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“Electronic Jihad”: The Internet as al-Qaeda’s Catalyst for Global Terror

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Abstract: The Internet has emerged as a key technology for al-Qaeda and other jihadist movements waging their so-called “Electronic Jihad” across the Middle East and globally, with digital multiplier effects. This study will examine the evolving doctrine of ‘Electronic Jihad and its impact on the radicalization of Muslims in Western diaspora communities. The study describes Internet-based websites which served as Online Libraries and repositories for jihadist literature, as platforms for extremist preachers and as forums for radical discourse. Furthermore, the study will then detail how Internet connectivity has come to play a more direct operational role for jihadi terrorist-related purposes, most notably for inciting prospective cadres to action; for recruiting jihadist operatives and fighters; for providing virtual training in tactical methods and manufacture of explosives; for terrorism financing; and for actual planning and preparations for specific terror attacks. Whereas contemporary jihadist militants may be shifting from the World Wide Web to social media, such as FaceBook, YouTube and Twitter for messaging and communications, nevertheless the Internet-based Electronic Jihad remains a significant catalyst for promoting jihadist activism and for facilitating terrorist operations.
Al-Qaeda has deemed the Internet “a great medium for spreading the call of Jihad and following the news of the mujahideen (Islamic warriors).”¹ Thus, the al-Qaeda operational manual Military Studies in the Jihad Against the Tyrants describes one of its primary missions as “Spreading rumors and writing statements that instigate people against the enemy.”² Subsequently, al-Qaeda’s Twenty-Year Strategic Plan (2001-2020) outlined a seven-stage jihadist struggle for global supremacy, culminating in a Definitive Victory for a renewed Islamic caliphate by the year 2020.³ Already at the second stage of that Strategy, spanning the years 2003-2006, the Internet had emerged as a key instrument in al-Qaeda’s effort to mobilize jihadist empathy amongst Muslims worldwide.⁴ Radical Islamist leaders underlined their encouragement for what they defined as “Electronic Jihad,” insisting that “any attempt to ‘spite the enemy’ and endorse religion is legitimate.”⁵ By the current fifth stage of the Strategy, covering the years 2013-2016, ‘Electronic Jihad’ has come to play an expanded role in pursuit of the declared objective of mobilizing Muslim support for the “Declaration of the Caliphate.“ Indeed, the Internet has come to serve as a choice means of communications outreach on the part of al-Qaeda and its regional affiliates, for its pronounced, digitalized multiplier effects on jihadist consciousness-raising, recruitment, training, fund-raising, and operational activities.⁶

The methodological approach utilized in this study of al-Qaeda’s and its jihadist associates’ use of the Internet for the promotion of global terror is empirically focused, and may be described as “descriptive analysis.” This essentially empirical approach will highlight al-Qaeda’s self-proclaimed doctrine, strategy, tactics and goals as they have evolved in utilizing Internet technology in pursuit of their own declared objectives. These descriptive elements will then be accompanied by a detailed analysis of the actual activities that ensured, including
incitement for jihad, recruitment, training, fund-raising, and terror operations. Alas, in the author’s opinion there exists no relevant theoretical framework, in the academic sense of the term, which can explain terrorist motivations and behaviouristics in their use of the Internet, and from which one can draw simple "conclusions". In the absence of appropriate theoretical applications, the empirical methodology to be used here describes, analyzes and explains actual practices.

The study commences with an overview of the al-Qaeda conceptualization of its so-called ‘Electronic Jihad’. It reviews the formulation of this strategy and its perceived role as in the promotion of jihadist aims. This is followed by an examination of the operative elements of ‘Electronic Jihad’, including the provision of online library resources, serving as virtual platforms for radical preachers, and facilitating forums for extremist discourse. Consideration will furthermore be given to the actual impact of these Internet-based polemics on shaping attitudes, beliefs, and behaviours on the part of Muslim communities worldwide. The study will then proceed to scrutinize how Internet Connectivity has actually been deployed by al-Qaeda and its associates for terrorist – related purposes. Detailed attention will be paid to their utilization of the Internet for such purposes as inciting prospective cadres to action; recruiting jihadist operatives and fighters; providing virtual training in tactical methods and manufacture of explosives; terrorism financing; and for operational planning and preparations for specific terror attacks. Reference will also be made to Cyber-terrorism, but this will be addressed in lesser detail here since it has been dealt with fully elsewhere, including by the present author.7

The thrust of the present study thus emphasizes the actionable intentions of al-Qaeda and its partners in availing themselves of the Internet as a catalyst for militant jihadism. By
describing and analyzing the doctrines, strategies, tactics, and objectives of al-Qaeda and its jihadist partners, this should serve to contextualize the threat arising from Jihadi terrorist use of the Internet. Understanding adversarial intentions should help to facilitate further research and analysis relating to the impact of ‘Electronic Jihad’ on targeted individuals and communities, and furthermore on ways and means of counteracting its harmful effects in the interests of public safety and national security.

The Strategy of ‘Electronic Jihad’

To capitalize on the intrinsic capabilities of the Internet, prominent al-Qaeda stalwarts like the late, notorious preacher Anwar al-Awlaki urged followers to become “Internet mujahideen” by setting up dedicated websites to cover specific areas of jihad, such as news about jihadist activities and operations or jihadist literature, what he termed “WWW Jihad.”

Jihadist websites have come to play a prominent part in propagandizing on behalf of militant Islam, mobilizing prospective adherents, and inciting terrorist actions. Thus, a 2009 judgment by a Canadian court found that a an extremist website posted by the Global Islamic Media Front purveyed messaging characteristic of militant jihadism which were tantamount to a terrorist threat, by way of:

- Publicizing and expounding upon the speeches of al-Qaeda leaders:
- Inciting people to carry out violent jihad
- Urging people to support jihadist groups like al-Qaeda and its affiliates and al-Shabaab in Somalia
- Disseminating al-Qaeda textual propaganda
• Glorifying jihadist ‘martyrs’

• Providing advice on computer security, and instructions about hacking into computer networks

• Engaging in psychological warfare by threatening targeted societies and communities

• Delivering military training to carry out violent jihad, including tactics for urban and gang warfare, concealing explosives, executing ambushes, arrests, and explosions

• Webcasting news reports from jihadist battlefronts

• Publishing on-line magazines like Sawt al-Jihad (Voice of Jihad), Inspire

• Translating its propaganda material into various languages to reach out to a wide audience especially in the West

Accordingly, the Court held that jihadist websites like the Global Islamic Media Front contribute directly or indirectly to actual terrorist activities.9

The Internet and other related digital and electronic technologies like YouTube and Twitter offer certain unique advantages for radical preachers, jihadist proponents and militant operatives, as compared to other traditional media. A key feature of the Internet is its digitalization of information, which enables the material to be infinitely copied without loss of fidelity and be disseminated endlessly. The scope and reach of these Internet discussion forums create, in effect, a near-global digital ummah (Muslim realm), linking up potential jihadist
fellow-travellers from various communities across the Asia, the Middle East, Western Europe, and the Americas. The emergence of what some have called a “digitalized ummah” contributes to a homogenization of political attitudes and religious sentiments shaped by a relentless flow of identical of messages and images (verbal and graphic) across cyberspace. These cyberspace communities, unbounded by territory or civic loyalty, can spawn a virtual radicalism among prospective recruits and neophytes, thereby fostering a jihadist counter-culture that challenges the traditional authority of established religious scholars in Muslim communities as well as in the diaspora.

Proponents of “Electronic Jihad” seek to exploit the strategic capabilities of the Internet and related technologies for promoting the spread of radical Islamist principles and fomenting jihadist militancy among Muslim communities, especially in the Western diaspora. In that regard, al-Qaeda and proxy jihadist websites seem to have had a both direct and a more diffuse impact on actual terrorist operations. The direct impact relates to their influence in indoctrinating and inspiring terrorist operatives to mount attacks on specific targets. As well, these websites can and do have a more diffuse effect by way of motivating jihadist recruitment and training efforts. At a broader community level, these and similar Internet domains may play their part in inciting wider Muslim identification with and support for the militant jihadist cause.

Operative Elements of ‘Electronic Jihad’

The Centre for Social Cohesion, a British research institution, has identified three core Internet-based functions performed by jihadist Websites, chatrooms, and social media:
Online Libraries: Jihadist websites perform a key role as repositories of archival writings by pre-eminent figures in the jihadi pantheon like Abdullah Azzam, founder of al-Qaeda, and jihadist e-magazines like al-Qaeda’s Inspire;

Platform for Extremist Preachers: Jihadist websites offer posting of sermons and tracts by prominent radical Islamist preachers and expositors of jihadism like Anwar al-Awlaki, which can be readily accessed through the Internet;

Forums for Radical Discourse: Jihadist websites usually host newsgroups, chatrooms, discussion forums and newsgroups which serve to facilitate e-conversations among like-minded followers, and represent networking hubs for addressing key issues planning and coordinating activities, and promoting group dynamics.\(^{13}\)

Jihadists and other Islamist extremists make extensive use of the Internet and social media for the dissemination of propaganda, as well as for the recruitment and training of operatives.\(^{14}\) The Internet and social media, for their part, offer radical preachers, strategists and enthusiasts especially advantageous capabilities for reaching out and influencing, inciting and motivating jihadist activism at a global level.\(^{15}\) Arguably the pre-eminent Jihadist preacher on the Internet to date was the late Anwar al-Awlaki, American-born and later a high-profile spokesman for al-Qaeda in the Arabian Peninsula, where he was assassinated by a U.S. drone strike in 2011.\(^{16}\) Anwar al-Awlaki utilized the Internet to purvey al-Qaeda’s militant Islamist doctrine to a targeted audience of educated, English-speaking Muslim youth (including converts), in
particular, with a view to fomenting a jihadist struggle “from within” the democratic societies of Europe and North America, a homegrown “Western Jihad.” Indeed, his Internet-based guide on “44 Ways to Support Jihad” insisted that “Jihad today is obligatory on every capable Muslim.”

Preliminary inquiries into the recruitment of ‘homegrown’ terrorists in Western societies suggest the particular importance of “religious teaching” as a precursor and trend-setter, more so than, for example, “strategy” documents. An assessment by the British Security Service (MI5) discerned that the Internet had come to serve as a more pronounced instrument for the promotion of Islamist radicalization, especially amongst youth, than more conventional meeting spaces.

Jihadist messaging across the Internet, and through other digital formats, may be assessed according to the extent to which they instigate, promote or enable activities that directly or indirectly facilitate terrorist acts. The actual thrust of ‘Electronic Jihadi’ messaging may be rated, in ascending order of severity, in terms of their impact on:

- Subverting Muslim communities in Western democracies while deceiving and distracting their governments from reacting to the threat at hand;
- Cultivating supportive attitudes towards acts of terrorism;
- Offering theological justification to acts of political violence and terror;
- Providing technical instructions and operational guidelines for terrorist acts;
- Promoting direct involvement in preparatory activities that expedite terrorist operations;
- Encouraging personal engagement in committing acts of terrorism.
For proponents of ‘Electronic Jihad’ probably the most pertinent attributes of the Internet are its potential to affect the mindset and behaviour of followers in various ways that help to transform hitherto placid individuals into jihadist militants.\(^{23}\) Indications are that jihadist terrorists are increasingly utilizing Internet-based social media, such as FaceBook and Twitter, for messaging and communications.\(^ {24}\) Virtual interaction between militant elements through the Internet and social media has fostered widespread radicalization across countries and regions along with the emergence of new jihadist networks.\(^ {25}\) The World Wide Web remains overall a significant platform for promoting jihadist activism and for facilitating terrorism. For al-Qaeda, ‘Electronic Jihad’ is tantamount to a virtual globalization of it calling.

**Internet Connectivity to Terrorist Activities**

As will be addressed in greater detail below, the Internet has become a powerful catalyst for facilitating al-Qaeda-sponsored terrorist activities and operations. Al-Qaeda’s ‘Electronic Jihad’ has created a threat environment wherein terrorist activities can emanate from a large number of countries and elements within countries.\(^ {26}\) Other militant Islamist movements, like the Islamic State of Iraq and al-Sham, once affiliated with al-Qaeda but now proclaiming itself as the Caliphate (“The Islamic State”), likewise make extensive use of the Internet to promote its jihadist agenda globally.\(^ {27}\) In a special report prepared for the United States Institute of Peace, Gabriel Weimann identified eight ways in which contemporary jihadist militants exploit the capabilities of the Internet, notably for psychological warfare, propaganda and publicity, data mining, fund-raising, recruitment and mobilization, group networking, sharing information, and for planning and coordinating actual attacks.\(^ {28}\) An analysis of recent incidents attributable to al-
Qaeda and its affiliated network points to their utilization of Internet connectivity to directly and significantly instigate specific terrorist activities having multiplier effects for global jihad, most notably inciting belligerence, jihadist recruitment, militant training, terrorism financing, terror operations, and cyber-warfare.\textsuperscript{29}

\textit{Incitement}

Terrorist groups like al-Qaeda and its jihadist affiliates and associates utilize the Internet to inspire and motivate cadres to action.\textsuperscript{30} Renowned terrorism expert Bruce Hoffman has pointed out that such Internet communications are typically constructed and contextualized to address particular objectives. Their purpose could be “didactic”, designed to inform, attract or indoctrinate new adherents; “disciplinarian”, using blandishments or threats to ensure obedience; “promotional”, in an effort to attract new converts or recruits to the ranks of fighters; “bombastic”, aimed at intimidating local authorities and weakening public confidence in government; or what may be termed “auto-propaganda,” serving to uphold the morale of the already committed.\textsuperscript{31} Jihadist websites highlight extremist preaching intended to indoctrinate the faithful and propagate a militant jihadism, whilst providing theological justification for terrorism and “martyrdom” operations.\textsuperscript{32} More recently, al-Qaeda, Islamic Jihad and related jihadist groups have been utilizing the more accessible social media, such as You Tube, as distinct from websites, to broadcast their messaging to a wider global audience.\textsuperscript{33} Indeed, a 2015 analytical study by the Brookings Institution reported that some 46,000 Twitter accounts were held by Islamic State supporters globally.\textsuperscript{34}
Jihadist Internet forums denote the core of the global virtual jihadi movement and are crucial to the dissemination of radical Islamism.\(^{35}\) An inquiry mounted by the U.K. House of Commons Select Committee on Home Affairs in 2012 found that the Internet played a more significant role in fostering violent Islamic extremism than prisons, universities or places of worship, and "was now one of the few unregulated spaces where radicalisation (sic) is able to take place."\(^{36}\) Virtual interaction between jihadists stimulates and enhances their propensities towards radicalization whilst cultivating the emergence of new, localized jihadist networks. Homegrown radicalization, facilitated in good measure by these digital technologies, was so deeply dispersed such that al-Qaeda’s own stalwart preacher, the late Anwar al-Awlaki was able to boast that "Jihad is becoming as American as apple pie and as British as afternoon tea."\(^{37}\) Homegrown Western Jihadism, he warned, “is here to stay.”

An Internet-based discourse may seem especially appealing to younger prospects, for whom access to more conventional meeting places (and the radicalizing influences therein) may be restricted. In July, 2014, a British court convicted an Islamist activist youth for disseminating militant jihadist and terrorist material through the Internet, despite his participating in the government’s ‘Prevent’ program.\(^{38}\) Chat rooms, message boards and forums provide virtual opportunities for extremists to establish contacts and radicalize each other.\(^{39}\) It is noteworthy that ‘Electronic Jihad’ aims not just at Western, Muslim diaspora targets, but also seeks to attract and mobilize Muslim youth within the Muslim world itself, in places like Saudi Arabia, for the jihadist endeavor, through these same digital technologies.\(^{40}\) It is something of a paradox that al-Qaeda websites directed at Saudi Arabia reportedly even deployed female activists to enhance their attractiveness to prospective youth targets, notwithstanding traditional Islamist strictures
against feminine immodesty.\textsuperscript{41} Overall, the reach of al-Qaeda’s Internet discussion groups create, in effect, a near-global digital ummah unbounded by civic loyalty, linking up jihadi fellow-travellers from various communities across the Asia, the Middle East, Western Europe, and North America.

The Internet has been noticeably instrumental for al-Qaeda in its ongoing efforts to foster locally homegrown terrorist activities directed against British, European and North American targets.\textsuperscript{42} As a notorious example, the December 2014 issue of its Web-based, English-language magazine \textit{Inspire} propagated “Lone Jihadist Campaign” to persuade and instruct individuals to attack specific economic and civil aviation targets as part of the al-Qaeda terror campaign against the West.\textsuperscript{43}

\textbf{Recruitment}

Cyber-forums on the Internet have served as influential catalysts for the actual recruitment of jihadist operatives.\textsuperscript{44} Recruitment efforts by al-Qaeda, its affiliated networks and locally homegrown cells utilize the preachings by radical to promote enlistment, legitimize their militant cause, and justify violent acts. Prior to the 9/11 attacks, formal recruitment to al-Qaeda usually occurred in its training camps then operating in Afghanistan. Afterwards, as a consequence of their expulsion from Afghanistan and the ‘Global War on Terror’, al-Qaeda recruitment metamorphosed into a more loosely-structured, distributed and interactive procedure. Henceforward, prospective new members were galvanized by jihadist propaganda, through the Internet typically – and prepped for enlistment by local talent-spotters and recruiters.\textsuperscript{45}
The Internet has vastly expanded the geographic and demographic catchment areas, and as well as the missions for prospective recruits.⁴⁶ Up to just a few years ago al-Qaeda was actually advertising on its prominent Web forum, Shumukh al-Islam, seeking jihadis to carry out suicide attacks.⁴⁷ More usually, its Internet sites and affiliated preachers endeavored to induce self-enlistment into locally homegrown cells with a view to galvanizing diaspora youth against their country of residence.⁴⁸. Over the years, Internet-linked homegrown recruits have perpetrated terror attacks on a multiplicity of jurisdictions, among them Canada⁴⁹, Britain⁵⁰, Germany⁵¹, and Australia.⁵² Communications through the Internet also facilitated the phenomenon of so-called ‘lone-wolf’ terrorism.⁵³ As a notorious example, the Spring, 2013 issue of its Web-based, English-language magazine Inspire propagated “individual jihad” to persuade even lone militants to attack “important targets” as part of the al-Qaeda terror campaign against the West.⁵⁴

As well, Internet-based recruitment performs an enabling role in the dispatch of foreign would-be combatants to embark on jihadist campaigns abroad. Thus, al-Shabaab had put in place a sophisticated social media and Internet presence in order to recruit Somali expatriates, most notably from Canada and the United States, for jihad in Somalia.⁵⁵ Contemporary Syrian jihadists, both the al-Qaeda-linked al-Nusra Front and the so-called Islamic State of Iraq and al-Sham, utilize Internet communications for their respective recruitment efforts of foreign fighters from Europe, North America, Australia, and elsewhere across the Muslim world.⁵⁶ British Muslim youth seem to be especially prone to recruitment through the Internet or social media to fight in jihadist campaigns abroad.⁵⁷ Governments are concerned that these travelling jihadists could eventually return to their erstwhile homelands as potentially dangerous militants.
Training

The training delivered by al-Qaeda is intended to prepare recruits as activists and operatives.\textsuperscript{58} The range aptitudes and skills sought by militant jihadist groups like al-Qaeda span a wide spectrum of competencies, from flying aircraft to computer technology, to biological and chemical sciences, to finance; from the preparation of explosives and explosive devise to reconnaissance, sabotage, assassination; from urban insurgency to actual combat. Whereas early on the main emphasis used to be placed on real-life instruction in proper training camps in Pakistan, Syria, Iraq or Yemen, or in some other safe havens, at least for the seemingly most competent recruits, some preliminary training and indoctrination did take place over the Internet.\textsuperscript{59} As security controls over prospective jihadist travel tightened, al-Qaeda and its partners have tended to purvey more of their training via the Internet, especially apropos European cadres.\textsuperscript{60}

Jihadist websites purvey operational indoctrination coupled with mission-specific instructions pertaining to weaponry, explosives, and tactics. Al-Qaeda’s English-language e-magazine \textit{Inspire} has exemplified this Internet based blending of radicalization, indoctrination and operational training. Its inaugural issue in summer, 2010 highlighted “Open Source Jihad” with instructions on “How to Make a Bomb in the Kitchen of your Mom.”\textsuperscript{61} As well, directives were provided as to “How to Use Asrar al-Mujahideen: Sending and receiving Encrypted Messages by Terrorist.” Clearly the aim was to equip individual followers with inspiration and directions to engage in what Marc Sageman has described as “Leaderless Jihad.”\textsuperscript{62} This strategy
was deliberately intended by al-Qaeda to enable enabling followers Muslims to “train at home” and thus constitute “America’s worst nightmare.”

Follow-up issues of *Inspire* provided “Technical Details” about explosives used in al-Qaeda’s “Operation Hemorrhage,” a plot to bomb cargo aircraft (Issue 3, November 2010); about “Destroying Buildings” and “Training with the AK [Russian automatic rifle]” (Issue 4, Winter 2010); and “Individual Terrorism Jihad” (Issue 5, Spring 2011). Featuring the theme “Targeting Dar al-Harb [i.e. countries not under Islamic rule] Populations”, the eighth issue of *Inspire* (Fall, 2011) reiterated al-Qaeda encouragement for lone-wolf terrorism by detailing how to use small handguns and build remote-controlled detonators for explosives. *Inspire* Issue 9 (2012) recounted "The Convoy of Martyrs" emphasizing individual actions in gathering intelligence, preparing and ultimately executing attacks, with specific reference to committing acts of arson in forests and cities. *Inspire* Issue 11 in Spring 2013 offered instruction on how to torch cars and cause traffic accidents. The most recent issue 13, posted online on 24 December 2014, provided detailed instructions on preparing home-made undetectable bombs apropos a “Lone jihadist Campaign targeting specific economic and civil aviation targets.65

*Terrorism financing*

Al-Qaeda, its affiliates and related jihadist terror groups engage in systematic fund-raising and money-laundering to finance their widespread system of networks and cells, and their various activities.64 Militant Islamist organizations typically raise funds by soliciting private donations, by diverting revenues from quasi-legitimate Muslim charities, religious institutions or sympathetic ethno-cultural organizations.65 Probably the largest single source of revenue is the
diversion to militant organizations of the charitable contributions (Zakat) which Islam enjoins the faithful to donate, as one of five principle pillars of faith, to Muslim causes. According to the Norwegian Defence Research Establishment report on *Jihad in Europe*, mosques in Germany, France, the UK and elsewhere were ‘hijacked’ by radical elements to be used for fund-raising, recruitment, incitement and propaganda, and even for preparing terrorist assaults.\(^6^6\) Similarly, Wahhabi or Salafi charities in Middle Eastern domains like Saudi Arabia are known to channel funds raised privately to jihadist networks in neighbouring countries.\(^6^7\)

Since terrorism financing is outlawed in many jurisdictions, terror organizations have become adept at money laundering. Transfers of funds to support terrorist activities may be channeled surreptitiously through financial institutions or through informal money exchangers or *hawalas*,\(^6^8\) through trade-based transactions in high-value merchandise like gemstones or --- in the Middle East --- honey, or using trustworthy couriers.\(^6^9\)

However, in recent years the Internet and social media have emerged to become increasingly important mechanism for al-Qaeda fund-raising and financial transfers in support of terrorist activities.\(^7^0\) Funds diverted or channeled through charities may be remitted to jihadist or front organizations, most readily by electronic means. As well, Islamist activities are known to use Twitter and other social media to mobilize crowdfunding from sympathetic Muslims so as to provide financial backing for jihadist militias operating in Iraq, Syria and elsewhere.\(^7^1\) Al-Qaeda sponsored websites are also used to fund-raise for the cause by the sale of inspirational tracts, advocacy literature, audio cassettes, videos and CDs, and other iconic paraphernalia to sympathizers.\(^7^2\)
Terror Operations

The Internet has been deployed furthermore by al-Qaeda so as to marshal tactical guidance for terror assaults on designated targets. The twelfth issue of al-Qaeda in the Arabian Peninsula’s e-magazine Inspire, which appeared in Spring, 2014, for example, published detailed instructions for the construction and deployment of car-bombs to attack specific targets in cities in the Britain, France, and the United States.  

Issue 13 of Inspire, posted online on 24 December 2014, promulgated a “Lone Jihad Campaign” against Western economic interests and civil aviation in particular, by way of providing detailed instructions on preparing home-made undetectable bombs, on breaching airport security, and on the actual placement of bombs aboard the aircraft, and targeting specific American, British and European airlines.

Alas, there has been a marked lack of empirical research in the academic domain, at least, on actual terrorist operations. Yet there is evidence available that Internet communications have been utilized by al-Qaeda operatives at the individual and cell levels to plot and control specific terror operations. Thus, the perpetrators of the terror attacks on Paris in January, 2015, reportedly obtained operational instructions from al-Qaeda leadership via the Internet. Similarly, the Spanish terror cell that perpetrated the March, 2004 attacks on Madrid commuter trains reportedly derived tactical directions from the Global Islamic Information Forum website. Indeed, the Global Islamic Media Front had emerged as an important source of violent radicalization according to evidence collected in various Western jurisdictions. In yet other instances the Internet had reportedly been utilized to convey tactical instructions to the Dutch Hofstad terror cell, and to German al-Tawhid (Zarqawi group) plotters, whose planned assaults were – fortunately – thwarted. Even at the individual level, an American convert to
radical Islamism, the so-called ‘Jihad Jane’ had evidently utilized the Internet “obsessively” to plot terror attacks.\footnote{80}

**Cyber-terrorism**

Cyber-terrorism denotes the use of Internet technology to conduct disruptive or destructive operations in the digital domain so as to create and exploit fear through violence or the threat of violence at the behest of a militant belief system.\footnote{81} Disruptive cyber hacking involves the defacing or taking down of targeted Internet services, and gaining illicit access to and disclosure of sensitive or private information. Critical infrastructures represent a prominent target for disruptive cyber-terrorism, most notably government websites and industry on-line services. However, the aspect of cyber-terrorism that actually aims to impair industrial control systems or otherwise damage digitalized production processes lies outside the purview of the present study.\footnote{82}

**Conclusion**

Al-Qaeda has reportedly accessed the Internet in order to map vulnerabilities in targeted countries and industries.\footnote{83} It is noteworthy that al-Qaeda recruitment seems to have produced a very strong contingent of university graduates in computer science and information technology among its ranks. A University of Oxford study of Islamic radicals indicates that computer engineers are highly over-represented among members of militant jihadist groups in jurisdictions across the world.\footnote{84} The leader of al-Qaeda Dr. Ayman al-Zawahiri issued a video pronouncement
in February, 2011, urging his jihadist cadres to innovate and find new ways and means of attacking high value infrastructure targets:

"If we are not able to produce weapons equal to the weapons of the Crusader West, we can sabotage their complex economic and industrial systems and drain their powers… Therefore, the mujahideen (Islamic warriors) must invent new ways, ways that never dawned on the minds of the West."\(^{85}\)

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3. This strategic plan was initially made public by the journalist Fouad Hussain, an al-Qaeda sympathizer, and has since been widely disseminated on jihadist websites. See Fouad Hussein, *Al-Zarqawi: The Second Generation of Al Qaeda* (published in 2005 in Arabic) quoted in Yassin Musharbash, “What al-Qaida Really Wants,” *Der Spiegel*, August 12, 2005. See also Martin


8 al-Awlaki, “44 Ways to Support Jihad”, no. 29.


Cf. Taylor and Ramsay, “Violent Radical Content,” 100.


36 House of Commons, Home Affairs Committee, *Roots of Violent Radicalization*, 16.

37 al-Awlaki, “Western Jihad is Here to Stay”.


Cf. General Intelligence and Security Service of the Netherlands, *Jihadism on the web*.


See, for example, Musawi, *Cheering for Osama*; Kleinmann “Radicalization of Homegrown Sunni Militants in the United States”; General Intelligence and Security Service of the Netherlands, *Jihadism on the web*.


82 See, for example, Gendron and Rudner, Vide., e.g. Angela Gendron & Martin Rudner, Assessing Cyber Threats to Canadian Infrastructure.
