Online Radicalization: An Overview of the Role the Internet Plays in Radicalization

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On March 15th, 2019, a self-radicalized white supremacist killed 51 people in two mosques in Christchurch, New Zealand, the first portion of which was livestreamed to Facebook (BBC, 2019, 2020). Moments before the attack began, the shooter uttered the words: “subscribe to PewDiePie" (Romano, 2019). Just 8 minutes earlier, the shooter had published a 74-page manifesto to the online forum 8chan, along with a link to the livestream (Romano, 2019). In and amongst the xenophobic rhetoric, the manifesto featured frequent internet memes and references popular with internet-savvy right-wing extremists (Greene, 2019; Romano, 2019). Marbled into the standard talking points of right-wing extremists (e.g., the “Great Replacement”) and reverent references to previous, similarly motivated attacks, were frequent examples of the absurdist humor of insular internet subcultures (e.g., the “Navy Seal” copypasta, a profanity-dense block of text copied and pasted as a joke, in which the poster claims to be a navy seal and flamboyantly threatens to harm the reader; Owen, 2019). The call to “subscribe to PewDiePie" is itself a meme, one referencing the informal and ironic campaign of Swede Felix Kjellberg (a.k.a “PewDiePie"). Kjellberg’s account was the largest individual channel at the time, and the campaign had been rallying support from other online communities to maintain his lead in subscriber count over the Indian music label T-Series (Chokshi, 2019). Though Kjellberg had been the subject of controversy in the past, the “Subscribe to PewDiePie" campaign appears to have been little more than a friendly rivalry (Chokshi, 2019; Romano, 2019). The shooter’s choice to co-opt this movement forced a response from Kjellberg, in which he attempted to distance himself from the attack, effectively ending the campaign (Chokshi, 2019; Romano, 2019). Between the irregularity of the attacker’s manifesto and the hijacking of Kjellberg’s movement, the event garnered international notoriety in a matter of hours (Coasten, 2019). There had not yet, nor has there since, been a more disturbing and public example of the merging of extremist and internet subcultures. Though the attacker at Christchurch claimed no formal affiliation with any organized hate-groups or terrorist cells, their[1] radicalization did not happen in a vacuum, but rather, online.

Since its inception in 1983, there have been differing perspectives on the potential value of the internet for individuals and society at large (cf. Topal, 2018, p. 211). Topal (2018) points out that the elements of the internet which had been seen since the 90s as its greatest features, such as the acceleration and democratization of the transmission of information, have paradoxically been the most useful for violent extremist groups like ISIS. These groups’ messages, intentions, and limited resources typically deny them the use of other, more traditional means, such as television and print media (pp. 211-12). By contrast, the ease of

[1] (Singular) Following the example of many journalists and news organizations, the author has chosen to include minimal identifying information about the perpetrator, including gender, to minimize notoriety of the individual, which to some, can be seen as a reward for committing atrocities (see dontnamethem.org).

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access and pseudo-anonymity of using the internet allows these groups to maintain a presence on the fringes, utilizing their own websites and the low opportunity-cost of generating accounts on social media to reach out to average citizens, either by means of propaganda or direct contact (Jones, 2017; Topal, 2018). What follows is a review of the literature on the internet's role in the radicalization of extremists of three types: (a) ideological and religious terrorism groups (e.g., ISIS, white supremacists, etc.); (b) sole-actor terrorists; and (c) stochastic or probabilistic radicalization in new forms of online extremism like the alt-right. This is then followed by an overview of research on the ways in which the internet can be used to counter these groups' and individuals' efforts. It should be mentioned that this review focuses on the use of the mainstream, or "surface" web, and will not delve into the role of the "dark-web" in terrorist activities, despite its importance (see Weimann, 2016).

Defining Radicalization

Topal reviews 4 models of radicalization, 3 of which are linear, phasic models, meaning that the process is conceptualized as one-directional; step-by-step (Borum, 2003; Wiktorowicz, 2004; Moghaddam, 2005, cf. 2018 p. 214-15). The last is a non-linear factor model which considers radicalization to be the result of various simultaneous conditions (Sageman, 2008, cf. 2018, pp. 214-15). All 4 models begin with potential radicals feeling dissatisfied with their circumstances, which causes them to seek out a narrative or "frame of interpretation," as Sageman (2008, cf. Topal 2018) calls it, that seems to explain the causes of their perceived unjust circumstances. Such narratives typically blame an individual or group of people as the cause of the potential radical's problems, a trend which is consistent with the social psychological literature on compensatory control theory (Kay, Gaucher, Napier, Callan, & Laurin, 2008) and social identity theory (Hornsey, 2008). An individual stuck in undesirable circumstances will feel powerless; extremist narratives and interpretations then offer many answers, and tangible "solutions" (usually violence), all of which represent means by which the individual might reclaim their sense of control. The fact that the "answers" presented by these narratives usually single out individuals or groups as the cause of their problems fits with a more general human tendency to categorize oneself and others into social identities according to criteria which are not always logical, but which effectively appeal to one's emotions (Hornsey, 2008). Additionally, young adults appear to be more susceptible to radicalization (Frissen, 2021; Hassan et al., 2018; Jones, 2017; Rousseau & Hassan, 2019; Tikhonova, Dvoryanchikov, Ernst-Vintila, & Bovina, 2017), as their tendencies to seek purpose, identity, and social belonging make them more receptive of groups who present themselves as the righteous "underdog" opposition to villainous, overbearing, or dangerous enemies (cf. Hassan et al., 2018, p. 72; Tikhanova et al., 2017).

Ideological and Religious Radicalization

Much of the research investigating online radicalization and extremism since 9/11 have focused on the activities of radical Islamic terror groups like ISIS, Hezbollah, and Al-Qaeda (Conway, 2017; Frissen, 2021; Holt, Freilich, & Chermak, 2017; Jones, 2017; Levin, 2015; Rudner, 2017;

Sageman, 2008; Topal, 2018; Wright, 2008). These groups engage in a number of online recruitment and radicalization methods from directly contacting potential recruits to hosting polished and professional websites and forums (Holt et al., 2017; Frissen 2021). If the scale of their operation allows, some use the internet to proliferate radical media in the form of magazines (e.g., Al-Qaeda's *Inspire*, ISIS's *Dabiq*), videos of violence, and long and short-form documentaries about their members and activities (Holt et al., 2017; Frissen, 2021). These latter forms serve to passively propagandize and allow malcontents to self-radicalize. However, there is some debate about whether these materials on their own are responsible for radicalizing individuals in any substantial numbers (Frissen, 2021; Holt et al., 2017; Rudner, 2017). Frissen (2021) found that although being the most frequently sought after, videos of these groups' acts of violence exhibited the weakest relationship to radicalization, while less commonly viewed materials like the groups' websites and magazines showed the strongest relationship. While there are differences in the effectiveness of the types of media, there is a general consensus that self-radicalization in this form rarely happens in a vacuum; that is, there are almost always other factors at play (Conway, 2017; Jones, 2017). In addition to the discontent or stress already discussed, Jones' (2017) review identifies education level, developmental experiences, social/familial connections, and possibly even career choice as other influences (cf. pp. 321-22). As Jones puts it: "Although the internet may sometimes play a primary role in the process of radicalization and recruitment, [the evidence] suggests that it requires secondary reinforcement from trusted individuals" (2017, pp. 322).

Ironically, white supremacist groups share many of these same qualities with radical Islamic terror groups. They have found similar shelter in the discreteness and anonymity of the internet (Kaplan, Weinberg, & Oleson, 2003). They turn that anonymity to their advantage in online forums where ideas rejected by society can be expressed and discussed without relational or professional recourse (Der Koster & Houtman, 2008). These forums and discussions cultivate a sense of community that brings users back regularly (Der Koster & Houtman, 2008). Both groups capitalize on the ease of access to, and transmission of information by hosting their own websites, magazines, and propaganda (Conway, 2017, p. 83; Der Koster & Houtman, 2008). Additionally, they both court isolated "lone-wolf" attackers, sometimes going so far as to equip them with the knowledge and tactics they need to carry out attacks (Frissen, 2021; Hassan et al., 2018). Finally, the narratives they propagate use similar themes to appeal to impressionable young adults (e.g., "the 'glamour' of belonging to a military group," cf. Holt, Freilich, & Chermak, 2017; p. 857).

There are a few differences, however. A study by Rieger et al. (2013; cf. Hassan et al., 2018) showed that one's ethnic identity can sometimes mediate support for these different groups. While native, German-born participants were not persuaded by either type of radical media, non-Muslim immigrants to Germany were more likely to justify white supremacist violence than Islamic extremist violence (p. 83, cf. Hassan et al., 2018). Conversely, Muslim immigrants to Germany were more likely to justify violent action taken by Islamic extremist groups than that of white supremacist groups (p. 83, cf. Hassan et al., 2018). Additionally, white supremacists' propaganda is much easier to access. For example, Jones (2017) points out that the UK's Terrorism Act of 2006 prohibits unsanctioned access to *Inspire* and *Dabiq*, as well as any other media produced by extremist jihadi groups (p. 322); conversely, see

https://dailystormer.su/ for a US based neo-Nazi newsletter; access to which is not illegal anywhere.

Sole-Actor Terrorists

As mentioned previously, another form of radicalization which has been extensively researched is that of sole-actors, or "lone wolves," who engage in isolated acts of violence, seemingly for ideological reasons (Hassan et al., 2018; Jones, 2017; Post, McGinnis, & Moody, 2014). Distinct from more conventional radicals, these sole-actors tend to have higher rates of mental illness (almost 10 times greater than conventional group-based extremists, cf. Jones 2017, p. 321), and, rather than being radicalized by a group or its ideology, tend to develop their radicalism and motivation for violence alone, adopting the ideology later as a means of justifying these emotions (p. 322). Such individuals have committed attacks in the name of both radical Islam and white supremacy (among many other causes; Jones, 2017, p. 321; Post et al., 2014), and a notable few have even identified as "incels." The term "incel," short for "involuntary celibates," refers to the communities of sexually frustrated (typically young or recently divorced) men on the internet who blame women for their aforementioned celibacy and see this state of affairs as both unjust and inescapable (Witt, 2020). Sole-actors of the former two alignments (i.e. radical islamic and white supremacist groups) are typically isolated from the leadership or coordination of the groups which inspire them, and are often radicalized by the media that these groups produce. For example, Frissen (2021) points to the brothers behind the bombing of the Boston Marathon in 2013, who were converted, radicalized, and trained in bomb-making by the ISIS magazine *Inspire*. Conversely, incel groups gather on the internet ostensibly to share their worries about their romantic and sexual frustrations. These discussions then escalate to a loose ideology approximating that of other radicals in its function: members are discontent, they seek answers and reassurance in community, the community devolves into dehumanizing the source of this frustration (women in this case; Witt, 2020). By rationalizing their violent motivations with interpretive frameworks, radicals seek to regain a sense of control (Witt, 2020). In contrast to white supremacist and radical Islamic terrorists, incel communities do not have stable hierarchies or structure, nor do they have an overarching ideology or goal beyond relief of emotional frustration (Witt, 2020). While both white supremacist groups and radical Islamic terrorists host online forums, incel radicalization seems to result exclusively from these online interactions (Witt, 2020).

Stochastic Terrorism or "Pipeline" Radicalization

If the religious/ideological variety of radicalization represents a conventional, organized social network, and the self-radicalization of sole-actor terrorists represents a more isolated and spontaneous process, then this stochastic, or probabilistic, radicalization is somewhere in between. The term "stochastic" describes phenomena which are "statistically predictable, but individually unpredictable" (Hamm & Spaaij, 2017, p. 84). Hamm and Spaaij, authors of *The Age of Lone Wolf Terrorism*, give the example of "an archer who shoots one hundred arrows at a target and hits the bull's eye only once. The bull's eye shot is statistically unpredictable, yet it is statistically predictable that a certain number of arrows will strike somewhere on the target" (2017, p. 84). "Stochastic terrorism" refers to actions which are not damaging or destructive in

themselves, but which increase the likelihood that someone else will commit an act of violence. The individual stochastic terrorist may never commit, or even explicitly advocate for targeted acts of violence, but whether or not it is the intended result, their words and deeds indirectly encourage others to carry out such attacks. As the reach and visibility of a problematic pundit's rhetoric increases, so does the number of people who encounter it, and thus so too does the probability that one or a few of them will act on the explicit or implicit message conveyed.

In her 2018 report "Alternative Influence: Broadcasting the Reactionary Right on YouTube," Rebecca Lewis described the "Alternative Influence Network" (AIN): a collection of 65 microcelebrities and political commentators who produce YouTube videos for audiences of millions. The report finds these pundits to be indirectly responsible for leading viewers to the radical ideologies and groups collectively termed the "Alt-Right." These influencers interact in a tightly packed web of guest appearances and reciprocal advertising of each other's shows, resulting in a great deal of cross-pollination. If an individual follows just one or a few of these influencers for any amount of time, they will quickly be made aware of several others (Lewis, 2018). While the apparent ideologies of these hosts vary, the inclusion of some more radical members results in a general socially right-wing or reactionary position, one which stands in "opposition to feminism, social justice, and left-wing politics," (Lewis, 2018, p.1). The interconnectedness of this informal network associates more moderate creators with extremist pundits, all while presenting as reliable, authentic, and professional (prerequisite qualities for success as a social media influencer). This interconnectedness is reinforced by YouTube's recommendation system, which prompts viewers with attention-grabbing related videos (Lewis, 2018; see also Caufield, 2019 and O'Callaghan et al., 2015). The normalization of extremist ideas coupled with the automated encouragement of the website to watch as much as possible, can send people down a chain of video recommendations leading from discussions of more mainstream political topics to videos denying the holocaust and advocating discrimination against women and minorities (Lewis, 2018; O'Callaghan et al., 2015). Indeed, many online far-right extremists cite members of this network as the start of their "awakening" into reactionary conspiracy theories and hateful ideology (Evans, 2018). Viewers who start off watching two minor internet celebrities debate the merits of marijuana legalization may, in a matter of months, find themselves scrolling through message boards on websites like 8chan and *The Daily Stormer*, and, sometimes, going further to commit acts of racist violence (Munn, 2018; O'Callaghan et al., 2015). The opening example, that of the Christchurch shooter, is one such internet-inspired attack (Chokshi, 2019; Romano, 2019).

While the three forms of radicalization discussed are similar and certainly overlap, there are a few key differences worth explicating: (1) sole actors are a distinct phenomenon from coordinated, organized hate-group members, (2) conventional extremist organizations are more orderly and intentional than the probabilistic radicalization described by Lewis' report, (3) public perceptions of hate-group members and people like the members of the "Alternative Influence Network" differ substantially.

1. Extremist organizations tend to cultivate sole-actors in addition to their other activities, but there are also many attacks committed by sole-actors which arise out of personal frustrations, and absent a larger organizational allegiance (Post, McGinnis, & Moody, 2014; Witt, 2020).

2. Distinct from formal organizations, the probabilistic radicalization of nebulous groups like the alt-right is not only a more chaotic process, but it is largely devoid of intentionality. Driving this process are the automatic recommendation systems of Google and YouTube, and the relationship of the alternative influencer to their audience. This system exhibits a moderate reciprocal radicalizing effect, in which bolder and more controversial opinions and behaviours attract greater audience sizes and engagement (e.g., comments, "likes," and "dislikes"), thus reinforcing those behaviours and ideas for the influencer (Lewis, 2018). Instead of an organization's leader(s) deliberately planning out and instructing an attack, which could be directly traced back to said leader, stochastic terrorism works by increasing the probability that a terror attack will occur, regardless of whether the influencer in question desires or intends for such an outcome. Indeed, it is unlikely that more than a few fringe members of this network want these attacks to occur, and even less likely that any of these aspiring public figures wish to be associated with such attacks.

3. Whereas the members of formal hate groups are seen as dangerous and deviant outsiders to society (Holt, Freilich, & Chermak, 2017), the members of the Alternative Influence Network at the start of this process are generally seen as charismatic influencers and minor celebrities; they are mainstream and acceptable (Lewis, 2018). Considering this distinction through the lens of the radicalization models discussed previously (cf. Topal, 2018), typically only individuals with pre-existing ties to hate-groups or significant stressors like identity crises seek out radical groups and media (Holt, Freilich, & Chermak, 2017; Jones, 2017; Topal, 2018). In contrast, the mainstream appeal of Lewis' influencers makes them accessible to a wider range of individuals who would otherwise be unlikely to radicalize at all (2018).

Luke Munn describes this process as the "Alt-Right Pipeline" (2018), because these structural factors collectively serve the latent function of incrementally normalizing radical ideas to a large number of otherwise mainstream viewers (O'Callaghan et al., 2015). Radicalization through this "pipeline" occurs to varying degrees and according to a user's own preferred pace, and each step further is seen as voluntary by the one radicalizing (Munn, 2018). If joining a formal, organized hate-group or forum, the perceptions about such groups, if they are not enough to make an individual steer clear, are at least likely to make the potential radical aware that the ideas they are engaging with are substantially outside the norm. By contrast, the gradual process of the pipeline and the apparent authenticity of influencers in the AIN make the ideas of anti-feminism, discrimination against LGBTQ+ individuals, Islamophobia, and occasionally blatant racism seem like "common sense" (Munn, 2018). People radicalized in this way may hold all of the same attitudes and interpretations as neo-nazis and Klan members, but because they are not formally affiliated with any of these groups, they are not classified as extremists (Munn, 2018). As a result, the violence committed by those who decide to act on these beliefs and attitudes can seem completely random and unpredictable. In the words of Ian Danskin of the YouTube channel *Innuendo Studios*, "this is a machine for pumping out lone-wolves" (2019).

Countering Online Radicalization, Online

While the internet has undeniably provided a number of advantages to hate groups and extremists (e.g., access to information and people, better internal and external communication and coordination, a degree of secrecy and anonymity, and the ability to cheaply proliferate propaganda and publicize attacks) (Frissen, 2021; Jones, 2017; Topal, 2018) many of these

advantages go both ways. Weiman and Von Knop (2008) describe the process of using "noise"—additional confounding information and distortions which complicate or obstruct communication—to hamper terrorists' activities by reducing their ability to coordinate. For example, they suggest that noise can be injected into terrorists' discourse and coordination by attacking the credibility of their leaders in the eyes of group-members (p. 891). In concrete terms this would mean running smear-campaigns against these figures to decrease their perceived legitimacy. If enough members or potential recruits cannot agree on which leaders best represent their ideology, these groups will have greater difficulty maintaining stable organizations and hierarchies. Another suggestion made by Weiman and Von Knop would be the infiltration of new dissidents to an organization or the empowerment of existing ones, thereby disrupting consensus and decreasing stability (2008, p. 891).

Greenberg (2016) discusses three ways in which the internet can be used for counterterrorism: (1) disruption, (2) diversion, and (3) counter-messaging. Disruption refers to the targeted censorship and removal of extremists' accounts, forums, and websites (pp. 167-170). Due to the ease of access the internet provides, the effects of such efforts cannot ever succeed completely; but they do limit the availability of these media to some extent (Greenberg, 2016). Diversion refers to efforts to provide alternative outlets for the kinds of people who may be susceptible to extremist messaging; Greenberg provides the example of the US State Department's 2012 "viral peace campaign," which "was designed 'to use social media as a way of promoting community involvement and peaceful change' and 'to help people craft online strategies that use a whole range of tools - including 'logic, humor, satire, and religious arguments'- to match the violent extremists' energy and enthusiasm'" (cf. pp. 170-71). Finally, "Counter Messaging" essentially refers to counter-propagandizing; spreading media and narratives which decry specific extremist organizations and their ideologies (cf. pp. 171-74; also see Cohen, Johansson, Kaati, & Mork, 2014; Layton, 2017; Neumann, 2013; Pressman & Ivan, 2016; Sageman, 2008; Schmitt, Rieger, Rutkowski, & Ernst, 2018; and Siegel, Brickman, Goldberg, & Pat-Horenczyk, 2019 for more research on countering terrorism via the internet).

In the context of stochastic terrorism and pipeline radicalization, the characteristics of such processes have their silver-linings which are also worth noting. Compared to the opportunity cost of joining and coordinating with formal organizations, falling down the pipeline through YouTube and internet forums occurs gradually, so there is more time for remittance; it occurs across a spectrum of commitment, so many of those ensnared are not at risk of complete radicalization; and the anonymity and lack of formal correspondence with other members means that there is less social pressure or risk in leaving these online communities or changing one's beliefs (Lewis, 2018; Munn, 2018). Whereas members of formal groups may face violent, potentially deadly reprisals for leaving the group, a member of an online hate forum may, upon having a change of heart, simply choose to log off. Furthermore, the source of the pipeline's mainstream appeal, the fact that it typically only involves YouTube and a few message boards, also means that, unlike the dark web correspondence and encrypted communications of more organized groups, tracking and studying the online activity of these individuals is relatively trivial from a technical standpoint. Instead of having to track down correspondence and communication sent through the "dark-web" by competent hackers/hacktivists, deradicalization efforts need only survey the publicly accessible websites in question.

Discussion

This review covered the ways in which the internet is involved in three kinds of radicalization: recruitment into formal ideological/religious organizations, sole-actors' self-radicalization, and the stochastic or probabilistic radicalization occurring in parts of the mainstream internet. The literature reviewed suggests that the first type utilizes the internet intentionally to directly contact potential recruits, proliferate propaganda, publicize attacks, and to coordinate with one another. Self-radicalized individual terrorists, on the other hand, tend to be unstable individuals who adopt an ideology after developing a propensity for violence on their own; or, in the case of "incels," radicalize via the combination of their own discontent and the group-radicalization processes of chaotic, unorganized online forums. Finally, some people radicalize due to a network of "alternative" or somewhat mainstream commentators and influencers' media, and the recommendation algorithms of the website that hosts their content. Unlike the first two, personal discontent or life-dissatisfaction plays less of a role in this latter form, as the relatively mainstream starting point makes individuals who may otherwise be content and apolitical susceptible to radicalization into reactionary ideology. The review concludes with a brief overview of a few ways in which counter-terrorism efforts can utilize the internet to disrupt and gather information about extremist groups, and to deradicalize members and discourage recruitment.

If we consider the advantages that the internet provides to radical and extremist groups as disadvantages of the internet for larger, mainstream society, then it is clear that they are outweighed by the benefits. The internet provides a more convenient and effective means of communication than any other in history and allows more widespread access to information and ideas than ever before, making education, coordination, and discourse more prevalent and accessible. This review has discussed these advantages as they pertain to the dangerous fringes of modern society, but it is worth keeping in mind that these advantages apply to everyone with access to the internet, benefitting far more people than just terrorists. A full list of the benefits afforded by the internet to modern society is well beyond the scope of this review, but it is worth pointing out that this review has tried to describe the ways in which radicalization and extremist activity have changed due to the involvement of the internet, and *not* to seek justification for a technophobic view of the internet as a dangerous and chaotic influence on society.

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