Growth Trap: Bottom-Up Transformation of Militant

Organizations

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Abstract

When and how do recruitment windfalls strengthen militant organizations while redirecting their strategy and tactics? Drawing on the literature on militant socialization and management, I propose a mechanism of grassroots-driven organizational change that is broadly applicable when leaders balance short-term survival with long-term mission focus. I argue that a growth trap dynamic occurs when upward-driving internal pressures caused by incomplete socialization become codified into group operation through delegation and decentralization. In combination, these can transform the revealed strategic priorities and operational focus of militant organizations. Using qualitative documents, event data, and computational methods, I illustrate the insight via a case study of the evolution of al-Qaeda in Yemen from 2009 through 2016. I trace how changes in the recruitment and social context were followed by shifts in the activity profile and self-presentation of a group with a significant investment in an ideological identity.

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In the late 1980s, commanders of Arab battalions participating in the Soviet-Afghan and Afghan Civil Wars found themselves with a windfall of Salafi recruits from Arab countries. The commanders quickly realized that these new members were impatient with training and strategic restraint. Instead, seeking excitement and martyrdom, the young Arab fighters agitated for rapid engagement in battle, heedless of their preparation—or lack thereof—or of the long-term objectives of the groups that they had joined (Hamid and Farrall 2015; Hegghammer 2020). The volunteers created problems within their host groups, in part by being violently opposed to the non-Salafis who dominated the local communities. However, despite their indifference to strategy and propensity to redirect operations towards sectarian violence, it was important for the militias to placate the new Arab fighters because the fighters were also conduits for donations from foreign backers. They thereby developed a "very high" influence on the Afghan militias (Hamid and Farrall 2015, p. 51). The frustrated, but indispensable, recruits drove a radicalization of the Afghan Arab jihadi movements as group leaders attempted to placate their demands for action and ideological stringency, a cycle that occurred both with Abdullah Azzam's Services Bureau (Hegghammer 2020) and, later, with the militants that coalesced around Usama bin Laden (Hamid and Farrall 2015). The vignette above highlights that recruitment opportunities which improve the capacity, resources, personnel, and resilience of a militant group may also catalyze transformational internal pressures. Recruit-driven operational and strategic transformation can be found in numerous case histories, including those of organizations co-opted to serve new strategic objectives and constituents. These patterns raise the question of how growth can redirect the strategy and tactics of violent organizations. If not addressed, this tension can introduce a vector through which internal fissures, reduced operational efficacy, and schism can sap capacity (Pearlman and Cunningham 2012; Bakke, Cunningham, and Seymour 2012; Bueno de Mesquita 2008; Bloom 2004). Understanding growth-driven change has implications for better predicting conflict trajectories as well as tailoring counter-insurgency and peacebuilding policies to take advantage of internal tensions.

This manuscript argues that rapid expansion can strengthen an organization in the short run but introduce medium and long-term internal pressure to satisfy the priorities of new personnel and new constituencies. I identify this dynamic as the *growth trap*: when reinforcing an organization's strength initiates a process of organizational and operational realignment that advances the preferences of the recruits and redirects operations away from previous strategic and tactical preferences. I contribute to a growing body of scholarship that examines the challenges that violent organizations face as they grow. I extend and generalize the literature by proposing accommodation as an underexplored mechanism of organizational evolution.

This dynamic represents a theoretical and empirical puzzle. A mature literature underscores that violent armed conflict actors are sophisticated organizations (Crenshaw 1987; Parkinson and Zaks 2018; Shapiro, Foster, and Siegel forthcoming) whose leaders are mindful of selection effects (De Mesquita 2005; Gates 2002; Hanson 2020; Hegghammer 2013), strategic in their recruitment (Beber, Blattman, et al. 2010; Forney 2015; Humphreys and Weinstein 2006; Schram 2019), canny in their use of management tools and socialization programs (Checkel 2017; Gates 2017; Gutiérrez and Giustozzi 2010; Gutiérrez 2012; Shapiro and Siegel 2012; Tamm 2016; Sanín and Wood 2014), and responsive to local political dynamics (Ahmad 2017; Parkinson and Zaks 2018; Wood 2003; Wood 2008). At the same time, empirical patterns of recruit-driven reorientation highlight an important gap in our understanding of the dynamics and trajectory of armed conflict actors.

This article proceeds in two parts: first, I outline a general mechanism of bottom-up change via accommodation to the preferences of a base, focusing on violent substate organizations. These groups face a particularly stark tradeoff: integration with local communities provides resources and protection but can undermine broader goals by making the organization beholden to parochial interests that may be orthogonal to its previous goals. Second, I develop observable implications of the growth trap logic through a case study of al-Qaeda in the Arabian Peninsula (AQAP), selected as typical of the theorized process (Seawright and Gerring

2008). I combine a computational analysis of AQAP's self-presentation with operational trends to show that, despite strategic direction to the contrary, the militant group became progressively more engaged in conflicts with local power brokers as their membership base expanded.

Theoretical Contribution and Empirical Implications

The central theoretical contribution of the manuscript is a series of mechanisms by which rapid growth can trigger changes by undermining policies to attract, indoctrinate, and discipline recruits. I highlight how managerial decisions and contextual factors can magnify the effects of the growth trap, and outline expectations for when and where observers should empirical evidence of the process.

The following section introduces four mechanisms through which armed organizations become pressured to adopt strategic goals preferred by the base of the organization. I derive empirical expectations for when these mechanisms may lead to the breakdown of organizational socialization and to the adoption of the preferences of a new constituency.

The leverage that allows recruits to exert upward pressure on their leadership comes at several levels. First, a reduced ability, or desire, to limit the inflow of new members undermines the organization's capacity for socialization and objective-alignment. New members bring local politics, preferences, and grievances into the organization. Second, the possibility that they might exit—taking the skills and resources that made them attractive—creates pressure to accommodate the new preferences, at least temporarily. Third, accommodation manifests in tactical and strategic decision-making, which begins to prioritize the new focus. Decentralization and delegation accelerate the process by providing more autonomy to commanders and militant managers who are in close contact with the rank-and-file. These mechanisms suggest a series of hypotheses to test the empirical predictions of the accommodation theory and to detangle accommodation from similar outcomes, such as organizationally-driven,

top-down, strategic adaptation.

When leaders cannot, or do not want to, limit recruitment, they lose some of their most vital managerial tools. Selection and screening mechanisms typically constitute an important part of the rebel leadership toolkit to shape a high-quality membership that is as aligned as possible with the existing preferences of the leadership (De Mesquita 2005; Forney 2015; Hegghammer 2013; Salehyan 2010; Weinstein 2005).

Large inflows discourage leaders from implementing the selection, socialization, and disciplinary tools emphasized by previous research (Hoover Green 2016; Mironova 2019; Shapiro 2013). Both success and desperation can pressure leaders to relax their selection criteria. Changing recruitment bandwidth is important because recruits bring not only their own resources, but also connections to a larger social context (Parkinson 2013). Such ties limit the ability of group leaders to shift recruits' preexisting preferences (Manekin 2017; Mosinger 2017). Research has found that strong relational ties can make fighters and commanders more willing to disobey instructions, and that loyalty of rank-and-file will tend to remain with their proximate leaders (Christia 2012; Hundman and Parkinson 2019). The combination of many recruits and limited ability to socialize them increases the chance that the new recruits will retain strong ties among themselves and with external communities. These ties and a large cohort reduces the ability of the organization to focus on any member and thus diffuses socialization capacity.

This condition gives rise to the first hypothesis:

Hypothesis 1: Strategic accommodation will be greater when recruitment inflow is larger, relative to the organization's pre-existing socialization capacity.

Accommodation leading to group transformation can occur when the leader's interest in retaining their recruits is such that they are willing to compromise other goals or best practices to keep the recruits from leaving. In order to have the internal leverage to force the inclusion of their goals, the rank and file must be able to credibly exit if the organization

does not accommodate their priorities. Similarly, the leader must be invested in keeping the recruits. Finally, the threat of exit must be credible.

In general, leaders have good reason to be concerned about the possibility of critical recruits and units leaving their group: exit, including defection and fragmentation, is a common feature of organizational histories. (Bakke, Cunningham, and Seymour 2012; McLauchlin 2010; Mosinger 2019; Seymour 2014; Pearlman and Cunningham 2012; Perkoski 2019; Woldemariam 2018) Violent group leaders often implement policies and employ tactics, such as threatening punishment for desertion or encouraging atrocities, that limit member perceptions that exit is a viable option (Cohen 2017; Gates 2017; Lyall 2017; Sawyer and Andrews 2020; Souleimanov, Aliyev, and Ratelle 2018). If an organization can restrict exit options, then the rank and file lose their leverage to be able to induce accommodation via the threat of exit. This produces the second hypothesis:

Hypothesis 2 Strategic accommodation is more pronounced when members from the desired constituency have more options for exit.

The mechanisms of accommodation imply different processes depending on group structure. Militant groups with dense vertical ties and a strong internal hierarchy should experience accommodation primarily as a form of top-down decision-making by group leaders (Johnston 2012; Jordan 2009; Jordan 2014; Staniland 2014). Conversely, policies that encourage delegation and autonomy— such as if a militant leader directs from a distance, as many armed group leaders ultimately do— should result in local commanders' preferences to begin to supersede those of the leadership if and when there are divergences (Doctor 2020; Doctor and Willingham 2020; Lidow 2016; Sinno 2010; Tamm 2016). Knowing that they are removed from their regional commanders, leaders rely on either material inducements or consent to motivate and direct their commanders (Lidow 2016). Moreover, a decentralized organization can more quickly develop local ties and variations in process, which introduce a pathway for the inclusion of local and grassroots preferences. This produces the third set of hypotheses:

Hypothesis 3a: Organizations with a strong internal hierarchy will experience top-down, leader-directed, accommodation.

Hypothesis 3b: Organizations with a decentralized operating structure with experience accommodation from the middle of the organization.

The mechanisms outlined above suggest scope conditions: First, the existing organization and the new base must have specific strategic preferences that are substitutes. There must have a point from which to accommodate and a direction to accommodate towards. As a counter-example, consider the pandering argument proposed by Thaler 2022: militant groups seeking primarily to destabilize a particular setting can accomplish disruptive goals despite deep frustrations among their grassroots when an organization's promises turn out to be false; however, it is much more difficult to build a specific outcome when there is internal resentment over discrepancies between stated and real objectives.

Secondly, the accommodation mechanisms describe pragmatic responses to managerial stresses rather than a planned pivot. A leader or organization seeking to adapt to changing circumstances to better appeal or compete in a field of militant entrepreneurs may pivot their organization's strategic goals without experiencing the growth trap described here.

In summary, when there are tight control mechanisms and powerful internal institutions, training and monitoring procedures can reorient the preferences of the membership base towards those of the leadership. Socialization failures are magnified if leaders find themselves recruiting from already-cohesive populations (Hundman and Parkinson 2019; Manekin 2017) or if the operating context promotes decentralization and strong middle-level leadership (Lidow 2016; Tamm 2016).

Case: Transnational Jihadism and Local Conflict Participation in the Gulf

Through the remainder of this manuscript, I explore the logic of the growth trap in a context in which transnational revolutionary ideology collided with parochial local interests. I focus on al-Qaeda in the Arabian Peninsula (AQAP), the Yemeni branch of the al-Qaeda transnational jihadi network.

The analysis triangulates from several sources of data. I use qualitative sources, including captured al-Qaeda documents, to trace the evolution of AQAP and AQAP precursors through 2016, identifying the existence of a fundamental ideological incompatibility between the group's initial strategic outlook and their eventual recruits. I then turn to event data to present observable outcomes via the proportion of AQAP operations participating in dyads against the Yemeni State, a Shia conflict actor (Ansarullah), tribal political leaders (Forces of Hadi), and the Islamic State. Finally, I quantitatively analyze the group's changing self-presentation based on an original dataset of almost 875 translated public statements made by AQAP from June 18, 2004 through September 18, 2016.

I supplement the primary-sources with multiple forms of secondary reporting. For information on larger trends in the conflict as well as details about the motivations and frustrations of conflict actors, I draw on translated memoirs from conflict participants and reporting by close observers of Yemen. To develop a broad overview of AQAP's strategic involvement, I use data on violent events in the Yemeni civil war collected by the UCDP Armed Conflict Dataset (Davies, Pettersson, and Öberg 2022). Finally, to determine if there is an appreciable difference in how local observers perceived the activities of AQAP and a local spin-off,

¹The corpus includes content from both the current–*i.e.* post-2006— AQAP and a predecessor organization of the same name that is occasionally referred to as al-Qaeda in Saudi Arabia. The Yemen-based AQAP leadership actively sought to present the organizations as linked entities. I allow the AQAP corpus to accommodate both the current Yemeni-based AQAP and the small number of communiques from the earlier Saudi-based 'AQAP.'

I employ machine learning algorithms to evaluate a corpus of 566 articles reporting on the activity of AQAP, the local spin-off, Ansar al-Shariah, and a rival sectarian militia (the Houthi insurgency).

AQAP fits the criteria of the growth trap described above, and thus operates as a typical case (Gerring and Cojocaru 2016, p. 405). The organization spent several of its early years trying to recruit and retain local fighters before experiencing a large inflow from the local tribal communities. Under intense security pressure due to the American War on Terror, AQAP operated as a decentralized militant group with decreasing ability to invest in central training programs. These two attributes can be expected to reduce socialization capacity relative to their recruitment (Hypothesis 1) and increase the group's propensity for accommodation driven by mid-level commanders (Hypothesis 3b). As in other conflict zones, AQAP's strategists and commanders contend with labor mobility (Hypothesis 2). In particular, counterinsurgency campaigns have tried to deplete AQAP by encouraging desertion and defection of fighters and tribal allies, while local reporting attests that fighters have transitioned between AQAP and tribal militias (Kendall 2018b; Kendall 2018a; Michael, Wilson, and Leath 2018).

Moreover, although the case lacks fine-grained documentation of internal debates and considerations, as would be ideal to focus on the precise moment of organizational accommodation and acquiescence to the divergent preferences of the rank-and-file, several structural features make it amenable to tracing the process of a militant group absorbing the preferences of their base. The first is that as a member of the transnational jihadi movement, AQAP extensively articulated their official strategic objectives. Second, during the period in focus, Yemen sat at the intersection of American-led counter-terrorism efforts, the 2011 Arab Spring, and an internationalized proxy civil war between Saudi Arabia and Iran. This has generated interest in the motivations of Yemeni combatants, resulting in otherwise difficult to obtain documentation of preference divergences. Third, before escalating international intervention in 2016, AQAP had unusual latitude in choosing how to allocate their portfolio of activities.

I leverage distinctive attributes of AQAP's operation to differentiate the bottom-up accommodation pathway from the main alternative explanation of top-down strategic adaptation. First, captured internal documents containing strategic advice from al-Qaeda's central leadership to AQAP clearly and explicitly directed the group to avoid becoming locally co-opted. Second, AQAP seized, administered, and then lost territory in the Abyan Governorate in 2011. This produces an identifiable moment in which an organization strategically adapting to local preferences could have pivoted their self-presentation. Moreover, the conquest and loss of Abyan provides a moment in which AQAP contracted, thus introducing variation in membership levels. Third, for several years, AQAP maintained an arms-length local spin-off which provides a reference point to benchmark AQAP's messaging and branding against a related entity that was designed to appeal to local preferences and priorities. These attributes permit the research design to partially overcome limitations of access to internal deliberations.

The main observable outcome of interest is a shift in the operation and self-presentation of AQAP from a transnationally-focused jihadi group seeking social and political revolution to a militant group more narrowly focused on sectarian and tribal conflict in Yemen. The growth trap theory predicts that as AQAP expanded recruitment from local Yemeni communities, their internal reorientation towards the interest of the interests of the new rank and file should manifest as a move away from contesting the state and towards contesting alternative local power centers. This should change the composition of AQAP's activities away from conflictual dyads against state forces and towards dyads with other non-state actors in the tribal hinterlands of Yemen. The shift should be reflected in how AQAP describes itself, decreasing their use of rhetorical themes emphasizing al-Qaeda's original transnational revolutionary agenda and increasing the content about local political dynamics and activities. Failing to see these transitions would suggest that AQAP has been able to retain the original focus despite a context in which the hypotheses of the growth trap would predict an organization particularly susceptible to bottom-up transformation.

I outline AQAP's growth trajectory, drawing on American security assessments of the organization's strength. I then turn to reporting by Yemen experts who describe the inflow as driven by two distinct mechanisms: local Sunni tribes seeking revenge for collateral damage from drone strikes and local Sunni tribes attempting to oppose the expansion of a rival sectarian militia (Batal alShishani 2010). Both motivations have been featured in contemporaneous reporting from Yemen that contain descriptions of recruit motivations and priorities that diverge substantially from the transnational revolutionary ideology of al-Qaeda.

In 2009, the United States Department of State estimated that AQAP's membership was approximately 200-300 (Johnsen 2012). At the time, AQAP had difficulty recruiting within Yemen's Sunni tribal communities. The organization's attempts to integrate themselves into the tribal areas of Marib and al-Jawf were being rebuffed and it failed to generate support through dispute resolution, intermarriage, or the provision of public services (Koehler-Derrick (ed) 2011). Indeed, interviews with Yemen's Sunni tribes in 2008 and 2009 suggested that AQAP's recruitment base was concentrated in urban centers—particularly Sanaa and Taiz rather than among the rural communities (Koehler-Derrick (ed) 2011, p. 138). By 2010, the Department of State's estimate of AQAP's membership had barely changed, remaining at a 'few hundred' (Bureau of Counterterrorism 2011). From 2010 onwards, domestic instability and international military engagements created an opportunity for AQAP to make inroads into Sunni tribes that had previously eluded their efforts (Abdul-Ahad 2015). Once they were able to recruit from the tribal communities, AQAP experienced a dramatic personnel inflow and steadily gained strength in the tribal regions. Estimates of their membership spiked dramatically, jumping to "few thousand members" in 2011, about a thousand in 2013 and 2014, and then again to as many as "four thousand members" in 2015 and 2016 (Bureau of Counterterrorism 2012; Bureau of Counterterrorism 2015, p. 395).

Anger over drone strikes and sectarian polarization after the rise of the Houthi movement account for much of the rise (Bayoumy 2013; Kendall 2018a; Campbell 2015; Worth 2015; Hubbard 2015; Michael, Wilson, and Leath 2018). As reflections of local security concerns,

each of these motivators can be expected to introduce members into AQAP with local rather than global preferences. One powerful accelerant for AQAP's ability to recruit from among existing tribal communities in Yemen has been desire for revenge against the United States and Yemeni government for collateral damage from American drone strikes (Bayoumy 2013; Kendall 2018a). By alienating the population, drone operations are reported to have had the effect of drawing otherwise-pragmatic tribes closer to the jihadi militant group (Mothana 2012). A Yemeni journalist with ties to AQAP likewise noted that revenge drove Yemenis closer to AQAP, writing that 'hundreds of families are seeking revenge from the U.S. so they deal with that by joining al Qaeda' (Bayoumy 2013). For example, the brother of a man killed in a strike described how drone strikes quickly changed local receptiveness to AQAP among communities with little previous engagement or affinity for the jihadi group's appeals, stating: "In our area there was never anyone linked to al Qaeda. After the strike, everyone in the area started listening to al Qaeda types, exchanging videos on mobile phones" (Bayoumy 2013).

One might expect that the Yemeni state's 2011 collapse would benefit AQAP's ability to socialize new entrants. However, reports suggest that the group had difficulty indoctrinating and controlling the behavior of new members (Kendall 2018a), potentially because pressure from American drone strikes limited AQAP's ability to move trainers around the country (Bayoumy 2013). The effect of membership expansion and restricted ability to indoctrinate has led to situations such as one reported in 2013 in which an AQAP commander in the south-east of the country was complaining that his fighters were so indifferent to the jihadi ideology that they neglected basic religious obligations (Muslimi 2014). Similarly, a general breakdown in centralizing control can be inferred from emerging themes in AQAP's own media and advice. Kendall (2018a) notes that operational advice and organizational polemics issued to both official and unofficial AQAP-supporting channels around 2018 describe "a broad Salafi-jihadi melting pot now beset with organizational difficulties, in-fighting, and controversial links to organized crime."

The second trend accelerating AQAP's ability to recruit in Yemen is the rise of a Shia Zaidi insurgency associated with the Houthi movement. As with drone strikes, the Houthi insurgency allowed al-Qaeda to better integrate with the local tribes, notably by playing on Southern tribal fears of northern military aggression (Kendall 2018a). By making sectarian identity increasingly salient, the Shia insurgency drove the Sunni tribes closer to the Sunni jihadi AQAP (Campbell 2015; Worth 2015; Hubbard 2015). By mid-2015, reporting from Yemen indicated that AQAP was able to use the Houthi threat to Sunni interests to forge the tribal alliances that eluded them in 2009 (Hubbard 2015; Al-Batati and Fahim 2015). At the same time, Yemeni and Saudi military preoccupation with the Houthi uprising deflected state resources, thereby allowing AQAP to expand their territorial reach (Yara Bayoumy and Ghobari 2016). In these areas, AQAP has sought to publicize social service provision and pragmatic governance to reinforce support among the communities that they control (Yara Bayoumy and Ghobari 2016).

Summarizing the change, a Sunni militiaman observed: "Even if al-Qaeda and I have disagreements, if we are fighting in the same trench against the Houthis, he is my brother" (Worth 2015). Likewise, speaking to the *Associated Press*, an AQAP commander claimed that the war against the Houthi militias was so amenable to recruitment that "if we send 20 [men], we come back with 100." (Michael, Wilson, and Leath 2018).

These quotes directly contrast with captured letters from al-Qaeda Central to AQAP's leadership featuring strategic advice about avoiding local co-optation. One such letter, believed to be written by al-Qaeda strategist Atiyah Abd al-Rahman, directed AQAP to be wary of becoming co-opted by local political concerns. The author reminded the Yemeni leaders that without training and careful monitoring, local grievances would prevail, writing '...it is very important to remind all of our brothers about it with a note to the new generation, who joined the jihad road and were not advised about this issue [local vs global strategic focus]. Thus, they conduct separate operations rather than concentrating on the main objective [the external enemy, i.e. the US]...'(al-Qaeda strategist 2006-2011, p. 6) The author pointedly

warned the Yemeni al-Qaeda leaders of the dangers of being locally co-opted, as '...many jihadist groups did not succeed in gaining their objective because they concentrated on their internal enemy.' (al-Qaeda strategist 2006-2011, p. 11)

Empirical Analysis: Changes in AQAP Operations

The previous section identified a recruitment influx into AQAP driven by anger and resentment over drone strikes and sectarian polarization, and drew upon reporting and analysis by local observers to suggest that the two motivations resulted in grassroots fighters without a strong preexisting commitment to the jihadi ideological cause. In the next section, I assess the broader strategic picture of their pattern of engagement.

The underlying assumption of this analysis is that, broadly speaking, when engaged in a multifaceted civil conflict, actors face trade-offs in resource allocation. An organization seeking to change the political system of a state would be expected to keep the state as their central target, thereby producing a strategic profile largely comprised of conflictual events with state forces. Conversely, a co-opted organization would be expected to participate in conflict events that represent the interests of an influential faction. The expectation from the accommodation mechanism presented above is that the inflow of Sunni tribal fighters will have redirected AQAP's activities towards contesting alternative power centers in the lands important to their tribal base. In this case, AQAP would be expected to engage in fewer conflictual events with the state and more with other sectarian and tribal actors who represent alternative local power bases.

To test these competing expectations, I characterize AQAP's activity patterns from 2009 to 2019 using version 22.1 of the UCDP Armed Conflict (UCDP) Dataset, which aggregates media reporting of violent events (Davies, Pettersson, and Öberg 2022). Figure 1 depicts the evolution of AQAP's conflict dyads in Yemen.

The complexity of the conflict provides leverage to assess AQAP's own priorities. Notably,

in 2015, the Government of Yemen actor changed when Ansarullah (more commonly known as the Houthi insurgency) took control of the Yemeni capital and forces loyal to the former Sunni President of Yemen, Abdrabuh Mansur Hadi became a non-state actor. Thus, after 2015, the AQAP-Government of Yemen (lightest gray) bar represents a continuation of the AQAP-Ansarullah conflict dyad (darkest gray). After Hadi was driven from government, AQAP shifted the bulk of their operations from targeting the Hadi state to targeting the military forces loyal to former-President Hadi.

The continued dominance of contesting forces loyal to Hadi (via AQAP-Government dyads before 2015 and AQAP-Forces of Hadi dyads after 2015) suggest that the group's strategic focus tilted towards engaging with a specific Yemeni power-center rather than the more transnationalist jihadi goal of trying to advance an Islamist revolution via the overthrow of the official government. Modeling AQAP activity data from 2015 to 2020, the ACLED research team came to a similar conclusion, describing a "pragmatic" militant group using tribal grievances to retrench and expand (Carboni and Sulz 2020).

Although activity patterns are suggestive of organizational preferences, motivations other than shifting strategic focus and priorities may change the operational focus and tempo of a militant organization. In the next section, I turn to an original analysis of AQAP's self-presentation to assess whether there has been a corresponding change in how AQAP presents itself in material intended to rally supporters and present itself as maintaining forward momentum. A trend in AQAP's activity and media releases emphasizing local operations would be consistent with the expectations of the growth trap mechanism as well as with the high-level overview of their activity patterns.

Text Analysis: Changes in AQAP Self-Presentation

I computationally analyze a corpus of 875 documents issued by al-Qaeda in the Arabian Peninsula from June 18, 2004 through September 18, 2016. Official messages are an attrac-

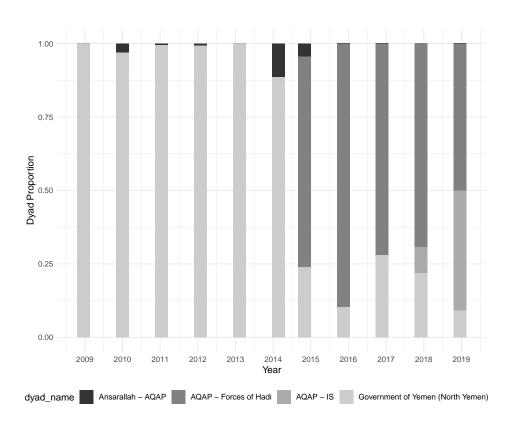


Figure 1: AQAP Conflict Dyads

tive source of information about changing organizational priorities. Within ideological and stylistic constraints, these documents provide a venue through which an organization can choose how to frame their self-presentation. Furthermore, the technological environment makes propaganda documents an appealing source for analysis: since 2011, online platforms have been a "major means of communication" within Yemen (Carapico 2014, p. 33). This implies that media distributed online can be consumed by domestic as well as international audiences. The two-level audience can be expected to discourage AQAP from strategically differentiating their online signaling from their local self-presentation. A discussion about the sourcing, translation, and potential biases of the corpus is presented in the Supplementary Materials.

I use the Structural Topic Model (STM) to summarize changes in latent topics within the corpus (Roberts, Stewart, and Tingley 2014). The STM is well suited to addressing trends over time because it incorporates document-level metadata (such as date). Existing work has

applied the STM to a variety of corpora similarly comprised of short and moderate-length documents (Roberts et al. 2014), such as open-ended surveys (Tingley 2017), social media messages (Bail 2016), and deepweb forum posts (Munksgaard and Demant 2016). Although general trends alone are unable to directly test the predictions of the bottom-up transformation mechanism, relative differences in the proportions of themes can indicate the general plausibility of the argument. The analysis interprets rising prevalence of Yemen-specific topics and decreases in transnational and pan-jihadi topics as suggestive of an influential parochial base. In particular, localizing pressure should manifest as an increased prevalence of themes relating to domestic fissures, such as the Houthi-Sunni civil war, and a decline in transnational themes, such as references to other jihadi fronts and non-Yemeni targets. This outcome is notable because it directly contravenes al-Qaeda Central's strategic and tactical advice to remain focused on the transnational conflict and to avoid becoming enmeshed and co-opted by local concerns.

Combining the estimated prevalence of Yemen-centric topics in AQAP's propaganda releases gives an easily-visualized overview of the changing salience of local concerns in AQAP propaganda output. To characterize attention, I model the corpus with an 18-topic structural topic model. An overview of the general results and description of model specification is included in the Supplemental Materials. After producing the model, I clustered the discovered topics into four thematic groupings: locally-focused war reports, discussions about and threats of clandestine operations, topics promoting transnational jihadi sentiments and goals, and jihadi-associated descriptors.² Across the corpus, the expected proportions dedicated to the two clusters is 45%, implying that the two topics could co-exist had AQAP's propagandists wanted them to.

Figure 2 depicts the expected document-level topic proportions dedicated to local themes. This set of topics is characterized by words that refer to specific local operations, geography,

²The remaining topics—Topic 1, 8, and 16— are specific to the construction of the documents themselves and relate to videography, habitual sign-off terms, and transcript production.

Point Estimates of Local and Transnational Topic Clusters

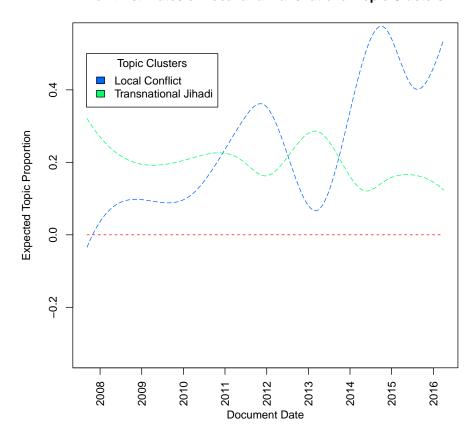


Figure 2: Changes over time to attention dedicated to local and transnational themes

and political jurisdictions. Even the most transnational of the topics emphasizes political events in the country. Document space dedicated to each of the *Local Conflict* topics reflects a prioritization of domestic Yemeni issues over transnational themes. The localizing trend is underscored by the expected prevalence of four topics that speak to a transnational jihadi sentiment. These topics refer to regional power centers, notably the government and security apparatus of Saudi Arabia, and social concerns that are typical of the transnational jihadi movement. Taken together, these topics decline from a peak in late 2012, as AQAP's propaganda becomes increasingly focused on the domestic Yemeni civil war.

I supplement the topic models of AQAP releases with a machine-learning analysis of thirdparty reporting about the activities of AQAP and Ansar al-Shariah, their local spin-off. Comparing AQAP and Ansar al-Shariah is illustrative, as Ansar al-Shariah is widely understood to be "one and the same as AQAP," with AQAP using Ansar al-Shariah when they want to present a local front (Kendall 2018a). The bifurcated messaging implies that AQAP attempted to differentiate their primary al-Qaeda brand from that of a local organization. However, the growth trap mechanism described above predicts that an influx of local recruits and the progressive accommodations that those recruits are able to extract should drive AQAP to adopt increasingly local priorities, which should be reflected in their messaging and activities. These local priorities should drive convergence in third-party media coverage of AQAP and Ansar al-Shariah, despite AQAP's evident interest in separating perception of the entities. The results, presented in the Supplemental Materials, indicate that news agencies treat the activities of AQAP and Ansar al-Shariah as similar enough that a suite of clustering models are unable to differentiate between the two. Finally, the Supplemental Materials provides results from additional Structural Topic Models that compare AQAP's self-presentation to the self-presentation of Ansar al-Shariah and al-Qaeda Central.

Alternative Explanations and Sources of Bias

The results presented above are generally consistent with the theory's expectation that an influx of local fighters generated internal pressure on AQAP to focus on local issues. However, alternative explanations could account for the localizing pattern. The most notable of these explanations is that localization was a top-down strategic response rather than a bottom-up process of accommodation. The possibility of top-down strategic localization is significant, because not only does it fundamentally challenge the accommodation theory, but the observable implications are the same as for the accommodation process. This section concludes by evaluating the potential for, and direction of, bias in the corpus and discussing additional possible cases beyond AQAP.

The most direct route for top-down strategic transformation would be for AQAP's leaders

to have decided on a strategic change towards localization. Unfortunately, the opacity of organizational decision-making makes it particularly difficult to adjudicate between directed top-down change and gradual bottom-up accommodation, as doing so requires access to the inner workings of a secretive organization. However, AQAP's control and subsequent loss of territory in the Abyan Governorate in 2011 provides a rare window in which top leaders of the organization created documents illuminating their strategic thinking.

In 2013, the Associated Press discovered a cache of documents left by al-Qaeda in the Islamic Maghreb (AQIM) in Timbuktu, Mali. Among the documents discovered by the Associated Press were a pair of letters from "Abu Basir," a nom de guerre of Nasir al-Wuhayshi, to his counterpart in North Africa, the leader of al-Qaeda in the Islamic Maghreb. The letters, which are dated from May and August 2012, feature al-Wuhayshi analyzing AQAP's administration of the population of Abyan and transmitting advice for AQIM's future governance. Although the comparison is not perfect— the documents relate to governing rather than internal management— they do provide a rare window into private strategic reflections. We can augment the insight from these documents with a focusing on AQAP's activities and messaging around 2011 and thus use the group's behavior during and after controlling territory in Abyan to develop observable implications from the counterfactual in which AQAP's localizing trend was a top-down strategic decision.

In recounting AQAP's strategy for interacting with the population, al-Wuhayshi consistently presented a model of behavioral change that can be described as accommodation-to-radicalization. The first letter described a gradualist approach, writing "We have to first stop the great sins, and then move gradually to the lesser and lesser ones" and "our opinion in the beginning was to postpone the issue [of corporeal punishments during wartime]" (al-Wuhayshi 2012a). Rather than a logic of gaining strength by becoming more palatable to the communities and adopting their preferences, al-Wuhayshi proposed temporary leniency until jihadi administrators had time to indoctrinate the local community.

The impression that AQAP leaders intended accommodation to be temporary is underlined by the ratio of local to transnational topic proportions during and after 2011. While in control of Abyan in 2011 AQAP adopted a parochial stance, evident in the increase in local topics in Figure 2. However, shortly after relinquishing control of the governorate, AQAP returned to transnational jihadi themes. Notably, the largest bump in transnational content comes in 2013, the year after al-Wuhayshi's letter to AQIM that articulated their lessons from the failure to govern and retain Abyan. Retrenchment rather than a pivot towards local preferences is echoed in al-Wuhayshi's second letter, in which he observes that having to withdraw from Abyan provided an opportunity to consolidate via "a rare opportunity for guerrilla warfare and liquidations [assassinations]" (al-Wuhayshi 2012b). al-Wuhayshi's letters contrasts with a story of top-down strategic change, which could, for example, emphasize that integrating local priorities allowed for a more resilient presence.

Thus, AQAP's attempt to seize territory in Abyan Governorate in 2011 produces a specific moment of variation in localizing behavior and rhetoric. When in control of the southern governorate, AQAP attempted to administer the territory using their religious credentials as the basis for governance and political legitimacy (Al-Ganad, Katheri, and Johnsen 2020), but concluded that they would need a gradualist approach in the future. The failure of their initial governance experiment, the lessons that AQAP itself seems to have taken from the experience, and AQAP's subsequent rhetorical tilt away from local themes all point away from the alternative explanation of top-down adoption of local preferences.

A second alternative explanation could be that AQAP was simply following broader forces among the transnational jihadi community. One possible counter-narrative to the bottom-up transformation argument maintains that the change in al-Qaeda's leadership may have triggered a wider ideological shift that filtered to local branches, and that Awlaki's death amplified the effect in Yemen. This argument would undermine the argument that AQAP was divided between the preferences of their base and the explicit instructions of al-Qaeda Central. Indeed, if al-Qaeda's central strategists changed their advice to local branches,

changes in AQAP's self-presentation would not be informative about the grassroots transformation theory. Unfortunately, there are fewer captured strategic documents that directly attest to the strategic thinking of al-Qaeda's leaders in the second half of the data window. However, during this time, al-Qaeda Central leaders, particularly Emir Ayman al-Zawahiri, issued extensive public commentary and strategic advice for responding to regional upheavals such as the Arab Spring, the Syrian Civil War, and the al-Qaeda-Islamic State factional conflict. Thus, one can analyze communiques released by AQAP compared to those released by al-Qaeda's central propaganda mouthpiece, as-Sahab. This analysis indicates that as AQAP became more locally-focused, their messages increasingly diverge from propaganda released by al-Qaeda's central leadership.

Using text to evaluate trends in self-presentation embeds the assumption that these documents present officially-sanctioned messaging. Although this assumption may be challenging in many contexts, al-Qaeda's online distribution networks have historically maintained very close oversight and control of their propaganda. Captured documents attest to AQAP's specific efforts to limit who can speak on behalf of the organization. Writing to a counterpart, Nasir al-Wuhayshi— AQAP's leader until his death in June 2015— indicated that AQAP limited the use of their brand, sharing "We restricted the statements and appearances of our brothers and emirs, allowing only those we deemed fit" (al-Wuhayshi 2012a).

Finally, readers may wonder whether the growth trap dynamic generalizes beyond the unique context of a local franchise of a transnational violent movement. The distinctive transnational and hierarchical structure of al-Qaeda and its local wings may lead readers to suspect that the expansion-transformation dynamic is more a story about the adaption of a transnational ideology to a local context than it is about organizational pressure following from growth. Moreover, although AQAP presents a typical case in which to expect many of the theoretical drivers of the growth trap to be operative, lack of access to documentation about the inner workings of the group itself limits our ability to compare possible alternative explanations.

To address these worries, this section expands the aperture to briefly highlight three additional militant groups that have been subject to upward-driving pressure to change strategic focus. In each context, the literature describes militant groups who incorporated recruits with divergent preferences, exhausted their socialization capacity, and subsequently became reoriented to the preferences of the new base. The vignettes are selected to span geographic locations, time frames, and ideological backgrounds. Details on identification, selection, and other potential cases are featured in the Supplemental Materials.

The Sandinista National Liberation Front (FSLN) in Nicaragua illustrates how external community shocks can initiate bottom-up transformations. As Mosinger (2017) details, in 1967 and 1972, "grievance-triggering focus event[s]" motivated new constituencies to regard the FSLN as a viable avenue through which to express anti-state grievances. In 1967, the violent repression of a demonstration mobilized radical student organizations. Five years later, in 1972, government mismanagement of relief efforts after the Managua earthquake mobilized Christian activists. Recruits from the new constituencies then flocked to the FSLN and created new internal factions and external bases (Mosinger 2017, p. 210). Following both recruitment shocks, the FSLN was riven by internal power struggles as the new members sought to advance their preferences within the group.

In 1968, the Palestine Liberation Organization claimed credit for fighting the Israeli Army to a stalemate in Karameh, Jordan. Reaping the rewards of a symbolic victory, the movement quickly gained thousands of new Palestinian and Arab recruits (Sharif 2009). However, this bounty rapidly turned toxic, as the new manpower quickly exceeded the PLO's absorption capacity, and the new fighters began abusing their host population in Jordan (Szekely 2017). This abuse exacerbated tensions between the PLO and their Jordanian and Lebanese hosts, undermining the Executive Committee's strategic goal to remain on good terms with their sponsors (Szekely 2017).

Seven years later, in 1975, a founder of the Eritrean Liberation Front (Jebha), Said Hussein,

returned to the group after nine years in prison only to discover his organization transformed. A nationalist group formerly dominated by conservative highland Muslims, the Jebha militia had been molded by an influx of Christians after Ethiopian crackdowns in 1974 and 1975. Indeed, after one crackdown, the number of prospective members so exceeded Jebha's absorption capacity that the group asked potential members to remain home until camp space opened (Woldemariam 2016, p. 155). The new members, largely drawn from lowland Christian communities, quickly began pushing for Jebha to adopt a Marxist ideology anathema to the founders' socially conservative inclinations (Woldemariam 2018, p. 111).

The FSLN, PLO, and ELF represent a set of positive cases where scholars have independently observed a rapid growth to transformation dynamics. These provide initial support to the expectation that the growth trap mechanism is indeed one that affects militant groups in a variety of contexts and circumstances. Additional work can fully establish the scope of the phenomenon, as well as the counter-strategies that allow some militant groups to resist the dynamic outlined here.

Conclusion

For many organizations, recruits are the future. Not only do new members bring manpower and material, but they can introduce new strategic priorities and internal constituencies. These priorities can eventually push the organization into directions that the leadership does not want. This process, a personnel-driven resource curse, has been described as a human resources challenge by militant leaders in a wide variety of contexts.

The manuscript has presented a novel theoretical insight into a mechanism for bottomup organizational transformation. This insight has consequences for domains beyond the militant context presented here: it suggests that what appears to be a process that brings in strength and resources can create internal tension. By presenting a pathway for grassrootsdriven organizational change that unifies the experiences of a wide variety of militant groups, this paper presents three mechanisms through which recruitment shocks may lead to change.

This can alert scholars and practitioners to mark similar underlying contexts among groups experiencing the structural characteristics that precede grassroots- transformation.

As well, this manuscript made a twofold methodological contribution for research in information-poor settings. First, it suggests a method for treating the text of news reports as a readily accessible source of feature-rich data about the tactical and strategic goals of a local actor. Secondly, it uses multiple methods and data sources to triangulate insights into the behavior of actors that would otherwise be difficult to systematically characterize. In overlapping distinct methods and data, the empirical approach builds confidence in the absence of a ground truth against which to compare the findings.

This manuscript has focused primarily on the organizational consequences of rapid expansion, the what component of the dynamic. Future work can expand on the when and the why. One future avenue of work can leverage the development of organizational datasets (Acosta 2019; Birnir et al. 2018; Braithwaite and Cunningham 2020) and recent strategies to computationally quantifying periods of change in armed conflict actors (Foster 2022). Together these data sources can shed light on the organizational and contextual conditions that send some groups on the path to bottom-up change while other organizations remain stable despite similar periods of expansion. Additional work focusing on leader motivations for rapid expansion into new constituencies can illuminate a puzzle at the heart of the expansion-transformation dynamic: if a rational, forward-looking leader should be able to anticipate downstream pressures, why undergo an expansion that may invite transformation? Understanding the specific calculations and constraints faced by militant leaders can advance our understanding of the ways in which managerial decisions interact with organizational and contextual factors to shape the evolution of armed conflict.

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A Supplemental Materials

This supplementary appendix presents supporting information for the quantitative analysis sections of Growth Trap: Grassroots-Driven Transformation of Militant Organizations. It describes the data, analysis, and results for a Structural Topic Model of communications from AQAP, Ansar al-Shariah, and as-Sahab.

Media Texts and Processing

News stories originated in the ICEWS database and were selected by first querying the database for stories about events located in Yemen. This resulted in 47,385 stories ranging from January 15, 1991 through January 4, 2015. I selected only "violent" events, defined as events that fall into one of the following ICEWS event types: threaten with military force; use unconventional violence; violate ceasefire; use as human shield, threaten; occupy territory; physically assault; mobilize or increase armed forces; engage in violent protest for leadership change; engage in mass killing; conduct suicide; car, or other non-military bombing; carry out suicide bombing; attempt to assassinate, assassinate; abduct, hijack, or take hostage; fight with small arms and light weapons; or fight with artillery and tanks.

This produced 10,818 stories, of which I took a random sample of 1772 stories. ICEWS codes for event date, event type, source actor, and target actor. However, the source and target actor codes typically characterize the actor by their role, such as "Armed Rebel" or "Militant" rather than by group affiliation. To generate data on how groups operate, I re-coded the reports to include a variable for group or movement affiliation. I first sent the sample to Amazon's Mechanical Turk platform, asking the workers to categorize the stories as relating to an action carried out by Ansar al-Shariah, AQAP, Houthi/Ansarallah, Yemeni Government, Tribal Uprising, Other, Multiple Actors, or Unknown. I kept the tags for the 283 stories that both coders agreed on, and hand-coded the remaining 1489 stories. I then further subset the data to keep only the stories tagged as describing a violent event carried out by one of the three militias of interest. This produced the final 720-story corpus of news events.

For each of the development, validation, and test sets, I used the tm() package to tokenize the words in each story and remove numbers, standard English stopwords, whitespace, and stray HTML markup. I additionally removed a custom list of stopwords that strongly signal the group, such as variations on the group name and signifiers of sectarian identity. These custom stopwords are:

AQAP: qaeda, alqaida, alqaeda, qaida

Houthis: houthi, huthi, houthis, zaidi, alhouthi

Ansar al-Shariah: ansar, sharia, alsharia;³

al-Qaeda: laden,osama; words often used to summarize location of action for one of the groups: peninsula, northern, southern, arabian, yemen[-]based

Sectarian identity: sunni, shia, shiite.⁴

³The robustness models also remove "alshariah" with little change in results.

⁴I did not remove areas of operation from the texts as the goal of the classifiers was to seek discussion of operational differences. Locations of operation are substantively meaningful.

	Absolute Frequency	Proportion of Documents
Ansar al-Shariah	27	5.8%
AQAP/Al-Qaeda	260	56.3%
Houthi/Ansarallah	174	37.7%
Total	461	99.8%

Table 1: Distribution of group labels in development set

Word frequency was normalized via term frequency-inverse document frequency (tf-idf), producing a pair of tf-idf matrices, from which I took the intersection of features (i.e. words). This generated a set of 2,222 features for classification in the texts; which reduced the available terms significantly but was necessary to test models across the training, validation, and test sets.

I reattached metadata to each of the term document matrices. Metadata included group label, date, and whether the story was coded by Mechanical Turk workers. The distribution of group labels in the development set can be seen in Table 1 with the corresponding distribution from the validation set in Table 2.5

	Absolute Frequency	Proportion of Documents
Ansar al-Shariah	9	7.8%
AQAP/Al-Qaeda	67	58.2%
Houthi/Ansarallah	39	33.9%
Total	115	99.9%

Table 2: Distribution of group labels in validation set

I used this data to compare reporting of AQAP against it's own local spin-off organization, Ansar al-Shariah (Supporters of the Shariah). Ansar al-Shariah was established in 2011 as an arms-length local wing that could focus on domestic grievances and administration rather than AQAP's transnational mission and which would be free of negative local sentiment associated with the al-Qaeda brand (International Crisis Group 2017). Although quickly identified as an alias for AQAP, having two different brands provides a reference point. Under the Ansar al-Shariah name, AQAP could strike a more parochial message, exploit local grievances, and avoid the encumbrances of the al-Qaeda brand (Swift 2012). In keeping with the expectation that local recruits would be primarily invested in the local conflict, many of these fighters "have deployed exclusively for an insurgency against the Yemeni government" (Human Rights Watch 2013, p. 14).

The transformation mechanism outlined throughout this manuscript predicts that AQAP has become increasingly constrained by growing local preferences within their rank-and-file. If this is the case, despite AQAP's attempt to create a local spin-off, their base could be expected to exert internal pressure to become more locally involved. The actions of AQAP should become similar to those of Ansar al-Shariah. Conversely, if AQAP's leaders are not experiencing internal pressures to accommodate local preferences and interests, AQAP

 $^{^5}$ Deviations from 100% in the relative frequency sums are due to rounding.

should be expected to implement their leaders' stated preferences to clearly differentiate the globally-branded AQAP from the locally-branded Ansar al-Shariah.

To tighten the focus on whether AQAP is distinguishable from Ansar al-Shariah, I applied a suite of machine learning classification algorithms—random forest classification, PCA decomposition, support vector machine classification, and tSNE visualization— to determine whether the algorithms could systematically differentiate among stories describing violent activities ascribed to AQAP from violent activities ascribed to Ansar al-Shariah. The classifiers failed to consistently separate stories about the two sets of actors. Finally, I used the same set of algorithms to ensure that the classifiers could differentiate both AQAP and Ansar al-Shariah from their sectarian rival, the Houthi insurgency. The analysis suggests that local observers generally characterized AQAP and Ansar al-Shariah using similar terminology and framing; despite investing in Ansar al-Shariah as the local face of the movement, AQAP's communiques became progressively more local in theme.

Structural Topic Model

The three STM models are based on a corpus of 1353 documents, spanning October 25, 2005 through September 21, 2016. Approximately 500 documents are associated with as-Sahab. A histogram of the distribution of can be seen in Figure 6.

Model Overview

Figure 3 shows the proportion of the entire corpus of communiques that the model assigned to each of the eighteen topics.

As the figure indicates, when the entire corpus is taken together without any disaggregation by document release date, the two most common topics are related to the Houthi militias and terms that describe local targets and operations. Topics that associate words around ideological and tactical themes are each expected to feature in about 10% of the total documents.

The Yemen topics identified in the main body of text group thematic clusters identified by the model relate to facets of AQAP's activities in Yemen—including discussion of Houthi militants, activities in Southern Yemen, castigation of the Yemeni government, and descriptions of local operations. Documents representative of this topic are often battlefield communiques issued to claim local territorial control.

Readers may be concerned that the inverse relationships between topic proportion allocated to the "transnational" and "local conflicts" are simply mechanical. Although the total prevalence assigned to all topics in the model does sum to one, and thus increased attention to one topic necessarily means less attention to others, the "transnational" and "local conflicts" clusters never exceed an expected topic percentage of 75% of any given document.

AQAP Corpus With Day Covariates Topic 17: Houthis Topic 7: Local Targets Topic 8: Editing: Structure Topic 12: Ummah and Brotherhood Topic 4: Rewards to the Martyr Topic 14: Prisoners and Memoirs Topic 18: Attacks on West Topic 1: Editing: Transcripts Topic 13: Fire and Brimstone Topic 5: Clash of Civilizations Topic 9: Jihadi Revolution Topic 3: Southern Yemen Topic 6: Greetings to Leaders Topic 11: US in Yemen Topic 10: Operational Security Topic 15: Jihadi Factionalism Topic 2: Demise of al-Saud Topic 16: Editing: Narration

Top Topics Model 1

Figure 3: Estimated Topic Proportions in al-Qaeda in the Arabian Peninsula Corpus

0.15

Expected Topic Proportions

0.20

0.25

0.30

Document Pre-processing

0.00

0.05

0.10

I focus on media released online to jihadi media platforms and outlets. Preprocessing removed words that occurred in fewer than two or more 70% of the documents in the corpus.⁶

Models One, Two, and Three each use time as a covariate. The time variable is expressed in the data as a running counter of days from the oldest document in each corpus. Thus, the date of the oldest document is given as 1 and the day of each subsequent document is modeled as the number of days between the first date and the date of the individual document. These dates are linked to the translation date rather than release date as the former can be accurately pinpointed for each document in the corpus. For the vast majority of the corpus, the translation date closely coincides with the date that the document was released to online jihadi media outlets. The precision of release dates contained in the original Arabic text can vary according to type of document: communiques are typically dated to a specific day, while strategy documents or promotional magazine can be dated with a day, a month, or even a season. Thus, for consistency, the date covariate is linked to the translation date.

⁶In the AQAP corpus, there was no change to the number of tokens in the corpus for an upper bound threshold between 70-95%. I evaluated coherence and exclusivity at an upper threshold of 50%, but did not find results that would suggest either a coherence or exclusivity benefit from the additional reduction in corpus size.

Possible sources of bias

Readers may be concerned about the corpus origin, potential for bias, and risk of over-ascribing official approval to independently-created material. On the first concern: the corpus consists of English translations of Arabic releases and, occasionally, the original text of English-origin documents.⁷ These documents were collected and translated by the SITE Intelligence Group, a private research organization.⁸ The corpus is necessarily a sample, as to the author's knowledge, no comprehensive archive of all official AQAP propaganda exists in the public domain. However, any systematic selection effects should bias the results against finding increased local self-presentation because the SITE Intelligence Group's document identification process can be expected to prioritize documents accessible to an international audience.

Readers may additionally worry that even if online platforms are important for communication in the country, Yemen's relatively low internet penetration rate may imply that AQAP's online propaganda is not intended for a domestic audience. If this is the case, it should likewise bias the results against findings in support of the bottom-up localizing hypothesis. A strategic actor could use in-person networks to signal which documents are intended for local versus international audiences. However, the difficult information and security environment in Yemen makes it risky to rely on a bifurcated media strategy.

Model Selection

Topic models rely on the user to prespecify a number of topics for the algorithm to search for. However, this parameter fundamentally influences the themes that will be identified in the documents. For models one and two, I selected the number of topics by doing a sweep of model specifications with 10 to 30 topics. I selected a topic number that performed best on both semantic coherence and exclusivity. After this process, a model with 18 topics appeared to present the greatest gains to semantic coherence without trading off exclusivity. Moreover, the 18-topic model identified topics that were particularly substantively coherent.

For the joint model, after comparing the semantic coherence-exclusivity trade-off for models across a sweep from 10 to 40 topics, I set the number of topics to discover at 34. The increase of topics reflects the expectation that the two organizations are already rhetorically distinct, and so the joint corpus should require more topics. Specifically choosing an output that doubled the number of topics slightly penalized semantic coherence over a model with fewer topics, but allowed for a more precise comparison of topics between each group.

 $^{^{7}}$ A very small portion of the documents, such as individual articles from $Inspire\ Magazine$, were distributed in English.

⁸These translations are advantageous for this project, as the company maintains near real-time coverage of prominent online distribution sites and has internal procedures to ensure consistent translation in style and tone.

⁹Ideally, the selected number of topics would have relatively high exclusivity and semantic coherence. I often faced a trade-off between the two. When determining the trade-off, I prioritized semantic coherence over exclusivity. The exclusivity bands were, overall, narrow while coherence varied substantially.

As topic models are, by nature, non-deterministic, each implementation of a given model will produce slightly different results. Thus, after selecting the number of topics for the STM to identify, I ran each model specification ten times to create a range of possible output models for analysis. I compared the average semantic coherence and exclusivity for each of the models. For each of the three models below, I found that the averages within each ten-model set were nearly identical. To avoid biasing my results by selectively choosing the output that best confirms my theoretical expectations, I chose which specific models to analyze by maximizing average coherence and exclusivity metrics. As no model clearly dominated the coherence-exclusivity trade-off, I assigned a relatively stronger weighting to semantic coherence when selecting a specific iteration to present. I then selected a model to present before qualitatively evaluating any of the topics. This decision was intended to avoid bias in choosing how to prioritize coherence gains against exclusivity losses.¹⁰

Finally, after selecting which model to present, I evaluated the remaining models to ensure that the output was consistent across the set of ten results for each model. In particular, I verified general agreement on the thematic content identified across the runs.

Figure 5 depicts the expected proportion of the transnational jihadi topics presented according to time.¹¹ The y-axis represents the expected proportion of each document dedicated to each topic. For context, I added four vertical lines marking important dates identified above. From left to right, the lines represent: the al-Majalah airstrike on December 17, 2009; the start of the Yemeni Revolution on January 27, 2011; the death of Usama bin Laden on May 2, 2011; the end of the first Obama Administration on January 19, 2012; and the Houthi takeover of Sanaa on September 21, 2014.

Local Conflict Topics

The "Local Conflict" cluster is comprised of four STM-identified topics. The topics are unified by a shared focus on people and places local to Yemen, as well as tactical terms that suggest military operations.

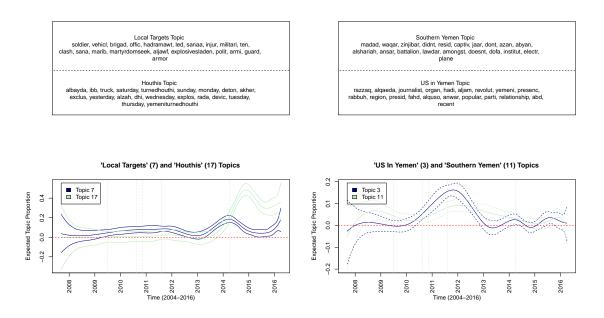
Within the cluster, specific topics are internally unified by their focus. One topic, which I have named "Southern Yemen" is characterized by geographic references to Abyan Governorate, which was held by Islamic militants in 2012. Another, the "Local Targets" topic has a geographic focus on Hadramawt Governorate in Central Yemen and makes frequent references to specific operational behaviors and targets. The Houthis' local topic combines frequent temporal references with military terms, a combination that is indicative of claims of military operations.

Figure 4 shows temporal trends in the expected proportion of the corpus dedicated to each of the four topics in the Local Topics cluster. Notably, the Houthi and Southern Yemen topics closely track then-current events. Each topic rises in prevalence in the corpus corresponding to the dates of the respective military offensives. Moreover, the fact that the unsupervised

¹⁰A plot of average semantic coherence and exclusivity scores is available upon request.

¹¹For interpretability, the x-axis is labeled by year. The model was estimated according to the number of days from the start of the document corpus.

Figure 4: Changes over time to attention dedicated to local topics



topic model discovered the military offensives provides a useful source of external validity for the 18-topic model.

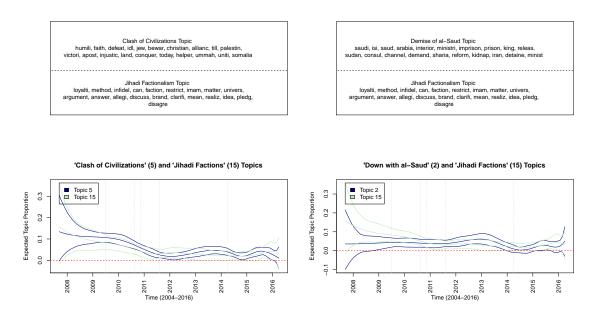
Transnational Jihadi Topics

The first topic is dedicated to naming groups that the jihadi worldview considers global enemies of Islam. I term this the "Clash of Civilization" topic, as the FREX words reflect a pervasive jihadi doctrinal focus on fighting a perceived global alliance of Jews and Christians who are attempting to subjugate Muslims. The "Clash of Civilizations" topic began to decline after about 2009, an important benchmark, as the year saw high-profile drone strikes that caused widespread resentment. This decline may speak to the bottom-up transformation of interest described above: if localizing rhetoric was driven by top-down marketing decisions, and the group turned away from global jihadi branding to capitalize on domestic frustrations, we might expect to see a sharper decline in the topic during 2009.

The second transnational jihadi topic, topic 15, centers on words that indicate an attempt to sooth conflicts among and between jihadi communities and other Muslim groups. Thus, I label this topic "Jihadi Factionalism." FREX words for the topic feature words used when attempting to recapture ideological legitimacy.

The third topic presented in Figure 5, the "Jihadi Revolution" topic, is centered around concepts used to incite for overthrow of secular governments and implementation of an Islamic theocracy. Such revolutionary rhetoric is central to the transnational jihadi view of themselves as a vanguard of social and political revolution. The topic declines briefly after the first inflection point, then rises from mid-2010 through mid-2013 before taking a more

Figure 5: Changes over time to attention given to global jihadi topics



dramatic downturn at the second point. One reason why the Jihadi Revolution topic may not reflect the theorized transnational topic decline may be that the 2011 Yemeni Revolution increased the group's interest in presenting itself as a viable alternative to the Yemeni state.

The fourth transnational topic in Figure 5 is topic 2, labeled "Demise of al-Saud." The topic is focused on Saudi-centric themes, and references to Saudi officials and the state's repression of jihadi dissidents. The topic is largely stable at an expected prevalence of approximately 5% throughout the time period. I code this topic as a *transnational* topic because the Saudi-lead intervention in the Yemeni civil war, Operation Decisive Storm, was launched only in 2015 and so for the majority of the dates analyzed, Saudi Arabia was an external target.

Comparison between AQAP and al-Qaeda Central Messaging

This model addresses the counterfactual that regional and global developments may account for changes in AQAP messaging, independent of any changes in membership base. To account for the possibility that observed shifts in messaging were driven by top-down directions from al-Qaeda leadership or general trends in the jihadi environment, the model contrasts the rhetoric of AQAP with that featured in documents released by As-Sahab, a media production house closely associated with al-Qaeda's senior leadership.

AQAP's changing rhetorical style is presented alongside that of As-Sahab to establish that observed changes in AQAP rhetoric are not driven by an underlying pan-jihadi trend. This model identified themes in a corpus of 1375 documents, of which 875 were AQAP communiques and 500 were releases from As-Sahab. The model, estimated for 34 topics, predicted topic prevalence as a function of time interacted with an indicator for whether the document

was authored by AQAP or As-Sahab. 12

The patterns are generally intuitive: overall AQAP is more likely to talk about Yemen-related topics while topics that discuss other battlegrounds and targets for revolution are more associated with As-Sahab. However, the divergence in thematic prevalence of pan-jihadi topics between releases issued by As-Sahab and AQAP indicate that AQAP's increasing Yemen focus was not indicative of a localizing turn lead or directed by al-Qaeda Central, via their As-Sahab mouthpiece. Two such themes are highlighted below. The two highlighted themes were chosen for their popularity among globally-minded jihadis. The first is characterized by an explicitly transnational list of FREX words: it features countries with active jihadi battlegrounds as well as references to what jihadis perceive as an American-Israeli alliance against Muslims around the world. The second topic is a relatively abstract transnational theme that attempts to mobilize jihadi supporters by referencing vulnerable demographics of Muslims, such as women and children, experiencing hardship and travails.

Due to the complexity of a 34-topic model, the section briefly summarizes the results of the STM model from the joint AQAP and As-Sahab corpus. Twenty-nine of the substantively interesting topics from the model are featured in Figure 6.¹³ More negative values on the x-axis indicate a stronger association with AQAP texts and more positive values indicate a stronger association with the As-Sahab corpus. For ease of interpretation, the topics are clustered into four general categories: those primarily relating to Yemen, topics with strong religious overtones, topics that suggest engagement with global jihadi issues, and topics that address specific countries and battlefields other than Yemen. This clustering was done on the unsupervised STM output using the author's substantive expertise. Within each cluster, topics are summarized according to the top FREX words.

Cases and Selection Criteria

The theoretical contribution of this manuscript outlines a process by which mission drift in the militant group occurs after an expansion into a demographic that has different preferences over strategic outcomes or differences in tactics that with important downstream effects. An ideal research design would include compiling systematic information about the growth and management patterns of the universe of cases of 20th-century militant groups. However, given limitations on the availability of information, it is difficult to obtain precise growth and internal dynamics information about the universe of militant groups. Specifically, information about recruitment rates, managerial capacity, and organizational dynamics and debates are not always systematically available.

Based on my knowledge of the managerial literature produced by al-Qaeda and affiliates, I take the AQAP case as a theory-building case. Through an analysis of primary-source documents and a review of the existing literature, I observed a consistent complaint from dissenters that the al-Qaeda decision-makers focused on growth and expansion rather than selection (e.g.: Brown 2007).

¹²Time is included in this model as a linear function for computational tractability.

¹³Of the five topics excluded from the summary, four were associated with editing and document preparation and the fifth consists of declarations of defiance and intention. FREX words for this last topic include: know, think, can, see, thing, happen, and now.

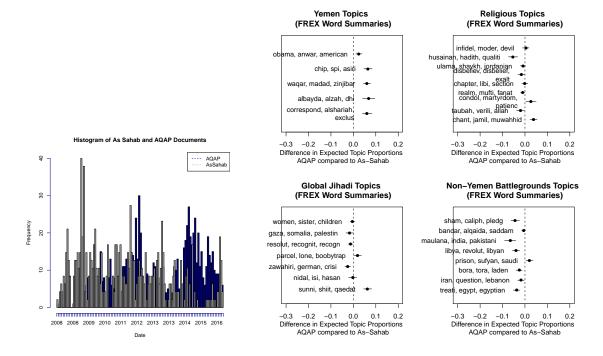


Figure 6: Left: Histogram of the temporal distribution of AQAP (blue) and As-Sahab (gray) corpus. Right: Summary of the 34-Topic AQAP and As-Sahab Model

To identify generality and flesh out the accommodation mechanism, I searched for other cases that shared a period of extremely rapid expansion. I identified potential cases via a combination of surveying case experts for whether they have seen an expansion-accommodation dynamic at work and searching academic and practitioner literature via Google Scholar, ReliefWeb, and the CTC Sentinel. Search terms for the latter included:

- Rapid + expansion OR recruitment OR growth + militant
- Flood + recruits + militant + groups
- Influx + recruits + militant

This process generated a dozen cases of rapid growth that served as the basis for research for evidence of accommodation pressure. Specifically, I searched each result for passages that indicated specific periods of rapid intake of new members or personnel. The cases are strongly skewed towards organizations based in Europe and the Middle East, particularly Islamist groups. The list of candidate cases is potentially shaped by rhetorical idiosyncrasies: possible cases were identified by pinpointing a specific descriptive trope — the "influx" or "flood" of recruits—which may be relatively more present in the English-language reporting during a time and place (late 2010s) that has also seen more attention to the dynamics of conflicts in the Middle East.

Case	Region	Specific Passage, if Available	Years	Citations
Prosper Network	Europe	"Prosper grew quicklyThis rapid expansion led Prosper to become the primary target of the Gestapo in Paris However, Prosper's rapid growth came at the expense of careful security measures." (Boutton and Dolan 2021)	1940s	Boutton and Dolan 2021
PLO	Middle East	"[a] sudden influx [that] was well beyond the factions' absorptive capacity'" (Szekely 2017)	1956	Brynen 2019; Sayigh 1997; Szekely 2017
Croatian Separatists	Europe	a large influx of recruits were drawn from Croatian workers migrating to West Germany to fill a labour shortage in the 1960s, they came from underdeveloped areas that were a hotbed of Croatian nationalism Tokić 2009	1960s	Tokić 2009
Muslim Brotherhood Syria	Middle East	'[leadership centralized power] by drawing on a new influx of fighters "recruited just out of the mosques, universities and even high schools.' Lefèvre 2013, p. 106 in Mosinger 2019, p. 973	1960s	Lefèvre 2013
Cumann na mBan (women's wing of IRA)	Europe	'The women who joined the Republican Movement in the 1960s or earlier were attracted to Republicanism by political ideology and biographical continuity, while the majority of the activists recruited after 1969 joined to fight British soldiers.' Reinisch 2016, pp. 159–160	1969	Reinisch 2016
Provisional IRA	Europe	'After the massive influx of volunteers who were motivated by more temporal concerns such as revenge and anger, the PIRA took on a very different character'Kenny 2010, p. 551	1970s	Kenny 2010

Jebha	East Africa	Huge influx of Christians trying to escape repression. The organization grew from 2,000 to 10,000 with a similar influx happening the year before.	1975	Woldemariam 2018
al-Qaeda	Middle East	See, in particular, Walid al-Masri's criticism of recruitment as quality over quantity (Brown 2007)	1990s	Brown 2007; Fishman et al. 2008; Moghadam and Fishman 2010
Kosovo Liberation Army	Europe	'In 1996, the KLA could muster a few hundred fighters. By the end of 1998 it had over 17,000 men.' The huge influx identified as linked to the Jashari Massacre (Perritt 2010, p. 100)	1990s	Koktsidis and Dam 2008; Per- ritt 2010
Naga Groups	Southeast Asia	'Following the 1997 cease-fires, however, Naga groups saw the biggest influx of recruits in their long histories. The Naga factions more than doubled their ranks during the first few years of cease-fire (to about 10,000), and they have remained that size over the two decades since. Hanson 2021, p. 820	1997	Hanson 2021
European Islamist Militants	SE Asia	'an influx of new Western recruits into the tribal areas since mid-2006' McConnell (2008) in Cruickshank 2009, p. 1	2000s	Cruickshank 2009
Islamist militancy (Sahel)	North Africa	"The Sahel has experienced the most rapid increase in militant Islamist group activity of any region in Africa in recent years'"	2010 -	Le Roux 2019