressed that "when [words] do not incite lawless action, they must be regarded as protected speech."24 According to Justice Harlan, the "essential distinction is that those to whom the advocacy is addressed must be urged to do something, now or in the future, rather than merely to believe in something."²⁵

In light of these cases, it would appear that the prospect that a speaker such as Taymiyyah or any other Salafi Jihadi cleric will lead his followers to believe in a set of "extreme" ideas is insufficient to justify government regulation of speech. In those cases, the Supreme Court of the United States has effectively immunized radical clerics from responsibility for all nonimmediate violent actions committed by their Salafi jihadi followers. This gives Salafi Jihadi clerics the freedom to decide how much verbal aggression is necessary for the occasion, regardless of whether the more aggressive speech may instigate others to act in violent way. The idea behind restricting the states' power to regulate speech is based on two assumptions²⁶: Frist that a democratic government assumes that the people run the government not the other way around. The second, which was modified in *Brandenburg*, is that, in democratic societies, individual citizens, who are presumed incredulous, rational, intelligent, insensitive to political slights, and understand the political protocols that accompany an orderly transfer of power, are capable of figuring out for themselves what they believe about a major issue.²⁷ The idea is that these characteristics effectively hold citizens responsible for avoiding the political excesses threatened by radical political and religious ideologues.²⁸

When applied to the Middle East however, this optimistic version of a rational citizen capable of applying critical intelligence to the surrounding world without relying on the government or others to filter out dangerous or harmful ideas²⁹ may not necessarily yield the desired results. This model of informed and educated citizen unlikely to be duped by scholars or religious clerics to lead him into illegal activities is unrealistic and overly optimistic. In the Middle East and apart from few exceptions, democratic governments are hard to come by and individual citizens are mostly isolated from political processes. Most citizens are prone to irrational whims and ideological desires that often lead them in directions that the governments of democratic world might not prefer.

Brandenburg provides a pessimistic view of a model citizen. It does not make flattering assumptions toward citizen nor does it make claims about speech improving the lives of the citizens or educating them. Rather, citizens have the right to adapt what others may consider a misguided or even dangerous as their own.³⁰ Living under Sharia law therefore is likely to be a perfectly legitimate target under the First Amendment, even where the rise of such a model of governance might

untimely lead to the demise of the political structure that enabled such a speech to rise in the first place. For very good reasons, under Brandenburg, censorship should always be a last resort. In the words of Justice Brandeis: "If there be time to expose through discussion the falsehood and fallacies, to avert the evil by the processes of education, the remedy to be applied is more speech, not enforced silence."³¹ Given that Brandenburg does not permit the government to engage in pre-emptive restrictions on the dissemination of extreme ideas nor does it permit the adaption of even stupid or misguided ideas, how to educate or expose the falsehood and fallacies of principles, such as the notion of using violence against other ethnic sub-groups, where damage caused is not imminent and where these activities are characterized by many as an exercise of their religion and thus a religious mandate? This is very important given that, under Brandenburg, the government does not have carte blanche to suppress ideas or extreme ideologies for public safety or national security.

In *People v. Rubin* however, where during press conference to protest a planned march by the Nazi Party, Rubin offered money to anyone who "kills, maims, or seriously injures a member of the American Nazi Party"; adding: "we are deadly serious."³² The Court of Appeals reversed the decision of the trail court which found the statement to be protected by the First Amendment.³³ Despite the fact that the march by the Nazi Party was scheduled to take place 5 weeks after the defendant had offered compensation for whoever kills or injuries a member of the party, the Court of Appeals held that the defendant's speech was directed to inciting lawless action, and that such action was likely to imminently occur.³⁴ Regarding the imminence requirement, the Court reasoned that "time is a relative dimension and imminence a relative term, and the imminence of an event is related to its nature.... We think solicitation of murder in connection with a public, even though five weeks away, can qualify as incitement to imminent lawless action."³⁵

NAACP v. Claiborne Hardware is a contrary example.³⁶ In this case, the defendant organized a boycott of white-owned businesses to protest discrimination and advocate for racial equality.³⁷ Plaintiffs argued that, Charles Evers, one of the defendants who advocated the use of violence to enforce the boycott,³⁸ should be liable for the plaintiffs for their losses resulting from the boycott.³⁹ The Supreme Court however overturned civil judgments against the black defendants who organized the boycott and stated that "mere advocacy of the use of force or violence does not

remove speech from the protection of the Frist Amendment."⁴⁰ According to the Court, Evers' strong language was simply a plea for unity.⁴¹ Evers' speech therefore was protected under the First Amendment. Had immediate violence erupted from Evers' speech, rather than a few weeks later, the ruling might have been different.⁴² NAACP v. Claiborne Hardware makes it virtually totally unconstitutional to regulate the mere advocacy of the use of force or violence to establish a caliphate. Unless immediate violence erupted from a cleric's speech, his call for violence could be characterized as a "plea for unity" for all Muslims under a caliphate.

Furthering an Extreme Group Means via a Peaceable and Lawful Conducts: Humanitarian Law Project and Beyond

How about providing support to nonviolent activities of a foreign terrorist organization? In Holder v. Humanitarian Law Project, the Supreme Court focused on whether a material support was knowingly given to a terrorist organization, without paying too much attention to the content of the speech. While the Supreme Court refrained from directly addressing the question of incitement to terrorism, this case still presents an interesting approach when dealing with free speech-related restrictions. The Court seemed to be saying that a speech linked to a terrorist organization in a manner that supports its activities is in principle susceptible to limitations. The plaintiffs in this case (two US citizens and six domestic organizations) sought to provide certain services to the Partiya Karkeran Kurdistan (PKK) and the Liberation Tigers of Tamil Eelam (LTTE); foreign organizations designated by the Secretary of the State as terrorist organizations.⁴³ Plaintiffs challenge § 2339B's prohibition on providing "training," "expert advice or assistance," "service," and "personnel" asserting violations of the Fifth Amendment's Due Process Clause.⁴⁴ Plaintiffs also challenge the prohibition alleging it partially violates the First Amendment rights to freedom of speech and association; claiming that § 2339B prohibits them, among other form of support, from training PKK members to use international law to resolve disputes peacefully.⁴⁵ First the Supreme Court noted that the Statute prohibiting "knowingly" providing material support to foreign terrorist organization "does not require proof that defendant intended to further foreign terrorist organization's illegal activities." Rather, it only requires that "defendant knew about organization's connection to terrorism, regardless of whether proposed activity consists of speech."⁴⁶ Then the Court went on to say that the material-support statute does not ban political speech and thus in line with the First Amendment.⁴⁷

Under the material-support statute, the Court added, the plaintiffs may say anything they wish on any topic. They may even speak and write freely about a terrorist organization. In most cases however, the prohibition of "material support" does not take the form of speech. The material support clause is "carefully drawn to cover only a narrow category of speech to, under the direction of, or in coordination with foreign groups that the speaker knows to be terrorist organizations."48 After acknowledging the urgent objective of combating terrorism, the plaintiffs argue that this objective does not justify prohibiting their speech. The Court disagreed pointing out that the taint of terrorist organizations' violent activities is so great that working in "coordination with them or at their command legitimizes and furthers their terrorist means." A peaceable and lawful conduct, the Court reasoned, can be diverted to advance terrorism in multiple ways.⁴⁹ Terrorist organizations after all do not maintain a firewall between social, political, and terrorist operations nor separate their financial resources when funding humanitarian activates as opposed to terrorist attacks.⁵⁰

And it is here where the resemblance between Salafi and Jihadi ideology comes into play. Wahhabi Movement, perhaps inadvertently, provides the core Jihadi theological corpus for religious extreme groups in the Middle East; simply enabling them to divert huge resources to advance terrorism in multiple ways.

THE "COMMON INTELLIGENCE" DOCTRINE?

In *Chaplinsky v. New Hampshire*,⁵¹ the Supreme Court pointed out that freedom of speech protected by the constitution is not absolute at all times and under all circumstances. Lewd and obscene, the profane, the libelous, and the insulting or "fighting words which by their very utterance inflict injury or tend to incite an immediate breach of the peace" are constitutionally punishable.⁵² Then the Court added that no words being forbidden except such as "have a direct tendency to cause acts of violence by the person to whom, *individually*, the remark is addressed."⁵³ The Court moved on to clarify that the word "offensive" is not to be defined in terms of what a "particular addressee thinks."

Rather, the test is what men of "common intelligence would understand would be words likely to cause an average addressee to fight."⁵⁴

Keeping the Court's subjective test of the likelihood of a violent response, how would men of common intelligence, such as Salafi Jihadi followers, understand some of the fatwas uttered by extreme religious clerics such as Taymiyyah in which he called upon his followers, among other things, to enslave women and to kill other sub-religious groups? Would such a speech by Taymiyyah, among many others, fall within the boundaries of speech, the prevention and punishment of which would not raise any constitutional problem? An important factor to keep in mind when analyzing Taymiyyah speech (a very prominent Salafi Jihadi cleric) is that his words had been addressed to audience that was not and is not trained to exercise a high degree of restraint,⁵⁵ complete the opposite. To date, the United States Supreme Court's First Amendment doctrine yields no clear answer to whether the first amendment protects speech that is as confrontational and potentially destructive of human dignity as some of the fatwas issued by Taymiyyah and many other extra Salafi clerics and discussed in this space.

EXTREME SPEECH UNDER THE "TRUE THREATS" LEGAL STANDARD?

There is another line of cases where Brandenburg's free speech standard is practically removed from consideration in true threats cases. This is despite the fact that political speech and true threats are closely related. A notable example is Kelner.⁵⁶ Members of the Jewish Defense League explicitly threatened to kill Yasser Arafat of the Palestine Liberation Organization, claiming the killing was planned "in detail."⁵⁷ On appeal, Kelner's claimed that his conviction under the federal threats statute was improper because he was simply engaged in political speech. After rejecting his appeal, the Second Circuit Court contended that "so long as the threat on its face and in the circumstances in which it is made is so unequivocal, unconditional, and immediate and specific as to the person threatened, as to concern a gravity of purpose and imminent prospect of execution, the statute may property be applied."58 Obviously, the explicitly and imminence requirements are paramount. Even much more lenient standard was applied in Planned Parenthood.⁵⁹ This case involved a website and posters that attacked clinic workers, doctors, and others, in addition to identifying various individuals as guilty of crimes against humanity. Among others, abortion-rights organizations brought suit against those who devised the website under the federal Freedom of Access to Clinic Entrances Act. On appeal, the defendants argued that the case should be considered under the traditional political speech protections which was rejected by the Court of Appeal, the ninth circuit. Instead, the Court considered the case to fall within the Court's true threats jurisprudence. The Court pointed out that the characterization of a speech as a "true threat" depends on "whether a reasonable person would foresee that the statement would be interpreted by those to whom the maker communicates the statement as a serious expression of intention to harm or assault".⁶⁰ Three interesting points to keep in mind: First, there is no requirement of imminence therefore a speech could be regarded as a "true threat" even if the threat or advocacy to violence yielded some results in the future.⁶¹ Planned Parenthood also does not require a threat to be explicit. Finally, the Court made clear that "it is not necessary that the defendant intends to, or be able to carry out his threat; only intent requirement for a true threat is that the defendant intentionally or knowingly communicates the threat."62

To sum up, *Brandenburg*, *Kelner*, and *Planned Parenthood* treat political speech under diverse standards. *Brandenburg* renders a more free speech friendly test. *Planned Parenthood* by contrast provides a more lenient version that falls far short of *Brandenburg*; the harm created by proscribed speech does not have to be "concrete." With this in mind, Taymiayyh's and the like of Salafi Jihaid emotional and incendiary political speech are more vulnerable to regulation under the true threat standard applied in *Planned Parenthood* than under the more burdensome standard of *Brandenburg*.

KEY FINDINGS

In light of the above, is it constitutionally tenable to regulate Taymiyyah's words, a number of eight centuries old active fatwas, in which he advocated for the use of violence? How about the contents of the media campaigns addressed before? The answer depends, among other issues, on how the term "imminent" is to be appraised. It would appear that content-based and viewpoint-based restrictions are not permissible when the danger is not imminent. In *Brandenburg*, the Supreme Court made clear that a statute which fails to draw the distinction between abstract teaching of violence and preparing a group for action

"impermissibly intrudes upon the freedoms guaranteed by the First and Fourteenth Amendments. It sweeps within its condemnation speech which our Constitution has immunized from governmental control."63 Under Brandenburg therefore, it appears that criminalizing Taymiyyah's fatwas that merely advocate for the use of violence, would likely be deemed unconstitutional. This is despite the fact that a number of Jihadi groups have cited and acted upon Taymiyyah's controversial fatwas to justify their crimes, including, Osama Bin Laden,⁶⁴ Al-Nusra Front,⁶⁵ and the Islamic State.⁶⁶ Put differently, while Taymiyyah's advocacy for violence, as an example, might not tantamount to preparing a group for action, it has nonetheless demonstrably produced many lawless actions, though not imminently. Still under Brandenburg,⁶⁷ it is unlikely that a clear distinction between Taymiyyah's abstract advocacy of violence and incitements directed at and likely to produce imminent lawless action could be drawn. Therefore, any regulation that would generally restrict the independent advocacy of violent action by Taymiyyah or any other religious extremist groups on social media platforms, without narrowing its application is likely to be unconstitutional. Further, according to Holder v. Humanitarian Law Project,⁶⁸ it would appear that it might not be possible to burden Taymiyyah's independent advocacy of violence, even if it could be shown that designated terrorist originations such as al-Qaeda or the Islamic States are likely to benefit from that advocacy.

In *Reno v. American Civil Liberties Union*, the Supreme Court examined whether the Internet justifies greater latitude for the government to restrict speech on that platform.⁶⁹ The Court first made clear that content-based restriction on Internet speech is subject to strict scrutiny.⁷⁰ After comparing restrictions on the communication of indecent speech to minors and the unique accessibility of that broadcasted speech to children, the Court concluded that on the Internet is a bit different medium and the risks are far lower for kids and thus did not justify departing from the general more rigorous rules regarding content-based restriction on speech.⁷¹ The Court reasoned, absence of evidence to the contrary, governmental regulation of the "content of speech is more likely to interfere with the free exchange of ideas than to encourage it. The interest in encouraging freedom of expression in a democratic society outweighs any theoretical but unproven benefit of censorship."⁷²

To sum up, it would appear that, under the United States free speech norms, the dissemination of pro-jihad materials on social media (on the Internet) would be shielded by the strict interpretation of the content-based test.

Do Taymiyyah's Religious Fatwas Warrant First Amendment Protection?

Taymiyyah's fatwas represent an essential part of the Islamic faith. This is despite the fact that fatwas are not part of the primary sources of Islamic Law nor they are mandatory. Put differently, from a religious point of view, a fatwa is not binding.⁷³ Still, fatwas represent an essential part of many people' faith. Defining what is or what is not part of a given religion is not straightforward. The common wisdom is that legal, political, sociological, philosophical, and moral views are not considered part of an individual's religion.⁷⁴ In United States v. Seeger,⁷⁵ in the course of defining "religious training and belief," the Supreme Court stated that "an individual's belief in relation to a Supreme Being involving duties superior to those arising from any human relation, but [not including] essentially political, sociological, or philosophical views or a merely personal moral code."76 Then the Court added that, as to the definition of religion, "...the test of belief 'in a relation to a Supreme Being," is whether a given belief that is sincere and meaningful occupies a place in the life of its possessor parallel to that filled by the orthodox belief in God of one who clearly qualifies for the exemption.⁷⁷ As we will see shortly, the European Convention on Human Rights also does not define religion. Still it is understood that religious beliefs are not limited to the main Scripture of a given religion.

The Journal of Islamic Researchers issued by the General Presidency of the Scientific Research and Fatwa in Saudi Arabia defining the term "fatwa" as a nonbinding pronouncement issued by an expert in Sharia law.⁷⁸ Given that he issuer of a fatwa is not a judge⁷⁹; the implication of a fatwa on the Muslim population rests mainly on the credibility of the cleric issuing it.

Therefore, fatwas advocating for Jihad as such are likely to be considered under the first amendment "free speech" protection unless they fall into one of the few exceptions carved out by the courts in both sides of the Atlantic.

CONCLUDING REMARKS

Counseling of violence in the sense of urging supporters to kill a specific person is likely to be a punishable solicitation. However, counseling murder or violence in general in the sense of urging the killing of, for example, infidels, Christian, Jews, or atheist in the "abstract" is protected under the First Amendment.⁸⁰ The idea here is that speech is rarely restricted to a single purpose. While a speech calling for the overthrown of a government by force to establish, for example, a caliphate, may lead some to commit violent acts, the same speech could also encourage others to use the speech as a basis for lawful action.⁸¹ It is self-delusion to advocate for the punishment of such advocacy without adding to the risk run by loyal citizens who honestly believe in some of the reforms advanced by Jihadist. That is why it should not be suppressed.

Characterizing Taymiyyah's fatwas or the media campaigns by Fateh al-Sham and al-Haramoun as a form of speech under the "direction or in coordination with" foreign terrorist organizations seems to be the only plausible scenario to curb a narrowly defined aspects of the religious extremist speech without violating the First Amendment.⁸² The problem however is that Section 2339A (material support of acts of terrorism) excludes medicine and "religious" material from the scope of prevention.⁸³ Would the media campaigns examined before be considered religious materials? Further, in Holder v. Humanitarian Law Project, the Supreme Court contended that "a person of ordinary intelligence would understand that independently advocating for a cause is different from providing a service to a group that is advocating for that cause."84 In other words, religious extremist propaganda advocating for Jihad as an idea is permissible and protected under the First Amendment. Glorifying Jihad in coordination with or in connection to a terrorist group that is advocating Jihad such as the Islamic State however could be prevented without raising constitutional concerns; though such a conclusion rests on how much direction or coordination is necessary for an activity to constitute a "service."85

So it remains unclear how the term service would be interpreted. How to differentiate between the mere abstract teaching of the moral propriety of Jihad or even the moral necessity for a resort to force and violence by peaceful Salafi clerics on social media from those who preaching almost exactly the same ideology for the sake of preparing a group for violent action is anything but clear. To put the question more specifically: Is it more effective to directly limit the content of speech by providing a list of concrete exceptions? How about managing or restricting media channels that constantly, thought unintendedly, advocate for those terrorist groups? To definitely answer these questions, we next examine how law in Europe deals with religious extremist groups under free speech norms.

FREE SPEECH NORMS IN EUROPE

Unlike the law in the United States, a number of European conventions and case law provide explicit legal restrictions on free speech. Regulating a speech advocating violent means to effect political and economic change is not viewed as a restriction on free speech.⁸⁶ Modern European Court of Human Rights' jurisprudence indicates that believers of a given faith must tolerate and accept the denial of their religious beliefs. The manner in which religious beliefs and doctrines are opposed or denied however a matter is directly related to the State's responsibilities to ensure the peaceful enjoyment of rights under Articles 9 and 10 of the European Convention on Human rights (ECHR).⁸⁷ If the ongoing Shia versus Sunni war in Syria and Iraq teaches us anything, it is that the effect of a particular method of opposing or denying religious beliefs of other sub-groups could have a profound destabilizing impact on entire communities.

In Europe, freedom of thought, conscience, and religion are fundamental rights enshrined in Article 9 of the European Convention of Human Rights. Article 9 reads:

Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief and freedom, either alone or in community ... Freedom to manifest one's religion or beliefs shall be subject only to such limitations as are prescribed by law and are necessary in a democratic society in the interests of public safety, for the protection of public order, health or morals, or for the protection of the rights and freedoms of others.⁸⁸

Article 10 of the European Convention on Human rights (ECHR) should be read in line with its subsequent part, namely Article 10 provides:

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Everyone has the right to freedom of expression... The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary.⁸⁹

The Council of Europe Convention on the Prevention of Terrorism also provides explicit provisions against the incitement of violence. Under Article 5 of the Convention, "the distribution, or otherwise making available, of a message to the public, with the intent to incite the commission of a terrorist offence" is characterized as a public provocation to commit a terrorist offence.⁹⁰ To minimize the impact of this Article on freedom of expression, Article 12 calls upon parties to the convention to "ensure the establishment, implementation and application of the criminalization under Articles 5 to 7 and 9 of the Convention are carried out while respecting human rights obligations, in particular the right to freedom of expression."

The protection afforded by Articles 9 and 10 is therefore broad and applies to personal, political, philosophical and moral beliefs, among others. The European Convention does not define religion. However, it is understood that religious beliefs are not limited to the main Scripture of a given religion, with major implication when it comes to religious extremist speech. The Convention also makes clear that, absent of exceptional cases, the State is not in a position to dictate whether religious beliefs or the means used to express such beliefs are legitimate.⁹¹ The State's lack of power to intervene in the way a religious speech may be expressed should be read in light of Article 17 of the convention (prohibition of abuse of rights). The latter makes clear that no State, group, or person is entitled to engage in any activity or perform any act aimed at the "destruction of any of the rights and freedoms" set forth in the Convention nor does have the right to abuse those rights. In this context, Articles 9, 10, and 17 counterbalance each other.

Gündüz v. Turkey

*Gündüz v. Turkey*²² is an interesting case. It involves the defending of Sharia law on TV. The applicant in this case took part in a television program. Below are relevant excerpts from the program:

B.B.: "... In Turkey people are killed for not observing Ramadan. People are beaten at university. [Mr Gündüz] claims he is innocent, but people like that oppress society because they interfere with the way of life of others. In Turkey people who say they support sharia misuse it for demagogic purposes. As Mr Gündüz said, they want to destroy democracy and set up a regime based on sharia."... M.G.: "Of course, that will happen, that will happen ...".⁹³

The European Court of Human Rights first noted that the program in question debated the compatibility of the applicant's conception of Islam with democratic values. Freedom of expression, the Court stressed, constitutes one of the essential foundations of any democratic society. The principle of free speech, the Court added, is not applicable only to "information" or "ideas" that are favorably received or regarded as inoffensive or as a matter of indifference. Rather, it is also applicable to those that offend, shock, or disturb.94 This said, the wording of Article 10 of the ECHR makes clear that, in the context of religious opinions and beliefs, it is desirable to avoid as far as possible expressions that are gratuitously offensive to others and do not contribute to any form of public debate capable of furthering progress in human affairs.⁹⁵ So, is there a "pressing social need" that justifies the curb of free speech, the Court asked? The Court noted that the applicant had vehemently criticized concepts such as secularism and democracy and had openly campaigned for Sharia. He argued:

... anyone calling himself a democrat [or] secularist ... has no religion ... Democracy in Turkey is despotic, merciless and impious ... This secular ... system is hypocritical ... it treats some people in one way and others in another way ... I am making these comments while fully aware that they represent a crime against the laws of tyranny. Why would I stop speaking? Is there any other way than death?" Later on, the defendant agreed that the aim of his supporters was to "destroy democracy and set up a regime based on sharia.⁹⁶ The Court concluded that, while expressions that seek to spread, incite, or justify hatred based on intolerance, including religious intolerance, do not enjoy the protection afforded by Article 10 of the Convention, the mere fact of defending Sharia, without calling for violence to establish it, cannot be regarded as "hate speech" and thus should be protected.⁹⁷

In Gündüz v. Turkey (no 2)⁹⁸ however the Court reached a different conclusion. Here, the applicant, a leader of an Islamic group, published a controversial article criticizing moderate Islamic intellectuals, one of whom was identified by name. An excerpt of the article read:

All that is needed now is for one brave man among the Muslims to plant a dagger in their soft underbelly and run them through twice with a bayonet to show just how empty they are. They no longer have anything else to sustain them. There is nothing else left ...⁹⁹

Based on this violent content and tone of the applicant's comments and the fact that he named one of the persons he was alluding to and thus indisputably exposed him to a significant risk of physical violence, the applicant was convicted of inciting people to religious crime and hatred.

The above two cases leave no doubt that it is permissible to advocate for Sharia law or for the establishment of a caliphate, provided the speaker does not call for violence nor does he allude to individuals by names to be attacked. This view mirrors the Supreme Court's position in the United States where the Court made clear that advocating for a cause is different from "providing a service to a group that is advocating for that cause."¹⁰⁰ In other words, religious extremist propaganda advocating for Jihad as an abstract idea seems to be permissible and protected under both the First Amendment and Article 10 of the Convention. Glorifying Jihad or advocating for Sharia law to advance the interest of any particular group or an organization is however a different matter. From this standpoint, while lending an enormous religious legitimacy to these groups, Salafi clerics advocating Jihad and Sharia law without publically praising the Islamic State or al-Qaeda, very worryingly, are acting within the realm of free speech norms.

PAVEL IVANOV V. RUSSIA

The applicant in this case was the owner and editor of the Russkoye Veche newspaper.¹⁰¹ In 2003, he was committed for trial on a charge of "public incitement to ethnic, racial and religious hatred through the use of the mass-media,"102 after calling for, among other things, the exclusion of Jews from social life. The Town Court found the applicant guilty of inciting to "racial, national and religious hatred." The applicant lodged an appeal alleging, in essence, a violation of his right to freedom of expression guaranteed under Article 10 of the Convention. The European Court of Human Rights noted that speech which is incompatible with the values proclaimed and guaranteed by the Convention would be removed from the protection of Article 10 by virtue of Article 17 of the Convention which, prevents abuse of rights; noting that the applicant accused an entire ethnic group of plotting a conspiracy against the Russian people and ascribed Fascist ideology to the Jewish leadership. Due to such a statement, and pursuant to Article 17 of the Convention, the Court concluded that the applicant may not benefit from the protection afforded by Article 10 and this speech therefore is punishable.¹⁰³

Norwood v. the United Kingdom (Application no. 23131/03) is another similar example.¹⁰⁴ The applicant in this case was a British national, a regional organizer for the British National Party-an extreme right wing political party. He displayed in the window of his first-floor flat a large poster, a photograph of the Twin Towers in flame, the words "Islam out of Britain-Protect the British People" and a symbol of a crescent and star in a prohibition sign. The applicant argued that the poster referred to Islamic extremism and was not abusive or insulting, and that he was exercising his freedom of expression right. After being convicted, the applicant lodged an application with the European Court of Human Rights, relying on Article 10 the European Convention on Human rights (ECHR). He contended that irritating, contentious, eccentric, heretical, unwelcome, and provocative phrases should be tolerated under free speech terms, provided that they not tend to provoke violence. The applicant also added that criticism of a religion is not to be equated with an attack upon its followers.¹⁰⁵ The Court however stressed the purpose of Article 17 of the Convention, which is to prevent individuals or groups with totalitarian aims from exploiting in their own interests, the principles enunciated by the Convention. Freedom of expression may not be invoked in a sense contrary to Article 17, the Court added.¹⁰⁶ The Court concluded that the image of the Twin Towers in flame combined with the words "Islam out of Britain amounted to a 'public expression of attack on all Muslims in the United Kingdom.'"¹⁰⁷ Linking a group as a whole with a grave act of terrorism, is incompatible with the values proclaimed and guaranteed by the Convention.¹⁰⁸

In *R. L. against Switzerland*,¹⁰⁹ the Swiss authorities had confiscated publications (2 CDs and 3 singles) as they contained "extreme rightwing publicity materials."¹¹⁰ The European Court of Human Rights found no violation of Article 10. The order of the Swiss authority stated, inter alia, that the texts of certain CDs and records (Tonträger) advocate and support force. The sale and dissemination of such material "could endanger the interior security of Switzerland." The Court noted that the confiscated materials partly characterized by racism which could serve to "radicalise extremist groups among foreigners and the Swiss, and thus endanger peaceful cohabitation in Switzerland." For this reason, the interference of the Swiss authority was "necessary for the prevention of disorder (and) crime (and) for the protection of the rights and freedoms of others" within the meaning of Article 10 § 2 of the Convention.¹¹¹

In another case involving the publication of a cartoon in the Basque weekly Ekaitza, the European Court of Human Rights had an opportunity to examine the prohibition on glorification of terrorism.¹¹² In Leroy v. France, the applicant, Denis Leroy, (a cartoonist worked in this capacity for various local publications, including the Basque weekly newspaper Ekaitza) submitted to Ekaitza a drawing representing the attack on the twin towers of the World Trade Center, with a caption which parodied the advertising slogan of a famous brand: "We have all dreamt of it... Hamas did it." Following publication of the drawing, the Bayonne public prosecutor brought proceedings on charges of "complicity in condoning terrorism and condoning terrorism." Both Mr. Leroy and the newspaper's publishing director were convicted and ordered to pay a fine of EUR 1500 each. The judgment of the first-instance court was upheld by the Pau Court of Appeal. Mr. Leroy lodged an application with the European Court of Human Rights, relying on Article 10 the European Convention on Human rights (ECHR). The applicant complained that the French courts had ignored his real intention; communicating his anti-Americanism through a satirical image and illustrating the decline of American imperialism. The Court considered whether the applicant's conviction amounted to an interference with the exercise of his right to

freedom of expression under Article 10. The Court noted that the drawing was not limited to criticism of American imperialism. Rather, it supported and glorified its violent destruction; based on the fact that the applicant had expressed his moral support for those whom he presumed to be the perpetrators of the attacks of September 11, 2001. The applicant, the Court added, commented approvingly on the violence perpetrated against thousands of civilians. Further, the Court noted that the drawing's publication had provoked a certain public reaction, capable of stirring up violence and demonstrating a plausible impact on public order in the region; before concluding that the measure imposed on the applicant "had not been disproportionate to the legitimate aim pursued and thus had not been a violation of Article 10".¹¹³

Delfi AS v. Estonia and Beyond

A recent decision by the European Court of Human Rights raises the possibility of creating a clear window to curb hate speech on line within the free speech jurisprudence. Delfi AS v. Estonia is the first case in which the Court had been called upon to examine the liability of Internet service provider in a hate speech related case.¹¹⁴ The applicant in this case, Delfi AS, owns one of the largest Internet news sites in Estonia. In 2006, Delfi published an article discussing a company's decision to change the route its ferries took to certain islands. Many readers of the article had written highly offensive or threatening posts about the ferry operator and its owner. Once notified, Delfi removed the offensive comments from its website. Still the owner of the ferry company successfully sued Delfi, which was found responsible for the offensive comments. While the Estonia's Supreme Court did recognise the difference between a portal operator and a traditional publisher of printed media, it concluded that both have an economic interest in the publication of comments and should therefore both be considered "publishers/disclosers."115 As a result, Delfi lodged an appeal with the European Court of Human Rights and ultimately the case was referred to the Grand Chamber of the Court.

The Grand Chamber first stressed the benefits of the Internet for freedom of expression (as protected under Article 10 of the European Convention). But the Court also noted the Internet's dangers, namely the possibility of disseminating hate speech and speech inciting violence worldwide. The Grand Chamber approved the Supreme Court's characterisation of the comments posted on Delfi's portal as unlawful; comments were tantamount to hate speech and incitement to violence against the owner of the ferry company.

As to the duties and responsibilities of Internet news portals under Article 10 § 2 of the Convention, which provided on a commercial basis a platform for user generated comments, the Grand Chamber emphasized that Delfi runs on a commercial basis, and published news articles which it invited its readers to comment on. This is not the same as, for example, an Internet discussion forum or a social media platform where the platform provider does not offer any content and where the content provider might be a private individual running the website. It was not in dispute that the national courts' decisions had constituted an interference with Delfi's right to freedom of expression and that that restriction had pursued the legitimate aim of protecting the reputation and rights of others. The Grand Chamber ultimately characterized the offensive comments posted on Delfi's news portal as hate speech or incitement to violence thus fall outside the realm of Article 10. The Grand Chamber noted that Delfi has an economic interest in the posting of the comments. It is Delfi, rather than the actual authors of the comments, who has the technical means to modify or delete the comments, once they were posted [unlike social media]. The Grand Chamber consequently found that there had been no violation of Article 10 of the Convention.¹¹⁶

Most recently however, the Court has curtailed its decision in Delfi. f Magyar Tartalomszolgáltatók Egyesülete and Index.hu Zrt v. Hungary is a case concerned the liability of a self-regulatory body of Internet content providers and an Internet news portal for vulgar and offensive online comments posted on their websites.¹¹⁷ The applicants were two selfregulatory bodies of Hungarian Internet content providers (MTE and Index). MTE published an opinion on its webpage criticizing the business practice of two real estate websites for misleading their clients; an opinion that attracted offensive and vulgar comments both on the websites of MTE and Index. The applicants removed the comments immediately after being notified that they were sued. The national courts found the comments to be offensive, insulting, and humiliating and obliged the applicants to "moderate the contents of comments made by readers on their websites." The applicants lodged an appeal with the European Court of Human Rights. The Court first noted that the Hungarian courts' rulings had interfered with the applicants' freedom of expression.

The Court also noted that the media publisher runs a large Internet news portal for an economic purpose. However, the Court concluded that the Hungarian courts had not carried out a proper balancing exercise between the applicants' right to freedom of expression and the real estate websites' right to respect its commercial reputation.

The Court noted that the applicants' speech, although offensive and vulgar, was devoid of the pivotal elements of hate speech and incitement to violence. Then the Court considered the context and content of the comments; noting that the comments concerned a matter of public interest, namely, a misleading business practice. The offensive and even outright vulgar content was a "value judgment or opinion" protected under Article 10 of the Convention. More importantly, the Hungarian court had given the commercial reputation of a private company (real estate) more weight than to the right to free speech when considering the negative consequences of the comments for the real estate websites and its reputation, before concluding that there had been a violation of Article 10 of the Convention.

Key Findings

The European Convention does not limit religious beliefs to the main Scripture of a given religion. For this reason, it would appear that a significant bulk of the religious speech supported by controversial fatwas issued by extreme clerics and posted on social media is likely to be protected under Article 10 of the European Conversion on Human Rights. Absent of exceptional cases, The European Convention also makes clear that the State is not in a position to dictate whether the means used to express religious beliefs are legitimate. The chances of regulating even the most controversial aspects of Taymiyyah's fatwas in which he called for the enslavement of women and children of ethnic minority groups, such as the Druze and Yazidis are very slim indeed. Given that the Islamic State has acted upon Taymiyyah's fatwas and enslaved a number of Yazidis women however, this might be considered an exceptional case that justifies regulation and thus the banning of the most extreme aspects of his fatwas.

Apart from Taymiyyah's extreme speech, the overwhelming majority of Jihadist propaganda materials posted online are protected under Article 10 of the European Convention. The case law of the European Court on Human Rights permits advocacy for Sharia law and for the establishment of a caliphate, provided the speaker does not call for violence nor does he allude to individuals by names to be attacked.

Glorifying Jihad or advocating for Sharia law to advance the interest of any particular group is however a different matter. According to *Leroy v. France*, discussed before, glorification of terrorism is prohibited. So in principle, providing other conditions are met, it might be possible to use this line of cases to ban media campaigns, such as the one conducted by al-Haramoun Army, under the ground of glorifying terrorism.

The problem however is that a Salafi cleric could simply argue that, when calling for the killing of other sub-religious groups, his intention was not to glorify terrorism. Rather, his intention was to communicate his religious views through the citation of Quranic verses that call for Jihad. This issue is further complicated by the fact that most Salafi groups advocate for Jihad and Sharia law without publically praising the Islamic State or al-Qaeda or any other terrorist organization, for that matter. A notable example is al-Haramond Army group discussed before. While it does not publically embrace al-Qaeda, the group unquestionably adheres to its Jihadi ideology. Still, given that al-Haramoun is not designated terrorist organization, it would appear that its Telegram media campaign discussed before is within the realm of free speech norms.

The European Court of Human Rights has stressed that the purpose of Article 17 of the Convention is to prevent groups with totalitarian aims from exploiting in their own interests, the principles enunciated by the Convention. Still it is unlikely that the media campaigns conducted by al-Haramoun Army and Fateh al-Sham, discussed before, will fall foul of Article 17.

Notes

- 1. Ammar and Xu (supra note 13), at 282–297.
- 2. Justine Siberell, "Country Reports on Terrorism", Special Briefing at the State Department, June 2, 2016.
- 3. Ashcroft v American Civil Liberties Union, 535 U.S. 564, 573 (2002).
- 4. United States v. Stevens, 559 U.S. 460, 468 (2010).
- 5. Chaplinsky v. New Hampshire, 315 U.S. 56 (1942).
- 6. United States v. Stevens, 559 U.S. 460, 468 (2010).
- 7. Ward v. Rock Against Racism, 491 U.S. 781 (1989).
- 8. Reed v. Town of Gilbert, U.S. ,135 S. Ct. 2218, 2227 (2015), at 227 providing that "Government regulation of speech is content based if

a law applies to particular speech because of the topic discussed or the idea or message expressed".

- 9. Rosenberger v. Rector and Visitors of Univ. of Va; 515 U.S. 819, 829 (1995).
- Sable Communications of California v. Federal Communications Commission, 492 U.S. 115, 126 (1989).
- 11. Williams-Yulee v. Fla. Bar, U.S., 135 S. Ct. 1656, 1666 (2015).
- 12. Holder v. Humanitarian Law Project, 561 U.S. 1,3 (2010).
- 13. Holder v. Humanitarian Law Project, 561 U.S. 1,5 (2010). See also, Ward v. Rock Against Racism, 491 U.S. 781 (1989), 797, permitting the government to impose reasonable regulations on the time, place, and manner of speech.
- 14. Brandenburg v. Ohio, 395 U.S. 444, (1969), at 446.
- 15. Ibid.
- 16. Ibid., at 448.
- 17. Id.
- 18. Id.
- 19. 805 F.3d 228, 244 (6th Cir. 2015).
- Emphasized added, Bible Believers v. Wayne Cty 805 F.3d 228, 244 (6th Cir. 2015).
- 21. Hess v. Indiana, 414 US 105-Supreme Court (1973), at 108, 109.
- 22. Ibid.
- 23. Steven Gey, The Brandenburg Paradigm and other First Amendments, Vol 12:4 Journal of Constitutional Law (April 2010) at 983.
- 24. National Association for the Advancement of Colored People v. Claiborne Hardware Co., 458 U.S. 886 (1982).
- 25. Yates v. United States, 354 U.S. 298, 324-325 (1957).
- 26. Gey (supra note 23), at 983.
- 27. Whitney v. California, 274 U.S. 357 (1927) (Brandeis, J; concurring).
- 28. See in general Gey (supra note 23) at 991–992. (discussing the assumption of listener incredulity).
- 29. Whitney v. California, 274 U.S. 357 (1927) (Brandeis, J; concurring; depicting free speech as "the means indispensable to the discovery and spread of political truth").
- 30. See in general Gey (supra note 23), at 999.
- 31. Emphasis added. Whitney v. California, 274 U.S. 357, 377 (1927) (Brandeis, J; concurring).
- 32. People v. Rubin 96 Cal. App. 3d 968 (Cal. Ct. App. 1979).
- 33. Ibid., at 972.
- 34. Ibid., at 977.
- 35. Ibid., at 978.
- National Association for the Advancement of Colored People v. Claiborne Hardware Co., 458 U.S. 886 (1982).

- 37. Ibid., 934.
- 38. Ibid., 926.
- 39. Ibid., 898.
- 40. Ibid., 927, 928.
- 41. Ibid., 928.
- 42. Ibid., 928.
- 43. Holder v. Humanitarian Law Project, 561 U.S. 1, 4 (2010).
- 44. Ibid.
- 45. Ibid., at 1, 2.
- 46. Ibid., at 1, 4.
- 47. Ibid., at 1, 5.
- 48. Id.
- 49. Id.
- 50. Id.
- 51. 315 U.S 568 (1942).
- 52. Chaplinsky v. New Hampshire, 315 U.S. 568 (1942), at 572.
- 53. Ibid., at 573. Emphasized added.
- 54. Ibid., at 573.
- See Justices' Powell comments in Lewis v. City of New Orleans 408 U.S. 913 (1972) regarding the constitutionality of punishing fighting words, at 913.
- United States v. Kelner, 534 F.2d 1020 (2d Cir. 1976), cert. denied, 429 U.S. 1022 (1976), at 1020–1021.
- 57. Kelner, 534 F. 2d at 1021–1022.
- 58. Ibid., at 1027.
- Planned Parenthood of the Columbia/Willamette, Inc. v. An. Coal. of Life Activists, 422 F. 3d 949 (9th Cir. 2015), cert. denied, 547 U.S. 1111 (2006).
- 60. Ibid.
- 61. Gey (supra note 154), at 1010 (discussing true threats and intimidation: the partitioning of political speech).
- Planned Parenthood of Columbia/Willamette, Inc. v. American, 290 F.3d 1058, 1075 (9th Cir. 2002).
- 63. Brandenburg v. Ohio, 395 U.S. 444, (1969), at 448.
- 64. See page....
- 65. See page
- 66. https://twitter.com/hashtag/suggestawaytokillthejordanianpilotpig.
- 67. Brandenburg v. Ohio, 395 U.S. 444, (1969), at 448.
- 68. Holder v. Humanitarian Law Project, 561 U.S. 1, 5 (2010).
- 69. Reno v. American Civil Liberties Union, 521 U.S. 844 (1997), at 885.
- 70. Ibid.

- 71. Ibid., at 845—arguing "Governmental interest in protecting children from harmful materials does not justify an unnecessarily broad suppression of speech addressed to adults".
- 72. Ibid., at 885.
- 73. Fatwa, The Oxford Dictionary of Islam, supra note 355.
- 74. United States v. Seeger, 380 U.S. 163, 165, 169 (1965).
- 75. 380 U.S. 163 (1965).
- 76. Id. at 165, 172.
- 77. Id. at 165-166.
- 78. See generally *The Definition of Fatwa*, J. ISLAMIC RESEARCHERS, http:// www.alifta.net/Fatawa/fatawaDetails.aspx?View=Page&PageID=117 56&PageNo=1&BookID=2 (last visited Jan. 6, 2017) (discussing the definition of a fatwa). See also *Fatwa*, *The Oxford Dictionary of Islam*, OXFORD ISLAMIC STUD. Online, http://www.oxfordislamicstudies.com/ article/opr/t125/e646 (last visited Jan. 6, 2017) [hereinafter *Fatwa*, *The Oxford Dictionary of Islam*].
- 79. Shaykh Muhammad Hisham Kabbani, Understanding Islamic Law, ISLAMIC SUPREME COUNCIL OF AM., http://www.islamicsupremecouncil. org/understanding-islam/legal-rulings/52-understanding-islamic-law. html (last visited Jan. 6, 2017) [hereinafter Shaykh Muhammad Hisham Kabbani].
- 80. See in general, Brandenburg and Hess, discussed before.
- 81. See Dennis v. United States, 341 U.S. 494, 549 (1951) Justice Frankfurter concurring in the judgment.
- Holder v. Humanitarian Law Project, 561 U.S. 1, 5 (2010); see also Section 2339B.
- 83. 18 U.S. Code § 2339A-b-1.
- 84. Holder v. Humanitarian Law Project, 561 U.S. 1, 25 (2010).
- 85. In United States v. Mehanna, 735 F. 3d 32 (1st Cir. 2013), the Court reiterated that an individual who acts entirely independently of foreign terrorist organization to advance its goals may not be considered working under its control, at 48–49.
- 86. The European Convention on Human rights, available at, http://www.echr.coe.int/Documents/Convention_ENG.pdf.
- 87. Otto-Preminger-Institute, 20 September 1994 (Application No 13470/87).
- 88. The European Convention on Human rights, available at, http://www.echr.coe.int/Documents/Convention_ENG.pdf.
- 89. Ibid. Article 10 of the Charter of the Fundamental Rights of the European Union also provides a very similar language.

- The Council of Europe Convention on the Prevention of Terrorism https://www.coe.int/en/web/conventions/full-list/-/conventions/ treaty/196.
- 91. In Hasan and Chaush v. Bulgaria (30985/96), the Court had a chance to look at this issue. In this case, the Bulgarian government replaced an applicant with another candidate who previously held the post of leader of the Bulgarian Muslim Community. The Court ruled that the government should not have interfered in the matter since it managed to infringe the community's right to govern its own affairs. The State failed to remain neutral and partial, causing a divide within the Muslim community and thus had violated Article 9 of the Convention.
- 92. No. 35071/97, ECHR 2003-XI.
- 93. Gündüz v. Turkey No. 35071/97, ECHR 2003-XI.
- 94. *Gündüz v. Turkey* citing Handyside v. The United Kingdom, judgment of 7 December 1976, Series A no. 24, p. 23, § 49).
- 95. *Gündüz v. Turkey* citing OttoPreminger-Institut v. Austria, judgment of 20 September 1994, Series A no. 295-A, pp. 18–19, § 49, and Wingrove v. The United Kingdom, judgment of 25 November 1996, Reports of Judgments and Decisions 1996-V, p. 1956, § 52).
- 96. Gündüz v. Turkey (supra note 223).
- 97. Ibid.
- 98. Gündüz v. Turkey (No 2) Case No 59745/00, 13 November 2003.
- 99. Ibid.
- 100. Holder v. Humanitarian Law Project, 561 U.S 1, 25 (2010).
- 101. Pavel Ivanov v. Russia (Application no. 35222/04- European Court of Human Rights), available at, http://hudoc.echr.coe.int/eng#{"ite mid":["001-79619"]}.
- 102. Ibid.
- 103. Ibid.
- 104. Norwood v. the United Kingdom (Application no. 23131/03) http://
 hudoc.echr.coe.int/eng#{"dmdocnumber":["708788"],"ite
 mid":["001-67632"]}.
- 105. Ibid.
- 106. Id.
- 107. Id.
- 108. Id.
- 109. Application no. 43874/98, available at, https://www.hudoc.echr.coe. int/app/conversion/pdf??library=ECHR&id=001-23592...pdf.
- 110. Ibid.
- 111. Ibid.
- 112. Leroy v. France (application no. 36109/03), available at, http://hudoc. echr.coe.int/eng-press#{"itemid":["003-2501837-2699727"]}.

- 113. Ibid.
- 114. Delfi AS v. Estonia (application no. 64569/09), available at, http://hudoc.echr.coe.int/eng#["itemid":["003-5110487-6300958"]].
- 115. Ibid.
- 116. Ibid.
- 117. f Magyar Tartalomszolgáltatók Egyesülete and Index.hu Zrt v. Hungary (application no. 22947/13), available at, http://hudoc.echr.coe.int/eng-press#{"itemid":["003-5288151-6577157"]}.

Technology to the Rescue: A Software-Based Approach to Tackle Extreme Speech

Abstract This chapter discusses how a variety of software technologies can be leveraged tackle extreme speech on social media. The chapter first overviews Google's strategy to direct extremist searches towards anti-radicalization websites and comments on its efficacy. The chapter then proceeds to propose two promising technical approaches that can empower private companies and relevant federal agencies to reduce religious extremists' presence on and impact through social media in a systematic and economically viable way. The first approach leverages content analysis and multimedia mining algorithms to automatically detect content produced by extremists. Using the approach, immediately after a user uploads a document, picture, or video onto a social media platform, a backend engine equipped with a series of state-of-the-art computational content analysis algorithms will be deployed to analyze the types of topics latent in the uploaded material, which will enable social media platforms to discover materials intentionally mislabeled and misdescribed by extremists in their attempt to circumvent the traditional keyword or text matching based detection mechanism. Leveraging the same backend content filtering engine, social media platforms can also automatically aggregate multiple files separately updated by one or multiple users independently according to the content similarity between these files. By detecting duplicate or nearly duplicate content on social media through the aforementioned algorithmic engine for automatic content analysis, computers can comprehensively and systematically aggregate otherwise isolated user behaviors associated with individual

© The Author(s) 2018 J. Ammar and S. Xu, *When Jihadi Ideology Meets Social Media*, DOI 10.1007/978-3-319-60116-8_5 copies of essentially the same material to produce a consolidated view of content request and consumption for more effective content screening and surveillance. The second approach algorithmically examines collective content consumption behaviors on social media to detect documents, pictures, and videos posted by religious extremists. This approach will detect content posted by religious extremists by observing and analyzing the information propagation pathways and consumption patterns on social media through an automatic and algorithmic approach. Compared with the current self-reporting-based practice, the computational approach can react more efficiently to detect content of concern even when the targeted audience chooses not to cooperate with the social media platform. Additionally, this approach can also save a significant amount of expert labeling effort to train the automatic algorithmic content detector. Overall, the approach will be able to automatically determine the true nature of the content carried by the concerned video regardless of any deceitful labels, titles, or description text the video's producer or distributor may purposefully associate the video with. The new approach will be able to automatically and systematically detect all videos carrying religiously inciting content in a way that is also much more efficient and comprehensive than the current user self-reportingbased practice. Lastly, the chapter concludes by briefly overviewing three categories of promising software technologies, including natural language processing, machine learning, and social network analysis technologies, which can be tremendously powerful for tackling religious extreme speech on social media.

Keywords Software technologies · Anti-radicalization websites Content analysis · Multimedia mining algorithms · Extremists Extreme speech

The deficiency of free speech-related jurisprudence in the United States and in Europe in combating the spread of Jihadist ideology has enforced related parties to consider other available options.¹ A notable example is Google's latest strategy to direct extremist searches toward anti-radicalization websites.² The goal is to make counter-radicalization videos more discoverable on YouTube than extremist videos.³ When users put Jihad-related search terms into Google, they will find the "counter narrative."⁴

However, as we have argued elsewhere, Google's two pilot programs' strategy is unlikely to have meaningful impact.⁵ That is, Abu

Muhammad al-Adnani, the former official spokesman of the Islamic State makes the following point on May 21, 2012: "If one wants to get to know the agenda of the State, its politics, and its fatwas, one ought to consult its leaders, its public statements, its own sources, rather than the sources of its enemies."⁶ Pursuant to Adnani's advice to his followers, folks looking for information about the Islamic State should rely on the State's main sources, trusted scholars and official statements for advice and guidance rather than sources generated by the State's adversaries. Al-Adnani's statement is in line with most religious extremism groups' media strategies. Wining the hearts and minds of what al-Qaeda referred to as "the fuel of battle" (jihadi fighters) is a must if Jihadi groups are to achieve their goals. To this end, as an example, the Islamic State has provided a detailed plan for the creation of a media program to "help the Mujahedeen in their struggle against the enemy and to gain public support.⁷ Further, an audio media section is designed to specifically communicate with local supporters. As to communication with the outside world, the Islamic State is to publish electronic magazines the aim of which is to "provide a clear picture to the outside world" about Iraq and its future.⁸

After stressing the importance of spreading the "the right ideology", Jihadi ideology, the Islamic State has listed a number of trusted sources from which information must be drown. These are as follows:

- A. Electronic correspondence with the Jihad clerics in the Peninsula [the Arabian Peninsula].
- B. The Sharia department of the group.
- C. Islamic magazines.
- D. A Sharia researcher from the Peninsula.
- E. Correspondence with the public via the email of the magazine.

Another document provides more details; calling for the use of the Internet to connect the head of any given a state or a province with his subordinates and vice versa.⁹ According to the same source, media officers in the Islamic State expect religious clerics to:

- A. Publish brochures about the religious duties of a Muslim
- B. Suggest a number of books—Ebooks and print books—to enlighten Mujahedeen about their duties and to keep morale high.
- C. Use new media networks to raise religious inquires to the top of the Sharia department for answer; absent of other sources.

The preceding discussion indicates that most extreme groups in the Middle East have their own media machines. The Islamic State, al-Qaeda and al-Harramoun Army are a few examples. For this reason, Google's "Redirect Method" and the US State Department's campaign "Think Again," as a second example, are likely to have a modest impact on viewers in the Middle East.

With the above in mind, we propose alternative technical solutions, the implementation of which would empower private companies to reduce religious extremist groups' presence and impact on social media.

How Religious Extremists Use Social Media

The Internet and social media are being utilized by religious extremists to carry out all sorts of planning, recruiting, and also committing cybercrimes. A saying by the former Secretary of State, Hillary Clinton, summarizes what the global technical community intends to accomplish in curbing such activities: "resolve means depriving of virtual territory, just as we work to deprive them of actual territory."¹⁰ Extremists have been using the Internet through launching websites with terrorrelated content on the web and trying to attract supporters. As technology improved and with the launch of social media platforms, extremists found a better and faster means of communication with almost real-time delivery such as twitter and Facebook. ISIS is thought to have massive skillful efforts poured in the production of violent and utterly disturbing videos, which are unfortunately spread in the traditional and social media alike.

Those same platforms are used to battle and defeat religious extremists, the effort of which has been articulated and discussed in many papers. In 2016, the number of individuals who have cellular network coverage in the zone where they reside is around seven billion. As of January 2017, there are 2.789 billion active social media users globally, with a 10% annual growth for Internet users since January 2016. With this massive increase of usage, extremists around the world are having a podium where they are spreading their propaganda and actively recruiting new members. Those disturbed individuals have been using social media as a major tool to get support of various kinds such as acquiring funds as well as to spread their extremists' ideas. The major problem is that with the increasing adoption of social media applications in the world, religious extremists' organizations such as ISIS are using those networks tactically in their advantage to appeal to viewers, specifically the ones who are prone to radicalization of both Muslims and Westerners. They now have a wider range of viewers whom they can preach to.

In the information era, the terms of social media and religious extremism have been closely linked together and one can argue that this could be traced back to when religious extremists made their first appearance. Extremists have been using the traditional mainstream media for a very long time, they also made their fingerprints all over the Internet, especially social media.

A lot goes on social media platforms ranging from authentic news reports to insignificant opinions and rumors. The concepts of "freedom of speech" and "freedom of expression" allow many people to talk and discuss things they would not be able to do in real life. But there must be a line when it comes to harmful and possibly destructive content. Most social media applications have their own policy of not allowing hatred and any activity of terrorism in their platforms, however, it is unfortunate to say that those platforms are acting as valuable podiums for religious extremists to recruit and disseminate fear among civilians. According to the ISIS Twitter Census,¹¹ there are 46,000–70,000 accounts on Twitter that are run by ISIS advocates in the period from September to December 2014. One thousand followers are the average size of the population following an ISIS advocate, which is quite disturbing because it is significantly higher than that following a regular twitter account. Also, ISIS supporters were more active in the platform than nonsupporters. We can only imagine their devastatingly far reach and influence on younger generations, let alone vulnerable individuals who already have radical thoughts.

Reynaldo Gonzalez has a lawsuit against three of the largest social media companies: Google, Facebook, and Twitter for the decease of Nohemi Gonzalez, his daughter, during the unfortunate Paris attack in 2015.^{12,13} He alleged the companies' facilitation for terrorists to communicate and orchestrate unlawful actions in their platforms. The lawsuit was filed in June 2016, only 1 month after those three companies as well as another social media giant have pledged to remove any terrorist- and hate-related content from their applications. Gonzalez claimed that social media companies need to be answerable for what happens in their platforms. The main dilemma that social media companies and the government are facing is how to strike a balance between restricting content and at the same time allowing users to have freedom of speech.

To illustrate, in the 1996 Communications Decency Act, US Code 230, states that "No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider."¹⁴ To add to the problem, the line becomes more blurry and harder to define specially when the network is vastly spread and contains tens of millions of posts.

Religious extremists, long ago, have been using the traditional media to diffuse dreadful messages with the intent to disseminate distress among the audience. For example, one of their infamous methods is to record videos that contain threatening, torture, and a lot of unrealistic demands either political in nature or monetary to eventually reach a political goal. With the Internet and the spread of networks worldwide, extremists have successfully planted their roots in social media, however, shallow ones due to the platforms policies to remove any hate or terrorrelated content. Yet, they manage to resurface very quickly somewhere in the same platform.

In a study done by Klausen 2015¹⁵ to study the main topics extremists tweet about, they found five main categories, including religion-related advice and material, war updates and recruitments, social conversations, leisure which relates to their daily lives, and finally terrorism in Western countries. Since social media applications have a policy to remove any terrorist-related content, those individuals found many ways to reappear once their accounts were confiscated. ISIS, for example, have adopted a successful strategy for this particular problem. They have created and relied on their own applications and created a flat organization instead of a vertical one. One technique they use is called a Twitterstorm which is basically many tweets and retweets that occur at a very short period of time. If it reaches a certain threshold, the hashtag would be "trending" in twitter and would appear to people who are not followers of the hashtag creator. The amount of work, effort, and time they put together through tweeting and retweeting quickly shows a lot of coordination and thus requires a lot of work on the authorities side to render their efforts ineffective.

It is worth noticing that users attention on social media, twitter in particular, has a temporal shift due to disasters such as terrorist attacks. During an attack, the "collective attention" of users seems to be concentrated on topics and hashtags related to the current attack.¹⁶ This serves as a massive advantage for both, emergency relief efforts and terrorists along with their sympathizers. The concentration of attention

provides an easy to reach audience which allows scientists to find technology-based ways to seize the opportunity of curbing the misuse of social media by religious extremists. Since the world is practically connect via social media and other means on the Internet all the time, plenty of technologies can be used to alleviate the distress and mitigate possible consequences.

Three Technical Approaches to Combating Religious Extremists' Activities on Social Media

Based on our preceding discussions, in this section we introduce three promising technical approaches that can empower private companies and relevant federal agencies to reduce religious extremist groups' presence and impact on social media in an economically viable and sustainable way.

Approach I: Automatic Content Filtering by Content Analysis and Mining Algorithms

Immediately after a user uploads a document, picture, or video clip onto a social media platform, the platform's backend engine equipped with a series of state-of-the-art computational content analysis algorithms can be deployed to automatically and instantly analyze topics latent in the uploaded information material.¹⁷ This process is technically known as the automatic topic extraction^{18, 19} and modeling^{20, 21} task in the computational study of information retrieval.²² Traditional topic modeling algorithms are designed to detect semantic topics only from text documents.²³ Recently, much research progress and technical development have been achieved in automatic topic detection and extraction from multimedia sources,²⁴ in particular from digital videos^{25, 26, 27} due to the increasing popularity of such content in personal and professional settings and the ever-declining cost of capturing and archiving videos.²⁸

Such a content-based filtering and screening mechanism would enable social media platforms to effectively and efficiently discover materials submitted by religious extremists, regardless of whether authors of a file provide meaningful labels to self-describe and self-reveal the file's underlying content. For multimedia materials, in addition to traditional keyword or text-matching-based information retrieval techniques,²⁹ speech recognition methods,³⁰ optical character recognition methods,³¹ and

content-based image understanding techniques³² can all be deployed to collaboratively enhance the accuracy and reliability of the overall topic detection and extraction performance. The detected signals from each of the above multimedia channels can also be communicated across channels³³ to boost the performance of automatic topic detection and tracking from user-uploaded materials³⁴ through an ensemble of the aforementioned algorithms working together collectively and collaboratively.³⁵ Along this solution approach, the computing community has successfully developed a rich set of algorithms that are capable of jointly mining signals from multiple channels and modalities^{36, 37, 38} to automatically identify topics from a multimedia information source. Another set of relevant computational techniques useful for accomplishing the above task is speech recognition techniques for multilingual content^{39, 40, 41, 42}, 43, 44, 45 since videos posted by religious extremists often deploy more than one language in disseminating their propaganda content. Such a choice is consciously made sometimes to conceal the true meanings behind a video and at other times to augment the communication effects of the video when multiple languages are jointly adopted to deliver a particular semantic message.

Leveraging the same backend content filtering engine, social media platforms can also automatically aggregate multiple files separately updated by one or multiple users independently, according to the content similarities among those files.⁴⁶ As discussed earlier, one strategy employed by religious extremists is to upload the same file onto multiple social media pages, such that each page would not appear massively popular and attract unwanted attention by the general Internet user population and social media content inspectors.⁴⁷ We argue that, even though it is affordable for extremists to upload the same file, which may be a document, image, or video, onto multiple webpages on social media through one or multiple user accounts, it would not be operationally feasible for these extremists to produce a multitude of videos with significantly different content by uploading them onto each webpage separately. Therefore, by detecting duplicate or nearly duplicate content on social media,⁴⁸ through the aforementioned algorithmic engine for automatic content analysis, computers can comprehensively and systematically aggregate otherwise isolated user behaviors associated with multiple copies or versions of essentially the same piece of informational material to produce a consolidated view of content request and consumption for effective content screening, prioritization, and surveillance.⁴⁹

A key class of computational methods that empowers the aforementioned process of detecting similar or identical copies of the same piece of information is the computational derivation of some form of content signature^{50, 51, 52, 53} for an arbitrary multimedia file. Once derived, the signature of each file can be leveraged as an index for high-efficiency and high-reliability search and mining of such files and their content.⁵⁴ Good content signatures enable a computer to understand the meaning carried by a multimedia file regardless of any nonmaterial modification of the file's content, whether such modification is performed in the visual, audio, or text channels accompanying the video individually or collectively. Therefore, signature-based multimedia information retrieval is able to attain more robustness in circumstances where authors of a video may intentionally or unintentionally change the video, audio, or text channels of a video message to bypass automatic duplicate copy detection mechanisms than general-purpose information retrieval approaches based on the examination of every bits and bytes of a concerned file.⁵⁵

The above approach can be further augmented with crowd-tagging efforts^{56, 57, 58, 59} for acquisition of human labels where volunteers all over the world can manually contribute annotations and tags to label any information element of their interests or concerns, whether the element is a picture, audio or video clip, in terms of its relevance to religious extreme topics, events, and activities. A good model that has attained massive success in reality is the practice of Wikipedia where scholars and other professional or amateur communities of interest across the global are voluntarily engaged in a mass crowd-editing effort internationally to develop a major resource for the benefit of the entire human population.^{60, 61, 62, 63, 64} Given these professionally contributed informative labels, the aforesaid automatic content analysis algorithms can be more effectively and powerfully trained to detect and track religious extreme content on social media, thanks to the abundant collection of high-quality human labels revealing the true content underlying a multimedia file. The improved performance of the proposed algorithmic approach would in turn lead to better detection accuracy, reliability, and sensitivity of these multimedia content posted by religious extremists on social media.

Yet another category of useful techniques that can significantly boost the productivity of volunteers in human label acquisition for enhancing the performance of learning-based video topic detection, tracking, and extraction is active learning techniques.⁶⁵ The main idea behind active learning methods is that instead of blindly and uniformly soliciting human users' content labels over a mass corpus of videos or other forms of multimedia files, which are to be used as ground truth labels for training the aforesaid content analysis algorithms, under active learning, a deterministic or probabilistic utility score would be estimated for each unlabeled video or multimedia sample file so that an optimized priority procedure can be performed to selectively obtain human labels on most useful videos or multimedia samples. Such a priority mechanism can tremendously reduce the amount of human labeling efforts demanded to attain the same level of training performance using the same learning algorithm.⁶⁶

Approach II: Examining Collective Content Consumption Behaviors on Social Media to Detect Social Text, Documents, Pictures, and Videos Posted by Religious Extremists

Religious extremists post content on social media for the sake of attracting the attention of and the eventual consumption of such content by their targeted audience. Regardless of any specific measures employed by extremists to disguise the nature of a given piece of content on social media, the goal of these actions determines that the posted content needs to somehow find its way to reach the audience for its eventual consumption. Therefore, we propose to detect content posted by religious extremists by observing and analyzing the information propagation pathways and consumption patterns on social media through an automatic and algorithmic approach. Compared with the current self-reporting based practice, the computational approach can react more efficiently to detect content of concern even when the targeted audience chooses not to cooperate with the social media platform.

The main idea can be intuitively described as follows: It is technically feasible and affordable for any social media company to collect and observe Internet Protocol addresses (IP addresses) of users who commonly demand a given piece of content across time.⁶⁷ Such content demand and consumption patterns can be represented as a profile of collective community response to and consumption of the content.⁶⁸ We argue that such profiles can be used as effective digital signatures to recognize the true nature of a piece of content. Let us assume that Video X has content that has been carefully disguised by religious extremists before its public posting or is simply left unannotated, intentionally or merely out of convenience, such that its title, description, and labels reveal no useful information about its true content. Because of these tactics, which are indeed employed by extremists today, existing content-based video screening technologies⁶⁹ encounter great difficulty in detecting the thematic category of and topics underlying Video X from among other publicly listed content on social media. Yet Video X is not an ordinary video after all. Instead of aiming to entertain the public through popularly requested decent content such as sports, music, and shows, Video X tries to spread religious extremism. Due to such fundamental characteristics of Video X, the proposed technical approach thus attempts to reversely infer the content of Video X based on both the spatial and temporal consumption patterns of its audience. Next, we will discuss a few implementation plans, in progressive sophistication and discriminative power as well as increasing computational costs.

To achieve the above goal, different user-demand-profiling approaches can be explored and exploited.⁷⁰ For example, we can pre-divide a region of the whole world into a list of areas. We denote these divided areas as A1, A2,..., An, where "n" is the total number of such areas. We would like to defer the discussion regarding how to divide the whole world into a list of areas later.⁷¹ At any given moment of time or during any given time window, which is assumed to be "t," we further introduce the variable, D(X, Ai, t), to denote the aggregate demand of Video X from the area, "Ai." Such demand can be quantitatively characterized as the number of unique IP addresses that belong to the region Ai and from which Video X is requested during the moment of time in question. Different measures of the aggregate demand can be generically supported here, including the number of accesses, the total watching time, or some other weighted notation of the population or regional level demand patterns. Considering the fact that some local network configuration techniques will allow multiple computers to share a common external IP address for web browsing, we can alternatively use the total volume of network traffic requested by IP addresses belonging to the region Ai and concerning Video X as the value assignment for D(X, Ai, t).

Employing the above representation, we will be able to construct Video X's demand and consumption vector (DV) at the moment "t" is DV(X, t) = [D(X, A1, t), D(X, A2, t), ..., D(X, An, t)]. This vector provides a snapshot regarding how Video X is requested and consumed at "t." Even though examining the vector, DV(X, t), alone can only inform us of the popularity of Video X at moment "t" at different geographical

regions, when we examine the temporal evolution of the vector, much valuable insight can be gained regarding the true nature of the content carried by Video X. Let t + 1 denote a subsequent moment in time immediately after the moment "t." When we analyze the series of vectors DV(X, t), DV(X, t + 1), DV(X, t + 2), . . . it would be possible to systematically and comprehensively tell the changes of the popularity of Video X in each region, both absolutely and relatively. Such absolute and relative changes of Video X's popularity across time can be adopted as effective digital signatures for our computational video content detection purpose, the detail of which will be discussed below.⁷²

With the aid of domain experts, it shall be possible to collect, in advance, a set of example videos that are considered "propaganda" by religious extremists. For each video, we can construct a vector that records the community demand and consumption of its content across time following the procedure proposed above. Without the loss of generality, we assume Video Y is one such example video, for which its series of video demand and consumption vectors across time is DV(Y, t'), DV(Y, t'+1), DV(Y, t'+2), ... where t' denotes a certain moment of observation. According to the two series of video demand vectors, we can construct Video X and Video Y's absolute demand vectors for a given area using "Ai" as DV(X, Ai, t) = [D(X, Ai, t), D(X, Ai, t+1), DAi, t + 2, ...], and as DV(Y, Ai, t') = [D(Y, Ai, t'), D(Y, Ai, t' + 1), $D(Y, Ai, t' + 2), \dots$]. We can then compute the correlation coefficient between DV(X, Ai, t) and DV(Y, Ai, t'), which is denoted as cor(X, t, Y, t')t', Ai) = correlation(DV(X, Ai, t), DV(Y, Ai, t')). According to the value of cor(X, t, Y, t', Ai), a simple computerized classifier can be constructed for predicting whether Video X would bear the same type of content as Video Y does.

Two small extensions can be introduced to enhance the above implementation as follows, (1) the choice of the first observation moment can be optimized to maximize the prediction accuracy of the machine classifier, e.g., $cor(X, Y, Ai) = max_{t}, t'$ cor(X, t, Y, t', Ai). (2) The method can simultaneously observe multiple example videos, e.g., Video Y1, Video Y2, . . ., to compute a group-based correlation coefficient for predicting whether Video X would carry the same type of content as the group of example videos does. That is, cor(X, Y1, Y2, ..., Ai) = F(cor(X, Y1, Ai), cor(X, Y2, Ai), ...), where F() is an aggregation function that incorporates multiple pairwise video demand and consumption correlation coefficients into an aggregated value. In the first extension above, a crucial decision needs to be made regarding the temporal granularity of analysis since Video X may exhibit topic heterogeneity inside itself. A more refined detection mechanism is to first segment Video X according to its internal topic distribution and then to subject individual topically coherent segments of Video X to the above formula for computing correlation coefficients. It is noted that to align the durations of two videos, Video Y also needs to be trimmed to match the corresponding duration of each individual topically coherent segment detected from Xj. The above idea can be mathematically stated as follows: $cor(Xj, Y, Ai) = max_{t, t',t1,t2} cor(Xj, t, trim(Y,t1,t2), t', Ai)$, where trim(Y,t1,t2) denotes a trimmed version of Video Y. To implement the above process, a rich range of algorithms⁷³ is available for detecting and segmenting videos into topically coherent units.

As mentioned above, not only can a video's absolute demand and consumption vector provide predictive power to reveal the nature of the video's content, the video's relative demand and consumption vector can also provide the same type of discriminative power.⁷⁴ To explore the latter capability, we first examine the derivation of an area's relative DV by using a single reference region. Without the loss of generality, let "Aj" be such a reference region when we derive the relative "DV" for the region "Ai." Under this setting, Ai's DV relative to Aj is defined as RDV(X, Ai, Aj, t) = [g(D(X, Ai, t), D(X, Aj, t)), g(D(X, Ai, t + 1), D(X, t))]Aj, t + 1), g(D(X, Ai, t + 2), D(X, Aj, t + 2)), ...], where g(x1, x2) is a function that computes the relative value of x1 with respect to x2. Then, g(x1,x2) can be implemented in various ways, such as g(x1,x2) = x1-x2, g(x1,x2) = (x1-x2)/(x1+x2), and g(x1,x2) = exp((x1-x2)/(x1+x2)), to name just a few. And the optimal way of implementing the function g(,) can be empirically determined and tuned for a set of real data. A more significant extended version would involve computing region Ai's relative DV with respect to multiple areas' DV, in which case the average, mean, or weighted average of these regions' DVs can be used to replace that of "Aj" in the above prototype equations to serve as a collective "macro" reference area.

Now, let us return to the issue of how to divide the whole world's regions and territories into a list of meaningful areas for the proposed approach to allow its effective and efficient execution. A straightforward approach would be to adopt the natural geographical boundaries existing

among countries and regions, and also to observe the finer-level boundaries within countries according to the map services provided either by the country's government or third-party commercial map service companies. The advantage of this approach is the rich amount of readily available map information that can be immediately deployed, however, the drawback is the difficulty in choosing a suitable granularity for dividing the whole world into areas of appropriate sizes, since neither Internet access nor the request and consumption of religious violence-inciting content are uniformly distributed across the globe.⁷⁵ Recognizing the problem, an alternative approach would be to invite domain experts to highlight regions of high interest or strategic importance where a finer resolution for space-dividing is deserved, and in other areas of less importance, a more aggregated spatial granularity would be adopted.⁷⁶ A third alternative would be to use a computer algorithm to automatically determine and dynamically adjust the optimal spatial granularity locally used for dividing areas according to historically available records regarding the geographic distribution of the request and consumption of religious violence-inciting videos across the world.⁷⁷ Finally, it would be possible to design a hybrid algorithm that jointly leverages expert knowledge, as proposed in the second approach, and the aforementioned self-adaptive local region-dividing algorithm to yield the best detection performance by the proposed algorithm, while using the least possible computation cost.⁷⁸

As another extension, the proposed approach can also leverage user content requests and consumption patterns across information in multiple media formats to learn through multimodality data.⁷⁹ For example, instead of comparing Video X's user request and consumption patterns with that of another video, the approach can compare such patterns of Video X with those of an image, a document, or a webpage. Extending the approach in this way can significantly increase the amount of training data available to the approach so that the performance of the machine learning-empowered approach can be likely improved. The extended approach can also save a significant amount of expert-labeling effort because some of the multimedia content may be automatically interpreted using the state-of-the-art computation methods, in particular, text documents, webpages, images, and videos with sufficient and reliable text descriptions as extremists cannot uniformly disguise all such content equally, carefully, and thoroughly.

It is worth mentioning that a user's content requests and consumption behaviors can generally refer to any type of content manipulation operations exercised by the user, including, but not limited to uploading, downloading, deleting, commenting, tagging, and link-sharing.⁸⁰ Thus, it would be possible to carry out the aforementioned analysis over user content requests and consumption behaviors in a multidimensional space where each particular kind of user operation constitutes a semantic dimension for computation examination. In this way, the proposed approach can be operated in a high dimensional space to more systematically and comprehensively detect suspicious content on a social media platform.⁸¹ For example, as discussed earlier, when religious extremists frequently upload onto and delete from a social media platform a certain video, which is coupled with the constant downloading of such content by an audience, such peculiar collective user behaviors will easily trigger an alarm for content inspectors or system administrators, since the distributed user actions of uploading, deleting, and downloading a video are all automatically observed and comprehensively analyzed in a holistic way by the proposed algorithmic solution.

Finally, we can generalize the region-based spatial division procedure into the semantic user space. That is, instead of tracking the information requests and consumption patterns from a given geographical area, we can more generally track such patterns coming from a given user group, with users who may or may not reside in the same geographical region.⁸² A number of computational user grouping and clustering techniques⁸³ have been developed in a recommender system domain for e-commerce⁸⁴ and smart health applications.⁸⁵ By borrowing and repurposing these readily available techniques, we can easily migrate the aforementioned concept of geographically segmented user content requests and consumption profiles into a more semantic, user-oriented space.⁸⁶ In this way, by studying and comparing the information requests and consumption patterns of various user groups, both independently and relatively, regarding one or multiple materials on social media, the proposed approach can also detect social media materials likely carrying incitement content using similar procedures and implementation plans delineated above.

Overall, the proposed implementation plan aims to construct an aggregated profile for each video on social media that characterizes a population of users' overall request for and consumption of the video across the world and time. By comparing the spatial disparity and temporal evolution patterns of the video's profile with the counterpart profiles of other videos, whose content is known reliably in advance, the proposed method will be able to automatically determine the true nature of the content carried by the video regardless of any deceitful labels, titles, description texts, producers, or distributors, and may purposefully associate the video. The hypothesis adopted behind the design of the proposed approach is that it would be very difficult to fake or distort the collective information requests and consumption behaviors of a user population targeted by a video. Through computationally capturing and characterizing such behavior footprints as digital signatures, the new approach aims to automatically and systematically detect all videos carrying religious violence-inciting content in a way that is also much more efficient and comprehensive than the current human-mediated mechanism based on voluntary self-reporting by social media users.

Approach III: Examining User Reactions Toward Social Media Messages to Detect Speeches by Religious Extremists Through Statistical Inferences

Yet another promising computational approach to comprehensively and reliably detecting online speeches by religious extremists is to systematically observe and quantitatively model the collective user reactions toward messages bearing different types of content as they are circulated over some social media platform. Unlike the media consumption patterns examined by the second approach proposed in the above, which is only concerned with the passive consumption patterns of online messages by a group of social media users, this third approach carefully models the interaction between each social media message and the user population as the message passes through the social media environment. The intuition behind is that depending on the audience's receptivity, one can not only determine the popularity of a message but also the likely content category of a message. For example, if a message delivers some sport content, during the message's propagation on social media, a specific subpopulation of users, such as sport fans, would strongly welcome the message, who are also likely to forward or recommend the message to their peers; on the contrary, those users who are disinterested in sport topics would neither consume the content nor actively forward the message to their friends and contacts on social media. Across time, through examining the respective behaviors of various groups of users toward messages of each topic category, one can infer the true category of a message according to the observation of such behavior disparities exhibited among groups of social media users. Such kinds of algorithmic decisions can be reliably produced through executing well-established statistical inference procedures.⁸⁷

Let X be an arbitrarily piece of message propagated on a popular social media platform, whose topic category is to be algorithmically determined by the proposed approach. Let U1, U2, ..., Un be a set of pre-classified user groups where: (1) users belonging to the same group demonstrate relatively coherent behaviors toward messages delivered through the social media platform, and (2) users belonging to different groups exhibit relatively contrasting behaviors toward these messages. In our context, a relevant behavior may refer to the election of a "like" tag with a message, the behavior of attentively consuming a message, e.g., reading or watching from the beginning of the message till its end, or the contrasting behavior of casually consuming the message, the behavior of forwarding the message to a specific contact over the social media platform or the alternative behaviors of forwarding the message to a group of close contacts or a wide group of contacts on the platform, the behavior of positively commenting on the message or criticizing the message. Without the loss of generality, we denote these individual behaviors as B1, B2, ..., Bm. Let X1, X2, ..., Xk and Y1, Y2, ..., Yo be two sets of messages, where the first set of messages is known in advance to carry religious extremists' speeches while the second set of messages known otherwise.

Based on these pre-known messages, we can derive the conditional probability that a given user group Ui (i = 1, ..., n) would take a certain behavior Bj (j = 1, ..., m) toward messages absent of religious extremists' speeches, i.e., p(Bj | Ui, no extreme speech) as follows:

 $p(Bj \mid Ui, no extreme speech) = (Number of messages that do not carry religiously extreme speeches and toward which the i-th user group, Ui, takes the j-th behavior, Bj) / (Number of messages that do not carry religiously extreme speeches and that are encountered by the i-th user group, Ui).$

We can further derive two additional probability estimates. The first one is the prior probability that the i-th user group, Ui, would encounter a message without religious extreme content, which is denoted as p (Ui, no extreme speech). With the access to the aforementioned pre-labeled training data, we can derive p (Ui, no extreme speech), as follows:

p (Ui, no extreme speech) = (Number of messages that do not carry religiously extreme speeches and that are encountered by the i-th user

group, Ui) / (Total number of messages observable in the pre-labeled training set).

The second estimate is the prior probability that the i-th user group, Ui, would take the j-th behavior, Bj, which is computable as follows:

p (Bj, Ui) = (Number of messages toward which the i-th user group, Ui, takes the j-th behavior, Bj) / (Total number of messages observable in the pre-labelled training set).

Having separately derived the above three probability estimates, we can compute the conditional probability that the i-th user group, Ui, takes the j-th behavior, Bj, toward a message that does not carry any religiously extreme speeches according to the classicial Bayesian rule⁸⁸ as follows:

p(no extreme speech | Ui, Bj) = p(Bj | Ui, no extreme speech) p (Ui, no extreme speech) / p (Bj, Ui).

For a specific message X propagated on a social media platform, it would be readily observable whether the user group Ui collectively takes the j-th behavior Bj. If so, the above probability derived would tell us the probability that such a message carries speeches by religious extremists. If the estimated probability is below a certain pre-chosen threshold, we can then determine that the message warranties special handling since:

p(extreme speech | Ui, not Bj) = 1- p(no extreme speech | Ui, not Bj). Similarly, to process the opposite case where the i-th user group chooses not to take the j-th behavior toward a message, we can first estimate the conditional probability that a given user group Ui (i = 1, ..., n) does not take a certain behavior Bj (j = 1, ..., m) toward messages absent of religious extremists' speeches, i.e., p(not Bj | Ui, no extreme speech), as follows:

 $p(\text{not Bj} \mid \text{Ui}, \text{ no extreme speech}) = (\text{Number of messages that do not carry religiously extreme speeches and toward which the i-th user group, Ui, does not take the j-th behavior, Bj) / (Number of messages that do not carry religiously extreme speeches and that are encountered by the i-th user group, Ui).$

We would then estimate the prior probability that the i-th user group, Ui, does not take the j-th behavior, Bj, toward a message in general, which is computable as follows:

p (not Bj, Ui) = (Number of messages toward which the i-th user group, Ui, does not take the j-th behavior, Bj) / (Total number of messages observable in the pre-labelled training set).

We can then carry out a similar Bayesian inference process as follows:

p(no extreme speech | Ui, not Bj) = p(not Bj | Ui, no extreme speech) p (Ui, no extreme speech) / p (not Bj, Ui).

Now, if the message X is indeed encountered by the i-th user group, Ui, however, the group chooses not to take the j-th behavior, Bj, toward the message, the above-derived estimate tells us the probability that the message does not carry extreme speeches by religious extremists. If such a probability is below a pre-set threshold, the message would then warrant special attention.

The above statistical inference procedure can be extended to the generic scenario where multiple user groups and multiple user behaviors are jointly and simultaneously considered. For example, we can use the general notation p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech) to denote the case when the i-th user group, Ui, takes the ji-th behavior, Bi,ji, toward a message absent religiously extreme speeches where i = 1, ..., n and each ji belongs to 1, ..., m. To estimate <math>p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech), we can do two ways. The first way of estimation is straightforward, which is to count according to observable messages, i.e.,

p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech) = (Number of messages that do not carry religiously extreme speeches and toward which the i-th user group, Ui, takes the ji-th behavior, Bj, for i = 1, ..., n) / (Number of messages that do not carry religiously extreme speeches and that are encountered by all user groups, Ui, for i = 1, ..., n).

Depending on the amount of messages observable on a social media platform, we may or may not have sufficient messages meeting the above requirements due to the curse of cardinality, which would significantly hurt the reliability of the estimate yielded. Alternatively, we can estimate p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech) through making an independence assumption,⁸⁹ i.e.,

p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech) = p(B1,j1, | U1, no extreme speech) p(B2, j2 | U2, no extreme speech) ... p(Bn,jn | Un, no extreme speech)

where individual conditional probabilities, p(Bi,ji | Ui, no extreme speech) for i = 1, ..., n, can be estimated via the same equation listed previously.

Once p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech) is estimated, we can further compute <math>p(no extreme speech | U1, U2, ..., Un, B1,j1, B2, j2, ..., Bn,jn) as follows:

p(no extreme speech | U1, U2, ..., Un, B1,j1, B2, j2, ..., Bn,jn) = p(B1,j1, B2, j2, ..., Bn,jn | U1, U2, ..., Un, no extreme speech) p (U1, U2, ..., Un, no extreme speech) / p (B1,j1, B2, j2, ..., Bn,jn, U1, U2, ..., Un).

For the two priors p (U1, U2, ..., Un, no extreme speech) and p (B1,j1, B2, j2, ..., Bn,jn, U1, U2, ..., Un), we can also sample from the observable messages directly or estimate via making an independence assumption, i.e.,

p (U1, U2, ..., Un, no extreme speech) = p (U1, no extreme speech) p (U2, no extreme speech) ... p (Un, no extreme speech) and

p (B1,j1, B2, j2, ..., Bn,jn, U1, U2, ..., Un) = p (B1,j1, U1) p (B2, j2, U2) ... p (Bn,jn, Un).

Symmetrically, we can model and tackle the board case where specific user groups choose not to take particular actions toward a message and the case to simultaneously and jointly consider such circumstances. For this case, the inference procedure can be delineated as:

p(no extreme speech | U1, U2, ..., Un, not B1,j1, not B2, j2, ..., not Bn,jn) = p(not B1,j1, not B2, j2, ..., not Bn,jn | U1, U2, ..., Un, no extreme speech) p (U1, U2, ..., Un, no extreme speech) / p (not B1,j1, not B2, j2, ..., not Bn,jn, U1, U2, ..., Un)

where the involved conditional probability p(not B1,j1, not B2, j2, ..., not Bn,jn | U1, U2, ..., Un, no extreme speech) and the two priors <math>p(U1, U2, ..., Un, no extreme speech) and p(not B1,j1, not B2, j2, ..., not Bn,jn, U1, U2, ..., Un) can also be derived via either counting through the samples in the observable messages or estimated via the independence assumptions.

Finally, for the most general case, we can model and tackle the board case where some specific user groups choose to take particular actions toward a message while other user groups choose not to take particular actions toward a message. For this ultimate case, the applicable statistic inference procedure can be stated as:

p(no extreme speech | U1, U2, ..., Un, q(B1,j1), q(B2, j2), ..., q(Bn,jn)) = p(q(B1,j1), q(B2, j2), ..., q(Bn,jn) | U1, U2, ..., Un, no extreme speech) p (U1, U2, ..., Un, no extreme speech) / p (q(B1,j1), q(B2, j2), ..., q(Bn,jn), U1, U2, ..., Un),

where the newly introduced function q(Bi,ji) for i = 1, 2, ..., n would take the value of (Bi,ji) if the user group Ui exercises the behavior Bji toward the concerned message X and (not Bi,ji) otherwise. Finally, if the

message X is not encountered by a certain user group, the user group shall be omitted from both sides of the above inference formula, which leads to the following equation on the most generic situation:

p(no extreme speech | w(U1, X), w(U2, X), ..., w(Un, X), wq(B1,j1, X), wq(B2, j2, X), ..., wq(Bn,jn, X)) = p(wq(B1,j1, X), wq(B2, j2, X), ..., wq(Bn,jn, X) | w(U1, X), w(U2, X), ..., w(Un, X), no extreme speech) p (w(U1, X), w(U2, X), ..., w(Un, X), no extreme speech) / p (wq(B1,j1, X), wq(B2, j2, X), ..., wq(Bn,jn, X), w(U1, X), w(U2, X), ..., w(Un, X)),

where the function w(Ui, X) (i = 1, 2, ..., n) equals to Ui if the message X is encountered by the user group Ui and null otherwise; the function wq(Bi, ji, X) (i = 1, 2, ..., n; ji belongs to 1, 2, ..., m) equals to q(Bi,ji) if the user group Ui takes the action q(Bi,ji) toward the message X and null otherwise.

BROAD SOFTWARE-BASED MEASURES TO TACKLE RELIGIOUS EXTREME SPEECH ON SOCIAL MEDIA

Besides the three software-based technical approaches introduced in the above for tackling religious extreme speeches on social media, a multitude of software technologies can be leveraged to create solution approaches to combating the concerned issue. The rest of this chapter briefly overviews four categories of such promising technologies, including natural language processing, machine learning, social network analysis technologies, and algorithmic simulations based on game theory.

Natural Language Processing Technologies

Natural language processing techniques (NLP)⁹⁰ can enable algorithms to more effectively process religious extreme speeches on social media. For example, the Statistical Entity and Relation Information Finder produced by BBN (BBN SERIF)⁹¹ is able to handle text of variety of formats to detect who did what to whom.

Among the vast body of work on standardized NLP tools and algorithms, those work that focuses on parsing Arabic languages would be particularly useful for the concerned task since the largest percentage of terrorism acts occur in Arabic speaking countries.⁹² Also, many terrorist leaders are fluent in Arabic and they tweet and communicate with their peers in the said language. Multiple computational tools have been developed for tacking Arabic NLP tasks, with the most popular ones being Stanford Arabic Word Segmenter (https://nlp.stanford.edu/ nlp/javadoc/javanlp/edu/stanford/nlp/international/arabic/process/ ArabicSegmenter.html), Penn Arabic Treebank (https://catalog.ldc. upenn.edu/LDC2005T20), and Stanford Arabic Part of Speech Tagger (http://nlp.stanford.edu). Leveraging these software toolkits, a rich set of tailor-designed algorithms have been proposed to tackle the parsing, semantic interpretation, aggregation, summarization, event detection, topic mining, and visual exploration of natural language materials in Arabic.⁹³

One type of informative resources particularly useful for carrying out automatic NLP-based analysis is RSS feeds,⁹⁴ which provides a rich source for monitoring current events with a short delay. These feeds offer a major source for information acquisition and analysis because they aggregate news from thousands of sources. Due to the automatic nature of NLP solutions, duplicated messages and inconsistent information respectively supplied by numerous sources can be systematically and cost-effectively processed and integrated in a large scale.

Machine Learning Technologies

A rich spectrum of machine learning methods⁹⁵ has been developed in the computational field that can provide useful aid for understanding the phenomena of religious extreme speech on social media as well as for predicting any dangerous immediate actions before they happen. Among these methods, supervised classification methods are especially relevant. Five supervised classification methods, including SVM, Neural Networks, Trees, Probabilistic Analytics, and Causal Models, are most frequently used in the literature.⁹⁶

One of the most important tasks in dealing with a large amount of text is to differentiate high-value content from the bulk volume of low-value content. Social media is filled with data about religious extreme speech, but also extreme vocabulary terms introduced by civilian protestors, violent games, sports, and intense conversations. Being able to distinguish these two types of language materials can tremendously enhance the accuracy and efficiency of downstream analysis. SVMs are a strong linear classification algorithm frequently applied onto text data. The basic concept of SVM is to transform the data to a higher dimension and find a hyperplane that separates a set of classes from each other and at the same time achieves the lowest error rate. A rich variety of kernel functions⁹⁷ can be employed depending on the data and the classification to be achieved. Two main advantages for SVMs is that it is easy to interpret the results and the ability to train the model with a small training set, which is beneficial in processing religious extreme speech that does not appear very often in a general language corpus. Besides applying to text data, SVMs can also be applied to analyze video data to detect visually characteristic video content posted on social media by religious extremists.⁹⁸

Another equally popular supervised learning method is neural network,⁹⁹ which is gaining increasingly preference in the technical world known as the deep learning field. The basic idea of neural networks is that it is composed of a large number of artificial neurons that resemble the biological neurons. They are connected in a logical manner for receiving, transforming, and transferring input signals progressively through layers of the network to derive the end output. When properly configured and trained, neural nets can be very powerful and capable of dealing with a large amounts of input variables. Like SVMs, neural networks are also highly useful for exploring and exploiting latent relationships behind labeled training data to implement intelligent models for automatic signal and sample classification.¹⁰⁰

Social Network Analysis Technologies

A multitude of social network analysis methods¹⁰¹ is also readily available for tackling religious extreme content on social media, among which two key classes of methods are particularly useful, including Algorithms for Influencer Detection and Link Prediction.

As discussed earlier, finding religious extreme content is important to help in the process of detecting, forecasting, and hopefully preventing terrorist actions from happing. However, finding individual leaders who might be in disguise in social media applications is equally important, which calls for the design and efficient implementation of *Influencer Detection Algorithms*.¹⁰² Putting aside the fact that the content is in fact written by an individual who is either a supporter or influencer, individual influencers have the capabilities of replicating the number of extremists and thus, multiplying the number of dangerous content to be tracked analyzed and studied. Thus, it is common sense to devote considerable time and energy to locate those people and deal with them accordingly.

In fact, much of ISIS's social media success can be attributed to a relatively small group of hyperactive users, numbering between 500 and 2000 accounts, which tweet in concentrated bursts of high volume. This highly variable message posting behavior increases the need for tools to find such influencers and deal with them in the best way. An influencer is a person who has the ability to impose his/her ideas, change others way of thinking and resolve disagreements. Additionally, in order to effectively combat religious extreme speech on social media, these speakers must first be identified. Detecting influencers in social media is very crucial since they have the power to change the opinions of others and are acknowledged by others as having important contributions and valuable ideas; both skills of which unfortunately offer a great weapon in the hands of religious extremists for diffusing and disseminating their ideologies globally.¹⁰³ Any influencer should have some or all of the following attributes: reciprocation which is giving back, commitment and reliability, social proof, appealing, authority, and scarcity. Through the use of sentiment analysis and opinion mining,¹⁰⁴ keyword-based information retrieval would be computationally feasible.

*Link Prediction Algorithms*¹⁰⁵ allow us to find links between users in social media. It is a powerful category of techniques to find supporters, sympathizers, and teammates in different terrorist groups. For example, such algorithms will enable the prediction of relationships between users on twitter according to their "retweet" patterns. This capability would be particularly helpful for detecting groups of religious extremists because as mentioned earlier, they rely on social media activities such as "retweet" to increase the reach of their ideas and multiply the number of potential viewers. Additionally, features such as *friends measures* and *same community measures* can be leveraged as informative predictors for forecasting the dynamic evolution of links between social media participants.¹⁰⁶ One task of particular interest to us is to find hidden links in online social networks, under which relationships between religious extreme groups on social media can be automatically predicted and continuously tracked through advanced link prediction algorithms.

Algorithmic Simulations Based on Game Theory

Game theory¹⁰⁷ is a powerful solution to model the activities of religious extremists especially *before an attack*. One particular problem is the limited resources, which require careful planning. Scholars suggested modeling the terrorism problem with an "attacker–defender" model¹⁰⁸ that portraits the two main actors in a game.¹⁰⁹ The model would be dynamic due to the fact that with every action from the defender, the state, there is a change in strategy from the attacker's side. Having the ability to allot resources to different locations is an advantage in the hands of the government and is considered as the initial exchange in the game because attackers would then choose where to hit based on the least guarded facility. This provides for obvious guidelines to prioritize based on the most to least critical assets. More broadly, such a mode-ling will also be highly useful for studying and forecasting the long-term effect of propaganda by religious extremists on social media.

Practically, Game Theory-based Simulation Algorithms¹¹⁰ could be highly useful for understanding how people act and react during a crisis. Game theory is a mathematical framework that attempts to study how actors engage in the "game" and study their actions to reach an ultimate goal. In the field of combating against religious extremists, game theory models should be constructed to predict how individuals act while under an attack, as well as studying the actions of observers at home before, during, and after any attack. With the careful creation of a game theory model to understand people's way of thinking and modeling a different solution that would complement the universal approach "run, hide, fight,"¹¹¹ technologists are generally optimistic that this type research will shed some useful light on the assessment of short- and long-term impact of social media content by religious extremists on citizens' mindset and behaviors. By simulating the behaviors of religious extremists on social media as free and rationale agent, decision makers will be able to understand the incentive, the cost-and-benefit perspective of individual players, as well as the long-term trend of the collective act of these extremists on social media to realize their agenda.

Notes

- 1. Ammar and Xu (supra note 13), at 301.
- 2. Ben Quinn, Google to Point Extremist Searches Towards Anti-Radicalisation Websites, THE GUARDIAN (Feb. 2, 2016), https://www. theguardian.com/uk-news/2016/feb/02/google-pilot-extremist-antiradicalisation-information.
- 3. Ibid, ("Google is running two pilot programmes. One is to make sure that these types of videos are more discoverable on YouTube.").

- 4. Ibid, ("The other [pilot program] is to make sure when people put potentially damaging search terms into [Google's] search engine[,] they also find this counter narrative.").
- 5. Ammar and Xu (supra note 13), at 301.
- 6. Muhammad al-Adnani, "Enama Aedukum Bewahida (I advise you on an issue), al-Furqan Organization, May 21, 2012. (at 30.05)
- 7. Document No. 2007-631544, Combating Terrorism Center at West Point, https://www.ctc.usma.edu/. Documents in Arabic translated by the author unless indicated otherwise.
- 8. Ibid.
- 9. Document No. 2007-637116, Combating Terrorism Center at West Point, https://www.ctc.usma.edu/.
- Terrorists Mock Bids to End Use of Social Media, https://www.nytimes. com/2015/12/08/technology/terrorists-mock-bids-to-end-use-ofsocial-media.html.
- 11. The ISIS Twitter Census-Defining and describing the population of ISIS supporters on Twitter, J.M. Berger and Jonathon Morga, https://www.brookings.edu/wp-content/uploads/2016/06/isis_twitter_census_berger_morgan.pdf.
- 12. Father of woman killed in Paris terror attacks sues Google, Twitter and Facebook, http://www.latimes.com/local/lanow/la-me-ln-father-sues-paris-attacks-20160616-snap-story.html.
- 13. Family of ISIS Paris attack victim sues Google, Facebook and Twitter, https://www.washingtonpost.com/news/the-switch/wp/2016/ 06/16/family-of-isis-paris-attack-victim-sues-google-facebook-andtwitter/.
- 14. https://www.law.cornell.edu/uscode/text/47/230.
- Jytte Klausen (2015) Tweeting the Jihad: Social Media Networks of Western Foreign Fighters in Syria and Iraq, Studies in Conflict & Terrorism, 38:1, 1–22, DOI:10.1080/1057610X.2014.974948.
- 16. Christian Bauckhage, Kristian Kersting, and Bashir Rastegarpanah. (2014). Collective attention to social media evolves according to diffusion models. In Proceedings of the 23rd International Conference on World Wide Web (WWW '14 Companion). ACM, New York, NY, USA, 223–224. DOI:http://dx.doi.org/10.1145/2567948.2577298; Ming Cheung, James She, Alvin Junus, and Lei Cao. (2016). Prediction of Virality Timing Using Cascades in Social Media. ACM Trans. Multimedia Comput. Commun. Appl. 13, 1, Article 2 (December 2016), 23 pages. DOI:https://doi.org/10.1145/2978771; Jimpei Harada, David Darmon, Michelle Girvan, and William Rand. (2015). Forecasting High Tide: Predicting Times of Elevated Activity in Online Social Media. In Proceedings of the 2015 IEEE/ACM International

Conference on Advances in Social Networks Analysis and Mining 2015 (ASONAM '15), Jian Pei, Fabrizio Silvestri, and Jie Tang (Eds.). ACM, New York, NY, USA, 504–507. DOI:http://dx.doi.org/10.1145/2808797.2809392.

- See generally H. Andrew Schwartz & Lyle H. Ungar, Data-Driven Content Analysis of Social Media: A Systematic Overview of Automated Methods, AM. ACAD. POL. & SOC. SCI., 78, 78–79 (2015) (discussing the use of content analysis in social media).
- Davide Magatti, Fabio Stella, and Marco Faini. (2009). A Software System for Topic Extraction and Document Classification. In Proceedings of the 2009 IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology—Volume 01 (WI-IAT '09), Vol. 1. IEEE Computer Society, Washington, DC, USA, 283–286. DOI:http://dx.doi.org/10.1109/WI-IAT.2009.49.
- Zhixin Zhou, Xiuzhen Zhang, and Phil Vines. (2012). Sentiment classification of blog posts using topical extracts. In Proceedings of the Twenty-Third Australasian Database Conference—Volume 124 (ADC '12), Rui Zhang and Yanchun Zhang (Eds.), Vol. 124. Australian Computer Society, Inc., Darlinghurst, Australia, Australia, 71–80.
- Zhen Guo, Shenghuo Zhu, Yun Chi, Zhongfei Zhang, and Yihong Gong. (2009). A latent topic model for linked documents. In Proceedings of the 32nd international ACM SIGIR conference on Research and development in information retrieval (SIGIR '09). ACM, New York, NY, USA, 720–721. DOI:http://dx.doi. org/10.1145/1571941.1572095.
- 21. Qifan Wang, Dan Zhang, and Luo Si. (2013). Semantic hashing using tags and topic modeling. In Proceedings of the 36th international ACM SIGIR conference on Research and development in information retrieval (SIGIR '13). ACM, New York, NY, USA, 213–222. DOI:10.1145/2484028.2484037 http://doi.acm. org/10.1145/2484028.2484037.
- 22. Nicholas J. Belkin and W. Bruce Croft. (1992). Information filtering and information retrieval: two sides of the same coin?. Commun. ACM 35, 12 (December 1992), 29–38. DOI:http://dx.doi.org/10.1145/138859.138861; ChengXiang Zhai and Sean Massung. (2016). Text Data Management and Analysis: a Practical Introduction to Information Retrieval and Text Mining. Association for Computing Machinery and Morgan & Claypool, New York, NY, USA.
- 23. Marie-Francine Moens and Rik De Busser. (2001). Generic topic segmentation of document texts. In Proceedings of the 24th annual international ACM SIGIR conference on Research and development in information retrieval (SIGIR '01). ACM, New York, NY, USA, 418–419. DOI:https://doi.org/10.1145/383952.384065.

- 24. Yoon-Sik Cho, Greg Ver Steeg, Emilio Ferrara, and Aram Galstyan. (2016). Latent Space Model for Multi-Modal Social Data. In Proceedings of the 25th International Conference on World Wide Web (WWW '16). International World Wide Web Conferences Steering Committee, Republic and Canton of Geneva, Switzerland, 447–458. DOI:https://doi.org/10.1145/2872427.2883031.
- Tanveer Syeda-Mahmood and S. Srinivasan. (2000). Detecting topical events in digital video. In Proceedings of the eighth ACM international conference on Multimedia (MULTIMEDIA '00). ACM, New York, NY, USA, 85–94. DOI:http://dx.doi.org/10.1145/354384.354433.
- Weiqi Yan, Declan F. Kieran, Setareh Rafatirad, and Ramesh Jain. (2011). A comprehensive study of visual event computing. Multimedia Tools Appl. 55, 3 (December 2011), 443–481. DOI:http://dx.doi. org/10.1007/s11042-010-0560-9.
- Christos Tzelepis, Zhigang Ma, Vasileios Mezaris, Bogdan Ionescu, Ioannis Kompatsiaris, Giulia Boato, Nicu Sebe, and Shuicheng Yan. (2016). Event-based media processing and analysis. Image Vision Comput. 53, C (September 2016), 3–19. DOI:https://doi. org/10.1016/j.imavis.2016.05.005.
- 28. Flavio Figueiredo. (2013). On the prediction of popularity of trends and hits for user generated videos. In Proceedings of the sixth ACM international conference on Web search and data mining (WSDM '13). ACM, New York, NY, USA, 741-746. DOI:http://dx.doi. org/10.1145/2433396.2433489; Flavio Figueiredo, Fabrício Benevenuto, and Jussara M. Almeida. (2011). The tube over time: characterizing popularity growth of youtube videos. In Proceedings of the fourth ACM international conference on Web search and data mining (WSDM '11). ACM, New York, NY, USA, 745–754. DOI:http:// dx.doi.org/10.1145/1935826.1935925; Renjie Zhou, Samamon Khemmarat, Lixin Gao, and Huigiang Wang. (2011). Boosting video popularity through recommendation systems. In Databases and Social Networks (DBSocial '11). ACM, New York, NY, USA, 13-18. DOI:http://dx.doi.org/10.1145/1996413.1996416.
- 29. Xiaoya Tang. (2008). Enhancing keyword-based botanical information retrieval with information extraction. In Proceedings of the 31st annual international ACM SIGIR conference on Research and development in information retrieval (SIGIR '08). ACM, New York, NY, USA, 789–790. DOI:http://dx.doi.org/10.1145/1390334.1390505; John Foley, Brendan O'Connor, and James Allan. (2016). Improving Entity Ranking for Keyword Queries. In Proceedings of the 25th ACM International on Conference on Information and Knowledge Management (CIKM '16). ACM, New York, NY, USA, 2061–2064.

DOI:https://doi.org/10.1145/2983323.2983909; Christian Wartena, Wout Slakhorst, and Martin Wibbels. (2010). Selecting keywords for content based recommendation. In Proceedings of the 19th ACM international conference on Information and knowledge management (CIKM '10). ACM, New York, NY, USA, 1533-1536. DOI:http://dx.doi.org/10.1145/1871437.1871665; Sebastian Arnold, Alexander Löser, and Torsten Kilias. (2015). Resolving Common Analytical Tasks in Text Databases. In Proceedings of the ACM Eighteenth International Workshop on Data Warehousing and OLAP (DOLAP '15). ACM, New York, NY, USA, 75-84. DOI:http://dx.doi.org/10.1145/2811222.2811224; Thomas Bohne, Sebastian Rönnau, and Uwe M. Borghoff. (2011). Efficient keyword extraction for meaningful document perception. In Proceedings of the 11th ACM symposium on Document engineering (DocEng '11). ACM, New York, NY, USA, 185-194. DOI:http://dx.doi. org/10.1145/2034691.2034732; Maryam Habibi and Andrei Popescu-Belis. (2015). Keyword extraction and clustering for document recommendation in conversations. IEEE/ACM Trans. Audio, Speech and Lang. Proc. 23, 4 (April 2015), 746-759. DOI:http:// dx.doi.org/10.1109/TASLP.2015.2405482; Chao Zhang, Lidan Shou, Ke Chen, and Gang Chen. (2012). See-to-retrieve: efficient processing of spatio-visual keyword queries. In Proceedings of the 35th international ACM SIGIR conference on Research and development in information retrieval (SIGIR '12). ACM, New York, NY, USA, 681-690. DOI:http://dx.doi.org/10.1145/2348283.2348375.

- 30. Matt Jones et al., We Need to Talk: HCI and the Delicate Topic of Spoken Language Interaction, CHI 2013 EXTENDED ABSTRACTS 2459, 2459–2464 (2013); Cosmin Munteanu & Gerald Penn, Speech-Based Interaction: Myths, Challenges, and Opportunities, CHI'15 EXTENDED ABSTRACTS 2483, 2483–2484 (2015); Junlan Feng et al., Speech and Multimodal Interaction in Mobile Search, WWW 293, 293–294 (2011).
- 31. Mohammad Tanvir Parvez & Sabri A. Mahmoud, Offline Arabic Handwritten Text Recognition: A Survey, 45 ACM COMPUTING SURV., at Article 23:1–28 (2013); Inad Aljarrah et al., Automated System for Arabic Optical Character Recognition with Lookup Dictionary, 4 J. EMERGING TECHNOLOGIES IN WEB INTELLIGENCE 362, 362–369 (2012); Takahiro Shima et al., Image Processing for Historical Newspaper Archives, HIST. DOCUMENT IMAGING AND PROCESSING 127, 132 (2011).
- 32. Dong Xu et al, Understanding Multimedia Content Using Web Scale Social Media Data, KOREA ADVANCED INST. OF SCI. & TECH., 1777, 1777–78 (2011); Sihyoung Lee et al., Towards Data-Driven Estimation of Image Tag Relevance Using Visually Similar and Dissimilar Folksonomy Images, SAM'12 3, 3–7 (2012).

- 33. Yang Yang et al., Robust Cross-Media Transfer for Visual Event Detection, MM'12 1045, 1045–48 (2012) [hereinafter Robust Cross-Media Transfer for Visual Event Detection]; Yueting Zhuang et al., Cross-Media Hashing with Neural Networks, MM'14 901, 901–904 (2014); Yang Yang et al., Effective Transfer Tagging from Image to Video, ACM Trans. Multimedia Comput. Commun. Appl. 1, 1–2 (2013) [hereinafter Effective Transfer Tagging from Image to Video].
- Kamaldeep Kaur. (2011). Topic tracking techniques for natural language processing. In Proceedings of the International Conference on Advances in Computing and Artificial Intelligence (ACAI '11). ACM, New York, NY, USA, 65–71. DOI:http://dx.doi.org/10.1145/2007052.2007066.
- 35. Robust Cross-Media Transfer for Visual Event Detection, supra note 438; Zhuang, supra note 438; Effective Transfer Tagging from Image to Video, supra note 438.
- 36. Renjie Liao, Jun Zhu, and Zengchang Qin. (2014). Nonparametric bayesian upstream supervised multi-modal topic models. In Proceedings of the 7th ACM international conference on Web search and data mining (WSDM '14). ACM, New York, NY, USA, 493–502. DOI:http:// dx.doi.org/10.1145/2556195.2556238.
- 37. Shengsheng Qian, Tianzhu Zhang, and Changsheng Xu. (2016). Multi-modal Multi-view Topic-opinion Mining for Social Event Analysis. In Proceedings of the 2016 ACM on Multimedia Conference (MM '16). ACM, New York, NY, USA, 2–11. DOI:https://doi. org/10.1145/2964284.2964294.
- Yanfei Wang, Fei Wu, Jun Song, Xi Li, and Yueting Zhuang. (2014). Multi-modal Mutual Topic Reinforce Modeling for Cross-media Retrieval. In Proceedings of the 22nd ACM international conference on Multimedia (MM '14). ACM, New York, NY, USA, 307–316. DOI:http://dx.doi.org/10.1145/2647868.2654901.
- Han-ping Shen, Chung-hsien Wu, and Pei-shan Tsai. (2015). Model Generation of Accented Speech using Model Transformation and Verification for Bilingual Speech Recognition. ACM Trans. Asian Low-Resour. Lang. Inf. Process. 14, 2, Article 6 (April 2015), 24 pages. DOI:http://dx.doi.org/10.1145/2661637.
- 40. Y. Gao, J. Sorensen, H. Erdogan, R. Sarikaya, F. Liu, M. Picheny, B. Zhou, and Z. Diao. (2002). A trainable approach for multi-lingual speech-to-speech translation system. In Proceedings of the second international conference on Human Language Technology Research (HLT '02). Morgan Kaufmann Publishers Inc., San Francisco, CA, USA, 231–234.
- 41. Woosung Kim and Sanjeev Khudanpur. (2004). Lexical triggers and latent semantic analysis for cross-lingual language model adaptation. ACM

Transactions on Asian Language Information Processing, 3, 2 (June 2004), 94–112. DOI:http://dx.doi.org/10.1145/1034780.1034782.

- 42. Kazunori Imoto, Munehiko Sasajima, Taishii Shimomori, Noriko Yamanaka, Makoto Yajima, and Yasuyuki Masai. (2006). A multi modal supporting tool for multi lingual communication by inducing partner's reply. In Proceedings of the 11th international conference on Intelligent user interfaces (IUI '06). ACM, New York, NY, USA, 330–332. DOI:http://dx.doi.org/10.1145/1111449.1111527.
- Siwei Wang and Gina-Anne Levow. (2011). Contrasting multi-lingual prosodic cues to predict verbal feedback for rapport. In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies: short papers—Volume 2 (HLT '11), Vol. 2. Association for Computational Linguistics, Stroudsburg, PA, USA, 614–619.
- 44. David Dinh, Dennis Chan, and Jack Chen. (2006). A multi-lingual decision support prototype for the medical domain. In Proceedings of the Workshop on Medical Speech Translation (MST '06). Association for Computational Linguistics, Stroudsburg, PA, USA, 49–52.
- 45. Sean Colbath, Scott Shepard, Daben Liu, Amit Srivastava, Jay Billa, James Gugerty, Daniel Kiecza, Mohammed Noamany, Kathleen Egan, and Francis Kubala. (2002). OnTAP: mixed-media multi-lingual language processing. In Proceedings of the second international conference on Human Language Technology Research (HLT '02). Morgan Kaufmann Publishers Inc., San Francisco, CA, USA, 409–410.
- Xiangming Mu, A Content-Based Video Browsing System Based on Visual Neighbor Similarity, JCDL'06 373, 373 (2006); Henrique Batista da Silva et al., Video Similarity Search by Using Compact Representations, SAC 80, 80–83 (2016).
- 47. Lifeng Shang et al., *Real-Time Large Scale Near-Duplicate Web Video Retrieval*, MM'10 531, 531-540 (2010).
- Junge Shen et al., Automatic Video Archaeology: Tracing Your Online Videos, WSM'10 59, 59–64 (2010); Tianlong Chen et al., Detection and Location of Near-Duplicate Video Sub-Clips By Finding Dense Subgraphs, MM'11 1173, 1173–1176 (2011); Heng Tao Shen, Statistical Summarization of Content Features for Fast Near-Duplicate Video Detection, MM'07 164, 164–165 (2007); Sakrapee Paisitkriangkrai et al., Scalable Clip-Based Near-Duplicate Video Detection with Ordinal Measure, CIVR'10 121, 121–128 (2010).
- 49. Shen, supra note 442; Chen, supra note 442; Shen, supra note 442; Paisitkriangkrai, supra note 442.
- 50. Christian Beecks, Anca Maria Ivanescu, Steffen Kirchhoff, and Thomas Seidl. (2011). Modeling multimedia contents through probabilistic

feature signatures. In Proceedings of the 19th ACM international conference on Multimedia (MM '11). ACM, New York, NY, USA, 1433– 1436. DOI:http://dx.doi.org/10.1145/2072298.2072033.

- Sufyan Ababneh, Rashid Ansari, and Ashfaq Khokhar. (2009). Compensated Signature Embedding for Multimedia Content Authentication. J. Data and Information Quality 1, 3, Article 17 (December 2009), 20 pages. DOI:http://dx.doi.org/10.1145/1659225.1659230.
- 52. H. Wang, F. Guo, D. D. Feng, and J. S. Jin. (1998). A signature for content-based image retrieval using a geometrical transform. In Proceedings of the sixth ACM international conference on Multimedia (MULTIMEDIA '98). ACM, New York, NY, USA, 229–234. DOI:http://dx.doi.org/10.1145/290747.290775.
- 53. R. Korpal and A. Gopal. (2011). A comparative study of signature based indexes for efficient retrieval of temporal patterns. In Proceedings of the International Conference & Workshop on Emerging Trends in Technology (ICWET '11). ACM, New York, NY, USA, 382–387. DOI:http://dx.doi.org/10.1145/1980022.1980104.
- 54. Seyit Koçberber and Fazli Can. (1999). Compressed multi-framed signature files: an index structure for fast information retrieval. In Proceedings of the 1999 ACM symposium on Applied computing (SAC '99). ACM, New York, NY, USA, 221–226. DOI:http://dx.doi. org/10.1145/298151.298253.
- 55. Christian Beecks, Steffen Kirchhoff, and Thomas Seidl. (2013). Signature matching distance for content-based image retrieval. In Proceedings of the 3rd ACM conference on International conference on multimedia retrieval (ICMR '13). ACM, New York, NY, USA, 41–48. DOI:http://dx.doi.org/10.1145/2461466.2461474.
- 56. Masoud Mazloom, Xirong Li, and Cees G. M. Snoek. (2014). Few-Example Video Event Retrieval using Tag Propagation. In Proceedings of International Conference on Multimedia Retrieval (ICMR '14). ACM, New York, NY, USA, Pages 459, 4 pages. DOI:http://dx.doi. org/10.1145/2578726.2578793.
- 57. Marco Bertini, Alberto Del Bimbo, Andrea Ferracani, and Daniele Pezzatini. (2012). Social and automatic annotation of videos for semantic profiling and content discovery. In Proceedings of the 20th ACM international conference on Multimedia (MM '12). ACM, New York, NY, USA, 1349–1350. DOI:http://dx.doi. org/10.1145/2393347.2396478.
- Marco Bertini, Alberto Del Bimbo, Andrea Ferracani, and Daniele Pezzatini. (2012). A social network for video annotation and discovery based on semantic profiling. In Proceedings of the 21st International Conference on World Wide Web (WWW '12 Companion). ACM, New York, NY, USA, 317–320. DOI:http://dx.doi.org/10.1145/2187980.2188038.

- 59. Lamberto Ballan, Marco Bertini, Alberto Del Bimbo, and Giuseppe Serra. (2011). Enriching and localizing semantic tags in internet videos. In Proceedings of the 19th ACM international conference on Multimedia (MM '11). ACM, New York, NY, USA, 1541–1544. DOI:http://dx.doi.org/10.1145/2072298.2072060.
- Teun Lucassen and Jan Maarten Schraagen. (2010). Trust in wikipedia: how users trust information from an unknown source. In Proceedings of the 4th workshop on Information credibility (WICOW '10). ACM, New York, NY, USA, 19–26. DOI:http://dx.doi.org/10.1145/1772938.1772944.
- 61. Reed H. Harder, Alfredo Velasco, Michael Evans, Chuankai An, and Daniel Rockmore. (2017). Wikipedia Verification Check: A Chrome Browser Extension. In Proceedings of the 26th International Conference on World Wide Web Companion (WWW '17 Companion). International World Wide Web Conferences Steering Committee, Republic and Canton of Geneva, Switzerland, 1619–1625. DOI:https://doi. org/10.1145/3041021.3053364.
- 62. Heather Ford, Shilad Sen, David R. Musicant, and Nathaniel Miller. (2013). Getting to the source: where does Wikipedia get its information from? In Proceedings of the 9th International Symposium on Open Collaboration (WikiSym '13). ACM, New York, NY, USA, Article 9, 10 pages. DOI:http://dx.doi.org/10.1145/2491055.2491064.
- 63. Andrea Forte, Judd Antin, Shaowen Bardzell, Leigh Honeywell, John Riedl, and Sarah Stierch. (2012). Some of all human knowledge: gender and participation in peer production. In Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work Companion (CSCW '12). ACM, New York, NY, USA, 33–36. DOI:http://dx.doi.org/10.1145/2141512.2141530.
- Paolo Massa. (2011). Social networks of Wikipedia. In Proceedings of the 22nd ACM conference on Hypertext and hypermedia (HT '11). ACM, New York, NY, USA, 221–230. DOI:http://dx.doi. org/10.1145/1995966.1995996.
- 65. Huan-Bo Luan, Shi-Yong Neo, Tat-Seng Chua, Yan-Tao Zheng, Sheng Tang, Yong-Dong Zhang, and Jin-Tao Li. (2007). Active learning approach to interactive spatio-temporal news video retrieval. In Proceedings of the 6th ACM international conference on Image and video retrieval (CIVR '07). ACM, New York, NY, USA, 651–651. DOI:http://dx.doi.org/10.1145/1282280.1282378; Simon Tong and Edward Chang. (2001). Support vector machine active learning for image retrieval. In Proceedings of the ninth ACM international conference on Multimedia (MULTIMEDIA '01). ACM, New York, NY, USA, 107–118. DOI:https://doi.org/10.1145/500141.500159;

Parisa Rashidi and Diane J. Cook. (2011). Ask me better questions: active learning queries based on rule induction. In Proceedings of the 17th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD '11). ACM, New York, NY, USA, 904-912. DOI:http://dx.doi.org/10.1145/2020408.2020559; Mustafa Bilgic and Paul N. Bennett. (2012). Active query selection for learning rankers. In Proceedings of the 35th international ACM SIGIR conference on Research and development in information retrieval (SIGIR '12). ACM, New York, NY, USA, 1033–1034. DOI:http://dx.doi. org/10.1145/2348283.2348455; Georges M. Quénot. (2007). Active learning for multimedia. In Proceedings of the 15th ACM international conference on Multimedia (MM '07). ACM, New York, NY, USA, 3-3. DOI:http://dx.doi.org/10.1145/1291233.1291236; Justin Jian Zhang and Pascale Fung. (2009). Active learning of extractive reference summaries for lecture speech summarization. In Proceedings of the 2nd Workshop on Building and Using Comparable Corpora: from Parallel to Non-parallel Corpora (BUCC '09). Association for Computational Linguistics, Stroudsburg, PA, USA, 23-26.

- Charles X. Ling and Jun Du. (2008). Active learning with direct query construction. In Proceedings of the 14th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD '08). ACM, New York, NY, USA, 480–487. DOI:https://doi.org/10.1145/1401890.1401950.
- Brian E. Carpenter, IP Addresses Considered Harmful, 1–7 (Nov. 11, 2013), https://www.cs.auckland.ac.nz/~brian/IPAddressesConsideredHarmful.pdf.
- 68. Zhe Zhao et al., Improving User Topic Interest Profiles by Behavior Factorization, WWW'15 1406, 1406–1016 (2015).
- Shicheng Xu et al., Incremental Multimodal Query Construction for Video Search, ICMR'15 675, 675–678 (2015); Shoou-I Yu et al., Content-Based Video Search Over 1 Million Videos with 1 Core in 1 Second, ICMR'15 419, 419–426 (2015); Xian-Sheng Hua & Guo-Jun Qi, Online Multi-Label Active Annotation: Towards Large-Scale Multimedia Annotation, MM'08 141, 141–50 (2008); Lu Jiang, Web-Scale Multimedia Search for Internet Video Content, WSDM'16 311, 311–315 (2016).
- 70. See generally F. Esposito et al., *Evaluation and Validation of Two Approaches to User Profiling*, DPT. OF INFO., U. OF BARI (machine-automated user profiling systems may be adopted to process the ever-growing mass of Internet data).
- 71. See infra p. 56 (briefly, methods for determining these regions could include mapping by existing national boundaries, adopting recommendations of internet domain experts, and using computer programs to map regions based on content requests).

- 72. See infra p. 58 (for example, a similar simultaneous boost in popularity between 2 or more videos may indicate they contain the same type of material).
- 73. Sutjipto Arifin and Peter Y. K. Cheung. (2007). A computation method for video segmentation utilizing the pleasure-arousal-dominance emotional information. In Proceedings of the 15th ACM international conference on Multimedia (MM '07). ACM, New York, NY, USA, 68-77. DOI:http://dx.doi.org/10.1145/1291233.1291251; Xiaoyin Che. Haojin Yang, and Christoph Meinel. (2013). Lecture video segmentation by automatically analyzing the synchronized slides. In Proceedings of the 21st ACM international conference on Multimedia (MM '13). ACM, New York, NY, USA, 345-348. DOI:http://dx.doi. org/10.1145/2502081.2508115; Hyun Ji Jeong, Tak-Eun Kim, and Myoung Ho Kim. (2012). An accurate lecture video segmentation method by using sift and adaptive threshold. In Proceedings of the 10th International Conference on Advances in Mobile Computing & Multimedia (MoMM '12), Ismail Khalil (Ed.). ACM, New York, NY, USA, 285–288. DOI:http://dx.doi.org/10.1145/2428955.2429011; Jakub Vojvoda and Vítězslav Beran. (2016). Feature extraction for efficient image and video segmentation. In Proceedings of the 32nd Spring Conference on Computer Graphics (SCCG '16). ACM, New York, NY, USA, 75-80. DOI:https://doi.org/10.1145/2948628.2948631.
- 74. See Xu, supra note 446 (a search system incorporating multiple search iterations is likely to catch videos that otherwise may have been considered irrelevant).
- 75. See Alan Marcus & Alex Wong, Internet for All: A Framework for Accelerating Internet Access and Adoption, WORLD ECONOMIC FORUM, 4–5 (2016), http://www3.weforum.org/docs/WEF_Internet_for_All_ Framework_Accelerating_Internet_Access_Adoption_report_2016.pdf (over 55% of the world's population does not have Internet access).
- 76. See Pavel Berkhin, *Survey of Clustering Data Mining Techniques*, ACCRUE SOFTWARE, INC. 18 (density-based partitioning may be adopted to compensate for variations in cluster densities and boundaries).
- 77. Id. at 6-7.
- 78. See id. at 12–13 (probabilistic clustering can enhance the interpretability of cluster models).
- 79. See Dana Lahat et al., Multimodal Data Fusion: An Overview of Methods, Challenges and Prospects, HAL ARCHIVES-OURVERTES. FR, 1–2 (July 23, 2015), https://hal.archives-ouvertes.fr/hal-01179853 (multimodality data, or "data fusion," is the analysis of several datasets gathered by different sources on the same issue that interact with and inform one another).

- 80. See S.R. Subramanya & Byung Yi, A Model for Mobile Entertainment Content Consumption, PROC. OF THE 2006 ACM SIGCHI INT'L CONF. ON ADVANCES IN COMPUTER ENT. TECH., Art. 106 (2006) (interactivity, sharing links, locating content, and making payments are all examples of content manipulation within content request and consumption behaviors).
- 81. See Kyumin Lee et al., *Content-Driven Detection of Campaigns in Social Media*, PROC. OF THE 20TH ACM INT'L CONF. ON INFO. AND KNOWLEDGE MGMT. (2011) (elaborating on loose, strict, and cohesive campaign extraction methods).
- 82. See Ludovico Boratto & Salvatore Carta, Modeling the Preferences of a Group of Users Detected by Clustering: A Group Recommendation Case-Study, WIMS PROC. OF THE 4TH INT'L CONF. ON WEB INTELLIGENCE, MINING AND SEMANTICS, Art. 16 (2014) (a clustering approach may be used to track users based on individual search preferences).
- 83. See id. (evaluating the strengths and weaknesses of 11 clustering techniques); Xin Wang et al., *HGMF: Hierarchical Group Matrix Factorization for Collaborative Recommendation*, PROC. OF THE 23RD ACM INT'L CONF. ON INFORMATION AND KNOWLEDGE MGMT. 769, 769 (2014).
- 84. Yongzheng Zhang & Marco Pennacchiotti, *Recommending Branded Products from Social Media*, PROC. OF THE 7TH ACM CONF. ON RECOMMENDER SYSTEMS 77, 77 (2012).
- 85. See Neal Lathia, Using Ratings to Profile Your Health, PROC. OF THE SIXTH ACM CONF. ON RECOMMENDER SYSTEMS (2012) (a mobile phone application was developed to rate and tag bowel movements in order to deliver personalized health information).
- 86. See Cheng Zeng et al., *Context-Aware Social Media Recommendation Based on Potential Group*, PROC. OF THE 1ST INT'L WORKSHOP ON CONTEXT DISCOVERY AND DATA MINING (2012) (semantic models can be constructed from media objects, as well as from information surrounding those topics, such as tags and descriptions).
- 87. Vijay K. Rohatgi. (2003). Statistical Inference. Dover Publications, Incorporated; Paul H. Garthwaite, Ian I. Jolliffe, and Byron Jones. (1996). Statistical Inference. Prentice Hall International (UK) Ltd., Hertfordshire, UK, UK; (1986). Foundations of Statistical Inference. Ian B MacNeill, Gary J Umphrey, M Safiul Haq, William L Harper, and Serge B Provost (Eds.). Kluwer Academic Publishers, Norwell, MA, USA; J Kiefer. (1986). Lectures on Statistical Inference. G Lorden (Ed.). Springer-Verlag New York, Inc., New York, NY, USA; B. L. S. Prakasa Rao. (1987). Asymptotic Theory of Statistical Inference. John Wiley & Sons, Inc., New York, NY, USA; Michael J. Panik. (2012). Statistical Inference: A Short Course (1st ed.). Wiley Publishing;

(1989). Statistical Inference for Spatial Processes. B. D. Ripley (Ed.). Cambridge University Press, New York, NY, USA; David V Huntsberger. (1986). Elements of Statistical Inference (6th Ed.). Allyn & Bacon, Inc., Needham Heights, MA, USA.

- 88. Jonathan Llyle Lustgarten. (2009). A Bayesian Rule Generation Framework for 'Omic' Biomedical Data Analysis. Ph.D. Dissertation. University of Pittsburgh, Pittsburgh, PA, USA. Advisor(s) Vanathi Gopalakrishnan. AAI3375309; Xie Meiping. (2009). Application of Bayesian Rules Based on Improved K-Means Cassification on Credit Card. In Proceedings of the 2009 International Conference on Web Information Systems and Mining (WISM '09). IEEE Computer Society, Washington, DC, USA, 13-16. DOI:http://dx.doi.org/10.1109/ WISM.2009.11; Vanathi Gopalakrishnan, Jonathan L. Lustgarten, Shyam Visweswaran, and Gregory F. Cooper. (2010). Bayesian rule learning for biomedical data mining. Bioinformatics 26, 5 (March 2010), 668–675. DOI:http://dx.doi.org/10.1093/bioinformatics/ btq005; Zijian Zheng and Geoffrey I. Webb. (2000). Lazy Learning of Bayesian Rules. Mach. Learn. 41, 1 (October 2000), 53-84. DOI:http://dx.doi.org/10.1023/A:1007613203719; Zhipeng Xie. 2008. LBR-Meta: an efficient algorithm for lazy Bayesian rules. In Proceedings of the 7th Australasian Data Mining Conference-Volume 87 (AusDM '08), John F. Roddick, Jiuyong Li, Peter Christen, and Paul J. Kennedy (Eds.), Vol. 87. Australian Computer Society, Inc., Darlinghurst, Australia, Australia, 33-39; Nooshin Jafari Fesharaki and Hossein Pourghassem. (2012). Medical X-ray Images Classification Based on Shape Features and Bayesian Rule. In Proceedings of the 2012 Fourth International Conference on Computational Intelligence and Communication Networks (CICN '12). IEEE Computer Society, Washington, DC, USA, 369-373. DOI:http://dx.doi.org/10.1109/ CICN.2012.145; Zijian Zheng, Geoffrey I. Webb, and Kai Ming Ting. (1999). Lazy Bayesian Rules: A Lazy Semi-Naive Bayesian Learning Technique Competitive to Boosting Decision Trees. In Proceedings of the Sixteenth International Conference on Machine Learning (ICML '99), Ivan Bratko and Saso Dzeroski (Eds.). Morgan Kaufmann Publishers Inc., San Francisco, CA, USA, 493–502.
- Sunil Aryal, Kai Ming Ting, and Gholamreza Haffari. (2016). Revisiting Attribute Independence Assumption in Probabilistic Unsupervised Anomaly Detection. In Proceedings of the 11th Pacific Asia Workshop on Intelligence and Security Informatics—Volume 9650, Michael Chau, G. Alan Wang, and Hsinchun Chen (Eds.), Vol. 9650. Springer-Verlag New York, Inc., New York, NY, USA, 73–86. DOI:http://dx.doi. org/10.1007/978-3-319-31863-9_6; Gerlof Bouma. (2010). Collocation

extraction beyond the independence assumption. In Proceedings of the ACL 2010 Conference Short Papers (ACLShort '10). Association for Computational Linguistics, Stroudsburg, PA, USA, 109–114; Tao Li, Shenghuo Zhu, Mitsunori Ogihara, and Yinhe Cheng. (2002). Estimating Joint Probabilities from Marginal Ones. In Proceedings of the 4th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2000), Yahiko Kambayashi, Werner Winiwarter, and Masatoshi Arikawa (Eds.). Springer-Verlag, London, UK, UK, 31–41; Derek Bunn and Ian Topping. (1984). Efficiency of the independence assumption in the combination of forecasts. Oper. Res. Lett. 3, 4 (October 1984), 173–178. DOI:10.1016/0167-6377(84)90022-1; http://dx.doi.org/10.1016/0167-6377(84)90022-1.

90. Guiraude Lame. (2004). Using NLP Techniques to Identify Legal Ontology Components: Concepts and Relations. Artif. Intell. Law 12, 4 (December 2004), 379–396. DOI:http://dx.doi.org/10.1007/ s10506-005-4160-3; Maricela Bravo, Azucena Montes, and Alejandro Reves. (2008). Natural Language Processing Techniques for the Extraction of Semantic Information in Web Services. In Proceedings of the 2008 Seventh Mexican International Conference on Artificial Intelligence (MICAI '08). IEEE Computer Society, Washington, DC, DOI:http://dx.doi.org/10.1109/MICAI.2008.50; USA. 53-57. Umut Topkara. (2007). Information Security Applications of Natural Language Processing Techniques. Ph.D. Dissertation. Purdue University, West Lafayette, IN, USA. Advisor(s) Mikhail J. Atallah. AAI3291063; Alaa Hussainalsaid, Bahram Zahir Azami, and Abdolreza Abhari. (2015). Automatic classification of the emotional content of URL documents using NLP algorithms. In Proceedings of the 18th Symposium on Communications & Networking (CNS (15). Society for Computer Simulation International, San Diego, CA, USA, 56-59; Young Hwan Cho and Kong Joo Lee. (2006). Automatic Affect Recognition Using Natural Language Processing Techniques and Manually Built Affect Lexicon. IEICE-Trans. Inf. Syst. E89-D, 12 (December 2006), 2964–2971. DOI:http://dx.doi. org/10.1093/ietisy/e89-d.12.2964; Neil Barrett. (2012). Natural Language Processing Techniques for the Purpose of Sentinel Event Information Extraction. Ph.D. Dissertation. University of Victoria, Victoria, B.C., Canada, Canada. Advisor(s) Jens H. Weber-Jahnke and Francis Lau. AAINR94693; Natural Language Processing Group. 2000. Tools for large-scale parser development. In Proceedings of the COLING-2000 Workshop on Efficiency In Large-Scale Parsing Systems. Association for Computational Linguistics, Stroudsburg, PA, USA, 54-54; Alessio Paolucci. (2009). Research Summary: Intelligent

Natural Language Processing Techniques and Tools. In Proceedings of the 25th International Conference on Logic Programming (ICLP '09), Patricia M. Hill and David S. Warren (Eds.). Springer-Verlag, Berlin, Heidelberg, 536-537. DOI:http://dx.doi.org/10.1007/978-3-642-02846-5_52; Davide Falessi, Giovanni Cantone, and Gerardo Canfora. (2013). Empirical Principles and an Industrial Case Study in Retrieving Equivalent Requirements via Natural Language Processing Techniques. IEEE Trans. Softw. Eng. 39, 1 (January 2013), 18-44. DOI:http:// dx.doi.org/10.1109/TSE.2011.122; Laura K. Allen, Erica L. Snow, and Danielle S. McNamara. (2015). Are you reading my mind? modeling students' reading comprehension skills with natural language processing techniques. In Proceedings of the Fifth International Conference on Learning Analytics And Knowledge (LAK '15). ACM, New York, NY, USA, 246-254. DOI:10.1145/2723576.2723617; http://doi.acm.org/10.1145/2723576.2723617; Elisabeth Métais. (2002). Enhancing information systems management with natural language processing techniques. Data Knowl. Eng. 41, 2-3 (June 2002), 247–272. DOI:http://dx.doi.org/10.1016/S0169-023X(02)00043-5.

- 91. V.S. Subrahmanian. (2013). Handbook of Computational Approaches to Counterterrorism. Springer Publishing Company, Incorporated.
- 92. Yassine Benajiba and Imed Zitouni. (2009). Morphology-Based Segmentation Combination for Arabic Mention Detection. 8. 4, Article 16 (December 2009), 18 pages. DOI:http://dx.doi. org/10.1145/1644879.1644883; Inad Aljarrah, Osama Al-Khaleel, Khaldoon Mhaidat, Mu'ath Alrefai, Abdullah Alzu'bi, and Mohammad Rabab'ah. (2012). Automated system for Arabic optical character recognition. In Proceedings of the 3rd International Conference on Information and Communication Systems (ICICS '12). ACM, New York, NY, USA, Article 5, 6 pages. DOI:http://dx.doi.org/10.1145/2222444.2222449; Anas El Isbihani, Shahram Khadivi, Oliver Bender, and Hermann Ney. (2006). Morpho-syntactic Arabic preprocessing for Arabic-to-English statistical machine translation. In Proceedings of the Workshop on Statistical Machine Translation (StatMT '06). Association for Computational Linguistics, Stroudsburg, PA, USA, 15-22; Emad Mohamed and Sandra Kübler. (2010). Is Arabic part of speech tagging feasible without word segmentation?. In Human Language Technologies: The 2010 Annual Conference of the North American Chapter of the Association for Computational Linguistics (HLT '10). Association for Computational Linguistics, Stroudsburg, PA, USA, 705-708; Mona T. Diab. (2004). An unsupervised approach for bootstrapping Arabic sense tagging. In Proceedings of the Workshop on Computational Approaches to Arabic Script-based Languages (Semitic '04). Association for Computational Linguistics, Stroudsburg, PA, USA, 43-50.

93. Kareem Darwish and Walid Magdy. (2014). Arabic Information Retrieval. Found. Trends Inf. Retr. 7, 4 (February 2014), 239-342. DOI:http://dx.doi.org/10.1561/150000031; Jannik Strötgen, Ayser Armiti, Tran Van Canh, Julian Zell, and Michael Gertz. (2014). Time for More Languages: Temporal Tagging of Arabic, Italian, Spanish, and Vietnamese. 13, 1, Article 1 (February 2014), 21 pages. DOI:http://dx.doi.org/10.1145/2540989; Haifa K. Aldavel and Aqil M. Azmi. (2016). Arabic tweets sentiment analysis-a hybrid scheme. J. Inf. Sci. 42, 6 (December 2016), 782-797. DOI:https://doi. org/10.1177/0165551515610513; Belal Abuata and Asma Al-Omari. (2015). A rule-based stemmer for Arabic Gulf dialect. J. King Saud Univ. Comput. Inf. Sci. 27, 2 (April 2015), 104–112. DOI:http://dx.doi. org/10.1016/j.jksuci.2014.04.003; Aqil M. Azmi and Eman A. Aljafari. (2015). Modern information retrieval in Arabic-catering to standard and colloquial Arabic users. J. Inf. Sci. 41, 4 (August 2015), 506-517. DOI:http://dx.doi.org/10.1177/0165551515585720; Aqil M. Azmi and Suha Al-Thanyyan. (2012). A text summarizer for Arabic. Comput. Speech Lang. 26, 4 (August 2012), 260–273. DOI:http://dx.doi. org/10.1016/j.csl.2012.01.002; Aqil M. Azmi and Samah M. Alzanin. (2014). Aara'- a system for mining the polarity of Saudi public opinion through e-newspaper comments. J. Inf. Sci. 40, 3 (June 2014), 398-410. DOI:http://dx.doi.org/10.1177/0165551514524675; Mounir Zrigui, Emna Hkiri, and Souheyl Mallat. (2016). Events Automatic Extraction from Arabic Texts. Int. J. Inf. Retr. Res. 6, 1 (January 2016), 36–51. DOI:http://dx.doi.org/10.4018/IJIRR.2016010103; Khaireddine Bacha, Mohamed Jemni, and Mounir Zrigui. (2016). Towards a Learning System Based on Arabic NLP Tools. Int. J. Inf. Retr. Res. 6, 4 (October 2016), 1–15. DOI:http://dx.doi.org/10.4018/ IJIRR.2016100101; Vito Pirrelli, Ouafae Nahli, Federico Boschetti, Riccardo Del Gratta, and Claudia Marzi. (2014). Computational Linguistics and Language Physiology: Insights from Arabic NLP and Cooperative Editing. In Proceedings of the Third AIUCD Annual Conference on Humanities and Their Methods in the Digital Ecosystem (AIUCD '14), Francesca Tomasi, Roberto Rosselli Del Turco, and Anna Maria Tammaro (Eds.). ACM, New York, NY, USA, Article 12, 8 pages. DOI:http://dx.doi.org/10.1145/2802612.2802637; Emad Al-Shawakfa, Amer Al-Badarneh, Safwan Shatnawi, Khaleel Al-Rabab'ah, and Basel Bani-Ismail. (2010). A comparison study of some Arabic root finding algorithms. J. Am. Soc. Inf. Sci. Technol. 61, 5 (May 2010), 1015–1024. DOI:http://dx.doi.org/10.1002/asi.v61:5; Bassam Hammo, Nadim Obeid, and Israa Huzayyen. (2016). ViStA: a visualization system for exploring Arabic text. Int. J. Speech Technol.

19, 2 (June 2016), 237–247. DOI:http://dx.doi.org/10.1007/ s10772-015-9286-4; Yuval Marton, Nizar Habash, and Owen Rambow. (2011). Improving Arabic dependency parsing with form-based and functional morphological features. In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies—Volume 1 (HLT '11), Vol. 1. Association for Computational Linguistics, Stroudsburg, PA, USA, 1586–1596.

- 94. Quick Easy Guides. (2008). How to Use RSS Feeds on Mac OS X. Quick Easy Guides, Glenside, Wellington, New Zealand, New Zealand; Athina Bikaki and Andreas Floros. (2011). An RSS-feed auditory aggregator using earcons. In Proceedings of the 6th Audio Mostly Conference: A Conference on Interaction with Sound (AM '11). ACM, New York, NY, USA, 95–100. DOI:http://dx.doi. org/10.1145/2095667.2095681; Hao Han and Takehiro Tokuda. (2009). A Layout-Independent Web News Article Contents Extraction Method Based on Relevance Analysis. In Proceedings of the 9th International Conference on Web Engineering (ICWE '9), Martin Gaedke, Michael Grossniklaus, and Oscar Díaz (Eds.). Springer-Verlag, Berlin, Heidelberg, 453–460. DOI:http://dx.doi.org/10.1007/978-3-642-02818-2_37; Ellen Finkelstein. (2005). Syndicating Web Sites with RSS Feeds for Dummies (For Dummies (Business & Personal Finance)). For Dummies; Hao Han, Tomoya Noro, and Takehiro Tokuda. (2009). An automatic web news article contents extraction system based on RSS feeds. J. Web Eng. 8, 3 (September 2009), 268–284.
- 95. Thomas M. Mitchell. (1997). Machine Learning (1 ed.). McGraw-Hill, Inc., New York, NY, USA; Kevin P. Murphy. (2012). Machine Learning: A Probabilistic Perspective. The MIT Press; Christopher M. Bishop. (2006). Pattern Recognition and Machine Learning (Information Science and Statistics). Springer-Verlag New York, Inc., Secaucus, NJ, USA.
- 96. Mike James. (1985). Classification Algorithms. Wiley-Interscience, New York, NY, USA; Charu C. Aggarwal. (2014). Data Classification: Algorithms and Applications (1st ed.). Chapman & Hall/CRC; Susan Laflin. (2014). Computer Methods of Classification. Lulu.com; Lior Rokach. (2010). Pattern Classification Using Ensemble Methods. World Scientific Publishing Co., Inc., River Edge, NJ, USA; Andrzej Skowron, Hui Wang, Arkadiusz Wojna, and Jan Bazan. (2006). Multimodal classification: case studies. In Transactions on Rough Sets V, James F. Peters and Andrzej Skowron (Eds.). Springer-Verlag, Berlin, Heidelberg 224–239; Rafal Scherer. (2014). Multiple Fuzzy Classification Systems. Springer Publishing Company, Incorporated; Adriano Veloso and Wagner Meira, Jr. (2011). Demand-Driven Associative Classification (1st ed.). Springer Publishing Company, Incorporated; (2006).

Data Mining Methods and Models. John Wiley & Sons; Rafa Scherer. (2012). Multiple Fuzzy Classification Systems. Springer Publishing Company, Incorporated; Shigeo Abe. (2001). Pattern Classification: Neuro-Fuzzy Methods and their Comparison. Springer-Verlag New York, Inc., Secaucus, NJ, USA; Hans-Hermann Bock. (2002). Data mining tasks and methods: Classification: classification methodology. In Handbook of data mining and knowledge discovery, Willi Klösgen and Jan M. Zytkow (Eds.). Oxford University Press, Inc., New York, NY, USA 258–267; Salvatore Greco, Benedetto Matarazzo, and Roman Slowinski. (2002). Data mining tasks and methods: Classification: multicriteria classification. In Handbook of data mining and knowledge discovery, Willi Klösgen and Jan M. Zytkow (Eds.). Oxford University Press, Inc., New York, NY, USA 318-328; Nir Friedman and Ronny Kohavi. (2002). Data mining tasks and methods: Classification: Bayesian classification. In Handbook of data mining and knowledge discovery, Willi Klösgen and Jan M. Zytkow (Eds.). Oxford University Press, Inc., New York, NY, USA 282–288.

97. Zhenqiu Liu. (2002). Intelligent Data Mining Using Kernel Functions and Information Criteria. Ph.D. Dissertation. The University of Tennessee. AAI3062315; Maria-Florina Balcan, Avrim Blum, and Nathan Srebro. (2008). A theory of learning with similarity functions. Mach. Learn. 72, 1-2 (August 2008), 89-112. DOI:http:// dx.doi.org/10.1007/s10994-008-5059-5; LluíS A. Belanche and Alessandra Tosi. (2013). Averaging of kernel functions. Neurocomput. 112 (July 2013), 19–25. DOI:http://dx.doi.org/10.1016/j.neucom.2012.11.044; Cynthia Wagner and Thomas Engel. (2012). Detecting anomalies in netflow record time series by using a kernel function. In Proceedings of the 6th IFIP WG 6.6 international autonomous infrastructure, management, and security conference on Dependable Networks and Services (AIMS'12), Ramin Sadre, Jiří Novotný, Pavel Čeleda, Martin Waldburger, and Burkhard Stiller (Eds.). Springer-Verlag, Berlin, Heidelberg, 122-125. DOI:http:// dx.doi.org/10.1007/978-3-642-30633-4_16; Laurence A.F. Park and Kotagiri Ramamohanarao. (2009). Kernel latent semantic analysis using an information retrieval based kernel. In Proceedings of the 18th ACM conference on Information and knowledge management (CIKM '09). ACM, New York, NY, USA, 1721–1724. DOI:http://dx.doi. org/10.1145/1645953.1646214; Huazhu Song, Zichun Ding, Cuicui Guo, Zhe Li, and Hongxia Xia. (2008). Research on Combination Kernel Function of Support Vector Machine. In Proceedings of the 2008 International Conference on Computer Science and Software Engineering-Volume 01 (CSSE '08), Vol. 1. IEEE Computer Society, Washington, DC, USA, 838-841. DOI:http://dx.doi.org/10.1109/ CSSE.2008.1231; Daniel Lückehe and Oliver Kramer. (2014). A variable kernel function for hybrid unsupervised kernel regression. In Proceedings of the Companion Publication of the 2014 Annual Conference on Genetic and Evolutionary Computation (GECCO Comp '14). ACM, New York, NY, USA, 77-78. DOI:http://dx.doi. org/10.1145/2598394.2598459; Vikram Chandramohan and Tuan D. Pham. (2008). Cancer classification using kernelized fuzzy C-means. In Proceedings of the 9th WSEAS International Conference on Fuzzy Systems (FS'08), Dimitar P. Dimitrov, Valeri Mladenov, Snejana Jordanova, and Nikos Mastorakis (Eds.). World Scientific and Engineering Academy and Society (WSEAS), Stevens Point, Wisconsin, USA, 90-99; Yuchi Kanzawa, Yasunori Endo, and Sadaaki Miyamoto. (2008). Fuzzy c-Means Algorithms for Data with Tolerance Using Kernel Functions. IEICE Trans. Fundam. Electron. Commun. Comput. Sci. E91-A, 9 (September 2008), 2520–2534. DOI:http://dx.doi. org/10.1093/ietfec/e91-a.9.2520; Aharon Ben-Tal, Sahely Bhadra, Chiranjib Bhattacharyya, and Arkadi Nemirovski. (2012). Efficient methods for robust classification under uncertainty in kernel matrices. J. Mach. Learn. Res. 13, 1 (October 2012), 2923–2954.

- 98. Stavros Arestis-Chartampilas, Nikolaos Gkalelis, and Vasileios Mezaris. (2016). AKSDA-MSVM: A GPU-accelerated Multiclass Learning Framework for Multimedia. In Proceedings of the 2016 ACM on Multimedia Conference (MM '16). ACM, New York, NY, USA, 461–465. DOI:https://doi.org/10.1145/2964284.2967263; Linjun Yang, Jiemin Liu, Xiaokang Yang, and Xian-Sheng Hua. (2007). Multi-modality web video categorization. In Proceedings of the international workshop on Workshop on multimedia information retrieval (MIR '07). ACM, New York, NY, USA, 265–274. DOI:http://dx.doi.org/10.1145/1290082.1290119.
- 99. Olivier Temam. (2010). The rebirth of neural networks. In Proceedings of the 37th annual international symposium on Computer architecture (ISCA '10). ACM, New York, NY, USA, 349–349. DOI:http://dx.doi.org/10.1145/1815961.1816008; Ao Ren, Zhe Li, Caiwen Ding, Qinru Qiu, Yanzhi Wang, Ji Li, Xuehai Qian, and Bo Yuan. (2017). SC-DCNN: Highly-Scalable Deep Convolutional Neural Network using Stochastic Computing. In Proceedings of the Twenty-Second International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '17). ACM, New York, NY, USA, 405–418. DOI:https://doi.org/10.1145/3037697.3037746; David M. Skapura. (1995). Building Neural Networks. ACM Press/Addison-Wesley Publ. Co., New York,

NY, USA; Al Cripps. (1996). Using artificial neural nets to predict academic performance. In Proceedings of the 1996 ACM symposium on Applied Computing (SAC '96), K. M. George, Janice H. Carroll, Dave Oppenheim, and Jim Hightower (Eds.). ACM, New York, NY, DOI:http://dx.doi.org/10.1145/331119.331137; USA, 33-37. Risto Miikkulainen. (2010). Evolving neural networks. In Proceedings of the 12th annual conference companion on Genetic and evolutionary computation (GECCO '10). ACM, New York, NY, USA, DOI:http://dx.doi.org/10.1145/1830761.1830902; 2441 - 2460.Bryn Lewis, Andrew Stranieri, and John Zeleznikow. (1997). Scaling of neural network inferencing by efficient storage and retrieval of outputs. In Proceedings of the 1997 ACM symposium on Applied computing (SAC '97), Barrett Bryant, Janice Carroll, Dave Oppenheim, Jim Hightower, and K. M. George (Eds.). ACM, New York, NY, USA, 10-14. DOI:http://dx.doi.org/10.1145/331697.331701; Sandeep Chakravorty and Amrita Chakrabarti. (2009). Hidden layer optimization of neural network using computational technique. In Proceedings of the International Conference on Advances in Computing, Communication and Control (ICAC3 '09). ACM, New York, NY, USA, 559–561. DOI:http://dx.doi.org/10.1145/1523103.1523214; Daniel A. Jiménez and Calvin Lin. (2002). Neural methods for dynamic branch prediction. ACM Trans. Comput. Syst. 20, 4 (November 2002), 369–397. DOI:http://dx.doi.org/10.1145/571637.571639; M. Borschbach, W.-M. Lippe, C. Mertens, and S. Niendieck. (2003). Analysing MEG-data by a combination of different neural networks. In Proceedings of the First Asia-Pacific bioinformatics conference on Bioinformatics 2003-Volume 19 (APBC '03), Yi-Ping Phoebe Chen (Ed.), Vol. 19. Australian Computer Society, Inc., Darlinghurst, Australia, Australia, 181-188; Hajime Hotta and Masafumi Hagiwara. (2008). A Neural-Network-Based Geographic Tendency Visualization. In Proceedings of the 2008 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology-Volume 01 (WI-IAT '08), Vol. 1. IEEE Computer Society, Washington, DC, USA, 817-823. DOI:http://dx.doi.org/10.1109/ WIIAT.2008.141; Martin C. Carlisle and Leemon C. Baird III. (2007). Timing neural networks in C and ada. In Proceedings of the 2007 ACM international conference on SIGAda annual international conference (SIGAda '07). ACM, New York, NY, USA, 71–74. DOI:http://dx.doi. org/10.1145/1315580.1315598.

100. Jun Zhu, Ning Chen, and Eric P. Xing. (2014). Bayesian inference with posterior regularization and applications to infinite latent SVMs. J. Mach. Learn. Res. 15, 1 (January 2014), 1799–1847; He Yan, Xueliang Liu, and Richang Hong. (2016). Image Classification via

fusing the latent deep CNN feature. In Proceedings of the International Conference on Internet Multimedia Computing and Service (ICIMCS'16). ACM, New York, NY, USA, 110-113. DOI:https:// doi.org/10.1145/3007669.3007706; Keivan Kianmehr, Shang Gao, Jawad Attari, M. Mushfiqur Rahman, Kofi Akomeah, Reda Alhajj, Jon Rokne, and Ken Barker. (2009). Text summarization techniques: SVM versus neural networks. In Proceedings of the 11th International Conference on Information Integration and Web-based Applications & Services (iiWAS '09). ACM, New York, NY, USA, 487-491. DOI:http://dx.doi.org/10.1145/1806338.1806429; Yang Yang, Jie Tang, Jacklyne Keomany, Yanting Zhao, Juanzi Li, Ying Ding, Tian Li, and Liangwei Wang. (2012). Mining competitive relationships by learning across heterogeneous networks. In Proceedings of the 21st ACM international conference on Information and knowledge management (CIKM '12). ACM, New York, NY, USA, 1432-1441. DOI:http:// dx.doi.org/10.1145/2396761.2398449.

- 101. John P. Scott and Peter J. Carrington. (2011). The SAGE Handbook of Social Network Analysis. Sage Publications Ltd.; Mohsen Jamali and Hassan Abolhassani. (2006). Different Aspects of Social Network Analysis. In Proceedings of the 2006 IEEE/WIC/ACM International Conference on Web Intelligence (WI '06). IEEE Computer Society, Washington, DC, USA, 66–72. DOI:http://dx.doi.org/10.1109/ WI.2006.61; Christina Prell. (2011). Social Network Analysis: History, Theory and Methodology. Sage Publications Ltd.
- 102. Yu Wang, Gao Cong, Guojie Song, and Kunging Xie. (2010). Communitybased greedy algorithm for mining top-K influential nodes in mobile social networks. In Proceedings of the 16th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD (10). ACM, New York, NY, USA, 1039–1048. DOI:http://dx.doi. org/10.1145/1835804.1835935; Jonathan Herzig, Yosi Mass, and Haggai Roitman. (2014). An author-reader influence model for detecting topic-based influencers in social media. In Proceedings of the 25th ACM conference on Hypertext and social media (HT '14). ACM, New York, NY, USA, 46–55. DOI:http://dx.doi. org/10.1145/2631775.2631804; Mahantesh Halappanavar, Arun V. Sathanur, and Apurba K. Nandi. (2016). Accelerating the mining of influential nodes in complex networks through community detection. In Proceedings of the ACM International Conference on Computing Frontiers (CF '16). ACM, New York, NY, USA, 64-71. DOI:https:// doi.org/10.1145/2903150.2903181; Yi-Cheng Chen, Wen-Yuan Zhu, Wen-Chih Peng, Wang-Chien Lee, and Suh-Yin Lee. (2014). CIM: Community-Based Influence Maximization in Social Networks.

ACM Trans. Intell. Syst. Technol. 5, 2, Article 25 (April 2014), 31 pages. DOI:https://doi.org/10.1145/2532549; Shodai Mihara, Sho Tsugawa, and Hiroyuki Ohsaki. (2015). Influence Maximization Problem for Unknown Social Networks. In Proceedings of the 2015 IEEE/ ACM International Conference on Advances in Social Networks Analysis and Mining 2015 (ASONAM '15), Jian Pei, Fabrizio Silvestri, and Jie Tang (Eds.). ACM, New York, NY, USA, 1539–1546. DOI:http:// dx.doi.org/10.1145/2808797.2808885; Youze Tang, Xiaokui Xiao, and Yanchen Shi. (2014). Influence maximization: near-optimal time complexity meets practical efficiency. In Proceedings of the 2014 ACM SIGMOD International Conference on Management of Data (SIGMOD '14). ACM, New York, NY, USA, 75-86. DOI:https://doi. org/10.1145/2588555.2593670; Daniel M. Romero, Wojciech Galuba, Sitaram Asur, and Bernardo A. Huberman. (2011). Influence and passivity in social media. In Proceedings of the 20th international conference companion on World wide web (WWW '11). ACM, New York, NY, USA, 113–114. DOI:http://dx.doi.org/10.1145/1963192.1963250; Chonggang Song, Wynne Hsu, and Mong Li Lee. (2016). Targeted Influence Maximization in Social Networks. In Proceedings of the 25th ACM International on Conference on Information and Knowledge Management (CIKM '16). ACM, New York, NY, USA, 1683-1692. DOI:https://doi.org/10.1145/2983323.2983724; Michiel van Dam and Claudia Hauff. (2014). Large-scale author verification: temporal and topical influences. In Proceedings of the 37th international ACM SIGIR conference on Research & development in information retrieval (SIGIR '14). ACM, New York, NY, USA, 1039–1042. DOI:http:// dx.doi.org/10.1145/2600428.2609504; Christopher C. Yang, Xuning Tang, and Bhavani M. Thuraisingham. (2010). An analysis of user influence ranking algorithms on Dark Web forums. In ACM SIGKDD Workshop on Intelligence and Security Informatics (ISI-KDD '10). ACM, New York, NY, USA, Article 10, 7 pages. DOI:https://doi. org/10.1145/1938606.1938616; Jimeng Sun and Jie Tang. (2013). Models and algorithms for social influence analysis. In Proceedings of the sixth ACM international conference on Web search and data mining (WSDM '13). ACM, New York, NY, USA, 775-776. DOI:http:// dx.doi.org/10.1145/2433396.2433497; Nicola Barbieri, Francesco Bonchi, and Giuseppe Manco. (2016). Efficient Methods for Influence-Based Network-Oblivious Community Detection. ACM Trans. Intell. Syst. Technol. 8, 2, Article 32 (December 2016), 31 pages. DOI:https://doi.org/10.1145/2979682; Lu Liu, Jie Tang, Jiawei Han, Meng Jiang, and Shiqiang Yang. (2010). Mining topic-level influence in heterogeneous networks. In Proceedings of the 19th ACM international conference on Information and knowledge management (CIKM '10). ACM, New York, NY, USA, 199-208. DOI:http:// dx.doi.org/10.1145/1871437.1871467; Honglin Sun, Xiaofeng Gao, Guihai Chen, Jian Gu, and Yongjian Wang. (2016). Multiple Influence Maximization in Social Networks. In Proceedings of the 10th International Conference on Ubiquitous Information Management and Communication (IMCOM '16). ACM, New York, NY, USA, Article pages. DOI:http://dx.doi.org/10.1145/2857546.2857591; 44, 8 Yu Yang, Xiangbo Mao, Jian Pei, and Xiaofei He. (2016). Continuous Influence Maximization: What Discounts Should We Offer to Social Network Users?. In Proceedings of the 2016 International Conference on Management of Data (SIGMOD '16). ACM, New York, NY, USA, 727–741. DOI:https://doi.org/10.1145/2882903.2882961; Youze Tang, Yanchen Shi, and Xiaokui Xiao. (2015). Influence Maximization in Near-Linear Time: A Martingale Approach. In Proceedings of the 2015 ACM SIGMOD International Conference on Management of Data (SIGMOD '15). ACM, New York, NY, USA, 1539-1554. DOI:http:// dx.doi.org/10.1145/2723372.2723734; Stefan Rudolph, Sven Tomforde, Bernhard Sick, and Jörg Hähner. (2015). A Mutual Influence Detection Algorithm for Systems with Local Performance Measurement. In Proceedings of the 2015 IEEE 9th International Conference on Self-Adaptive and Self-Organizing Systems (SASO '15). IEEE Computer Society, Washington, DC, USA, 144-149. DOI:http://dx.doi. org/10.1109/SASO.2015.23.

103. Jianxin Li. (2017). Overview of Influence Maximization in Social Media Data Analytics. In Proceedings of the 26th International Conference on World Wide Web Companion (WWW '17 Companion). International World Wide Web Conferences Steering Committee, Republic and Canton of Geneva, Switzerland, 1201-1201. DOI:https://doi. org/10.1145/3041021.3053049; Magdalini Kardara, George Papadakis, Thanos Papaoikonomou, Konstantinos Tserpes, and Theodora Varvarigou.)(2012). Influence patterns in topic communities of social media. In Proceedings of the 2nd International Conference on Web Intelligence, Mining and Semantics (WIMS '12). ACM, New York, NY, USA, Article DOI:https://doi.org/10.1145/2254129.2254144; 10, 12 pages. Na Li and Denis Gillet. (2013). Identifying influential scholars in academic social media platforms. In Proceedings of the 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM '13). ACM, New York, NY, USA, 608-614. DOI:http://dx.doi.org/10.1145/2492517.2492614; Sara Rosenthal and Kathleen Mckeown. (2017). Detecting Influencers in Multiple Online Genres. ACM Trans. Internet Technol. 17, 2, Article 12 (March 2017), 22 pages. DOI:https://doi.org/10.1145/3014164; Peter Hui and Michelle Gregory. (2010). Quantifying sentiment and influence in blog-spaces. In Proceedings of the First Workshop on Social Media Analytics (SOMA '10). ACM, New York, NY, USA, 53–61. DOI:http://dx.doi. org/10.1145/1964858.1964866.

104. A. Gural Vural, B. Barla Cambazoglu, and Pinar Senkul. (2012). Sentiment-focused web crawling. In Proceedings of the 21st ACM international conference on Information and knowledge management (CIKM '12). ACM, New York, NY, USA, 2020-2024. DOI:http:// dx.doi.org/10.1145/2396761.2398564; Xiaowen Ding and Bing Liu. (2007). The utility of linguistic rules in opinion mining. In Proceedings of the 30th annual international ACM SIGIR conference on Research and development in information retrieval (SIGIR '07). ACM, New York, NY, USA, 811-812. DOI:http://dx.doi.org/10.1145/1277741.1277921; Xiaowen Ding, Bing Liu, and Philip S. Yu. (2008). A holistic lexicon-based approach to opinion mining. In Proceedings of the 2008 International Conference on Web Search and Data Mining (WSDM '08). ACM, New York, NY, USA, 231–240. DOI:http://dx.doi. org/10.1145/1341531.1341561; Yue Lu, Malu Castellanos, Umeshwar Daval, and ChengXiang Zhai. (2011). Automatic construction of a context-aware sentiment lexicon: an optimization approach. In Proceedings of the 20th international conference on World wide web (WWW '11). ACM, New York, NY, USA, 347-356. DOI:http://dx.doi. org/10.1145/1963405.1963456; K. M. Anil Kumar and Suresha. (2011). Detection of web users' opinion from multimodal opinion elements. In Proceedings of the Fourth Annual ACM Bangalore Conference (COMPUTE '11). ACM, New York, NY, USA, Article 16, 4 pages. DOI:http://dx.doi.org/10.1145/1980422.1980438; Neil O'Hare, Michael Davy, Adam Bermingham, Paul Ferguson, Páraic Sheridan, Cathal Gurrin, and Alan F. Smeaton. (2009). Topic-dependent sentiment analysis of financial blogs. In Proceedings of the 1st international CIKM workshop on Topic-sentiment analysis for mass opinion (TSA '09). ACM, New York, NY, USA, 9–16. DOI:http://dx.doi.org/10.1145/1651461.1651464; Zaihan Yang, Alexander Kotov, Aravind Mohan, and Shiyong Lu. (2015). Parametric and Non-parametric User-aware Sentiment Topic Models. In Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '15). ACM, New York, NY, USA, 413-422. DOI:http:// dx.doi.org/10.1145/2766462.2767758; Xiaowen Ding, Bing Liu, and Lei Zhang. (2009). Entity discovery and assignment for opinion mining applications. In Proceedings of the 15th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD '09). ACM,

New York, NY, USA, 1125–1134. DOI:10.1145/1557019.1557141; http://doi.acm.org/10.1145/1557019.1557141. Bing Liu. (2012). Sentiment Analysis and Opinion Mining. Morgan & Claypool Publishers; Isa Maks and Piek Vossen. (2012). A lexicon model for deep sentiment analysis and opinion mining applications. Decis. Support Syst. 53, 4 (November 2012), 680–688. DOI:http://dx.doi.org/10.1016/j. dss.2012.05.025; Periakaruppan Sudhakaran, Shanmugasundaram Hariharan, and Joan Lu. (2014). Classifying Product Reviews from Balanced Datasets for Sentiment Analysis and Opinion Mining. In Proceedings of the 2014 6th International Conference on Multimedia, Computer Graphics and Broadcasting (MULGRAB '14). IEEE Computer Society, Washington, DC, USA, 29-34. DOI:http://dx.doi. org/10.1109/MulGraB.2014.14; Luana Bezerra Batista and Sylvie Ratte. (2012). A Multi-Classifier System for Sentiment Analysis and Opinion Mining. In Proceedings of the 2012 International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2012) (ASONAM '12). IEEE Computer Society, Washington, DC, USA, 96–100. DOI:http://dx.doi.org/10.1109/ASONAM.2012.26; Isa Maks and Piek Vossen. (2011). A verb lexicon model for deep sentiment analysis and opinion mining applications. In Proceedings of the 2nd Workshop on Computational Approaches to Subjectivity and Sentiment Analysis (WASSA '11). Association for Computational Linguistics, Stroudsburg, PA, USA, 10-18; Jyoti and Seema Rao. (2016). A Survey on Sentiment Analysis and Opinion Mining. In Proceedings of the International Conference on Advances in Information Communication Technology & Computing (AICTC '16), S. K. Bishnoi, Manoj Kuri, and Vishal Goar (Eds.). ACM, New York, NY, USA, Article 53, 5 pages. DOI:https://doi. org/10.1145/2979779.2979832.

105. Cherry Ahmed and Abeer ElKorany. (2015). Enhancing Link Prediction in Twitter using Semantic User Attributes. In Proceedings of the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining 2015 (ASONAM '15), Jian Pei, Fabrizio Silvestri, and Jie Tang (Eds.). ACM, New York, NY, USA, 1155–1161. DOI:http://dx.doi.org/10.1145/2808797.2810056; Dawei Liu, Yuanna Lv, and Zhihua Yu. (2015). LRP: A Theory of Link Formation in Directed Networks. In Proceedings of the ASE BigData & SocialInformatics 2015 (ASE BD&SI '15). ACM, New York, NY, USA, Article 5, 5 pages. DOI:http://dx.doi. org/10.1145/2818869.2818918; Xin Xia, David Lo, Xinyu Wang, and Bo Zhou. (2014). Build system analysis with link prediction. In Proceedings of the 29th Annual ACM Symposium on Applied Computing (SAC '14). ACM, New York, NY, USA, 1184–1186.

DOI:http://dx.doi.org/10.1145/2554850.2555134; Qingyun Liu, Shiliang Tang, Xinyi Zhang, Xiaohan Zhao, Ben Y. Zhao, and Haitao Zheng. (2016). Network Growth and Link Prediction Through an Empirical Lens. In Proceedings of the 2016 Internet Measurement Conference (IMC '16). ACM, New York, NY, USA, 1-15. DOI:https://doi.org/10.1145/2987443.2987452; Neil Zhenqiang Gong, Ameet Talwalkar, Lester Mackey, Ling Huang, Eui Chul Richard Shin, Emil Stefanov, Elaine (Runting) Shi, and Dawn Song. (2014). Joint Link Prediction and Attribute Inference Using a Social-Attribute Network. ACM Trans. Intell. Syst. Technol. 5, 2, Article 27 (April 2014), 20 pages. DOI:https://doi.org/10.1145/2594455; Feng Xie, Zhen Chen, Jiaxing Shang, Xiaoping Feng, Wenliang Huang, and Jun Li. (2014). A Link Prediction Approach for Item Recommendation with Complex Number. In Proceedings of the 2014 IEEE/WIC/ACM International Joint Conferences on Web Intelligence (WI) and Intelligent Agent Technologies (IAT)-Volume 01 (WI-IAT '14), Vol. 1. IEEE Computer Society, Washington, DC, USA, 205–212. DOI:http://dx.doi.org/10.1109/WI-IAT.2014.35; Hidefumi Ogata and Toyotaro Suzumura. (2014). Towards scalable X10 based link prediction for large scale social networks. In Proceedings of the 23rd International Conference on World Wide Web (WWW '14 Companion). ACM, New York, NY, USA, 1327-DOI:http://dx.doi.org/10.1145/2567948.2580048; Kai-1332. Yang Chiang, Nagarajan Natarajan, Ambuj Tewari, and Inderjit S. Dhillon. (2011). Exploiting longer cycles for link prediction in signed networks. In Proceedings of the 20th ACM international conference on Information and knowledge management (CIKM '11), Bettina Berendt, Arjen de Vries, Wenfei Fan, Craig Macdonald, Iadh Ounis, and Ian Ruthven (Eds.). ACM, New York, NY, USA, 1157-1162. DOI:http://dx.doi.org/10.1145/2063576.2063742; Panagiotis Symeonidis, Eleftherios Tiakas, and Yannis Manolopoulos. (2010). Transitive node similarity for link prediction in social networks with positive and negative links. In Proceedings of the fourth ACM conference on Recommender systems (RecSys '10). ACM, New York, NY, USA, 183–190. DOI:http://dx.doi.org/10.1145/1864708.1864744; A. Chintawar, M. Chatterjee, and A. Vidhate. (2011). AOMDV-APLP: an enhanced algorithm with accessibility and link breakage prediction. In Proceedings of the International Conference & Workshop on Emerging Trends in Technology (ICWET '11). ACM, New York, NY, USA, 841-845. DOI:http://dx.doi.org/10.1145/1980022.1980204; Ye Xu and Dan Rockmore. (2012). Feature selection for link prediction. In Proceedings of the 5th Ph.D. workshop on Information

and knowledge (PIKM '12). ACM, New York, NY, USA, 25-32. DOI:http://dx.doi.org/10.1145/2389686.2389692. Yu Jiankun and Fan Sili. (2014). A Link Prediction Algorithm Based on Trust and Similar Tag. In Proceedings of the 2014 International Conference on Management of e-Commerce and e-Government (ICMECG '14). IEEE Computer Society, Washington, DC, USA, 104-107. DOI:http:// dx.doi.org/10.1109/ICMeCG.2014.30; Yin Guisheng, Yin Wansi, and Dong Yuxin. (2014). A New Link Prediction Algorithm: Node Link Strength Algorithm. In Proceedings of the 2014 Symposium on Computer Applications and Communications (SCAC '14). IEEE Computer Society, Washington, DC, USA, 5-9. DOI:http://dx.doi. org/10.1109/SCAC.2014.8; Stephan Spiegel, Jan Clausen, Sahin Albayrak, and Jérôme Kunegis. (2011). Link prediction on evolving data using tensor factorization. In Proceedings of the 15th international conference on New Frontiers in Applied Data Mining (PAKDD'11), Longbing Cao, Joshua Zhexue Huang, James Bailey, Yun Sing Koh, and Jun Luo (Eds.). Springer-Verlag, Berlin, Heidelberg, DOI:http://dx.doi.org/10.1007/978-3-642-28320-100-110. 8_9; James N. K. Liu, Yu-Lin He, Yan-Xing Hu, Xi-Zhao Wang, and Simon C. K. Shiu. (2014). Integrating Local Information-based Link Prediction Algorithms with OWA Operator. In Proceedings of the 3rd International Conference on Pattern Recognition Applications and Methods (ICPRAM 2014), Maria De Marsico, Antoine Tabbone, and Ana Fred (Eds.). SCITEPRESS-Science and Technology Publications, Lda, Portugal, 213–219. DOI:http:// dx.doi.org/10.5220/0004825902130219; Zhaojun Yang, Jiayu Song, Zhaolong Huang, Xuzhen Zhu, and Hui Tian. (2014). A Community-Structure Based Adaptively Optimized Link Prediction Algorithm. In Proceedings of the 2014 IEEE Fourth International Conference on Big Data and Cloud Computing (BDCLOUD '14). IEEE Computer Society, Washington, DC, USA, 463-469. DOI:http://dx.doi. org/10.1109/BDCloud.2014.28.

106. Yuewen Liu, Xiangyu Chang, and Wayne Wei Huang. (2014). Recommending Friends in Local Social Networks: An Envelope of Algorithms. In Proceedings of the 2014 International Conference on Big Data Science and Computing (BigDataScience '14). ACM, New York, NY, USA, Article 35, 3 pages. DOI:http://dx.doi. org/10.1145/2640087.2644197; David Liben-Nowell and Jon Kleinberg. (2003). The link prediction problem for social networks. In Proceedings of the twelfth international conference on Information and knowledge management (CIKM '03). ACM, New York, NY, USA, 556–559. DOI:http://dx.doi.org/10.1145/956863.956972.

- 107. Marco Tomassini. (2013). Introduction to evolutionary game theory. In Proceedings of the 15th annual conference companion on Genetic and evolutionary computation (GECCO '13 Companion), Christian Blum (Ed.). ACM, New York, NY, USA, 765–778. DOI:http://dx.doi. org/10.1145/2464576.2480808; Davide Grossi and Paolo Turrini. (2010). Dependence theory via game theory. In Proceedings of the 9th International Conference on Autonomous Agents and Multiagent Systems: volume 1-Volume 1 (AAMAS '10), Vol. 1. International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 1147-1154; Bryce Wiedenbeck. (2014). Approximate game theoretic analysis for large simulation-based games. In Proceedings of the 2014 international conference on Autonomous agents and multi-agent systems (AAMAS '14). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 1745-1746; Giovanni Sartor, Michel Rudnianski, Antonino Rotolo, Régis Riveret, and Eunate Mayor. (2009). Why lawyers are nice (or nasty): a game-theoretical argumentation exercise. In Proceedings of the 12th International Conference on Artificial Intelligence and Law (ICAIL '09). ACM, New York, NY, USA, 108–117. DOI:http://dx.doi. org/10.1145/1568234.1568247.
- 108. Peng Liu, Wanyu Zang, and Meng Yu. (2005). Incentive-based modeling and inference of attacker intent, objectives, and strategies. ACM Trans. Inf. Syst. Secur. 8, 1 (February 2005), 78–118. DOI:http://dx.doi.org/10.1145/1053283.1053288.
- 109. Tutun, S., M. T. Khasawneh, and J. Zhuang. "New Framework that uses Patterns and Relations to understand Terrorist Behaviors," *Expert* Systems with Applications, 78: 358–375, (2017).
- 110. Jouni Pousi, Jirka Poropudas, and Kai Virtanen. (2010). Game theoretic simulation metamodeling using stochastic kriging. In Proceedings of the Winter Simulation Conference (WSC '10), Björn Johansson, Sanjay Jain, and Jairo Montoya-Torres (Eds.). Winter Simulation Conference 1456–1467; Yevgeniy Vorobeychik. (2010). Probabilistic analysis of simulation-based games. ACM Trans. Model. Comput. Simul. 20, 3, Article 16 (October 2010), 25 pages. DOI:http://dx.doi.org/10.1145/1842713.1842719; Viknashvaran Narayanasamy, Kok Wai Wong, Chun Che Fung, and Shri Rai. (2006). Distinguishing games and simulation games from simulators. Comput. Entertain. 4, 2, Article 9 (April 2006). DOI:http://dx.doi.org/10.1145/1129006.1129021; Samantha Luber, Zhengyu Yin, Francesco Delle Fave, Albert Xin Jiang, Milind Tambe, and John P. Sullivan. (2013). Game-theoretic patrol strategies for transit systems: the TRUSTS system and its mobile app. In Proceedings of the 2013 international conference on Autonomous

agents and multi-agent systems (AAMAS '13). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 1377-1378; Bryce Wiedenbeck and Michael P. Wellman. (2012). Scaling simulation-based game analysis through deviation-preserving reduction. In Proceedings of the 11th International Conference on Autonomous Agents and Multiagent Systems-Volume 2 (AAMAS '12), Vol. 2. International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 931-938; D. Zinoviev and V. Duong. (2011). A game theoretical approach to broadcast information diffusion in social networks. In Proceedings of the 44th Annual Simulation Symposium (ANSS '11). Society for Computer Simulation International, San Diego, CA, USA, 47-52. Noam Nisan, Tim Roughgarden, Eva Tardos, and Vijay V. Vazirani. (2007). Algorithmic Game Theory. Cambridge University Press, New York, NY, USA; Matthias Feldotto and Alexander Skopalik. (2014). A Simulation Framework for Analyzing Complex Infinitely Repeated Games. In Proceedings of the 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2014), Mohammad S. Obaidat, Janusz Kacprzyk, and Tuncer Ören (Eds.). SCITEPRESS-Science and Technology Publications, Lda, Portugal, 625–630. DOI:http://dx.doi. org/10.5220/0005110406250630.

111. Thomas W. Briggs and William G. Kennedy. (2016). Active shooter: an agent-based model of unarmed resistance. In Proceedings of the 2016 Winter Simulation Conference (WSC '16). IEEE Press, Piscataway, NJ, USA, 3521–3531; Bilal Shebaro. (2015). Digital forensics: you can run but you can't hide: conference tutorial. J. Comput. Sci. Coll. 30, 4 (April 2015), 46–46.

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