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Networks as strategic repertoires: Functional differentiation among Al-Shabaab terror cells

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This article explains variation across the characteristics and structure of Al-Shabaab (AS) networks as a function of strategic repertoires. From a comparison of domestic and transnational AS recruitment and fundraising networks in the United States, the article generates hypotheses about the characteristics and structure of networks and how traits such as brokers, centrality characteristics of nodes, international linkages and use of funds are related to a network's purpose. The implications of these observations are twofold: The nature of a terror organisation's network is indicative of the organisation's strategy; conversely, the organisation's strategy will affect the nature of the network. On the one hand, knowing the function of the network makes it possible to counter it by detecting and debilitating the nodes. On the other hand, knowing the structure of a network makes it possible to surmise its purpose. The article concludes that, from a network perspective, terrorist recruitment and fundraising are distinct problems that require differentiated law-enforcement and security-intelligence approaches.

Keywords: terrorism; networks; social network analysis; Al-Shabaab; United States; fundraising

Introduction

The purpose of this article is to gauge whether the nature and characteristics of terror networks are a function of their purpose. However intuitive, this claim is difficult to investigate. To generate hypotheses about terror networks, we need to be able to control for time and space. Terror networks, however, are notoriously impervious to examination. Moreover, much of their activity transpires in hostile environments that are inhospitable to scholarly fieldwork. This article zeros in on al-Shabaab (AS) as a critical case study. Terror networks such as AS are commonly thought of as hierarchical with centralised command and control structures. Yet, a growing body of research is skeptical about these assumptions. This article scrutinises these assumptions empirically in an effort to stimulate a more nuanced approach to terror organisations and their networks. To this end, it examines variation in AS activity in the United States and compares associated networks and their purposes. It turns out that recruitment and financing networks operate surprisingly independently and that different types of activities in the same locale spawn quite different networks. Although these networks overlap in time and space, they are not connected with one another.

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There is widespread concern among governments and security intelligence services across democratic countries about AS recruiting and fundraising from within the Somali diaspora and the threat of homegrown foreign-trained radicals returning from abroad to commit violent acts of terrorism. The US House Homeland Security Committee released a report detailing AS' threat to America, leading Committee Chairman Peter T. King to declare: 'Right now Al-Shabaab has to be our main concern because of the fact of such easy travel back and forth, because there is a large number of [US recruits], and the fact that there is such open recruitment'.¹ Concerned that the organisation might soon be able to muster an attack on American soil, US federal prosecutor W. Anders Folk and the US Department of State warned the US government to 'take Al-Shabaab seriously'.² An estimated 300–1200 foreigners or ethnic Somalis with a foreign passport are thought to be fighting with AS, including upwards of 40 American, 100 British and 20 Canadian expatriates since 2007.³

Expatriates from Maryland to California have reportedly travelled to Somalia to join AS, but most hail from the 'Twin Cities' region of Minnesota, home to America's largest Somali diaspora, whose concentration of 25,000 members represents about one-third of the total Somali diaspora in the United States.⁴ The evidence suggests that a group of men concentrated in Minneapolis/St. Paul formed a network, the activities of which ultimately saw 18 of them leave for Somalia and 11 of them die there.⁵ However, reliable data on these individuals are sparse. American networks affiliated with AS are small in number (three) and size (the largest number of verifiable nodes in any of these networks is 23).

Instead of scrutinising hypotheses, patterns from studies that have only a small n on which to draw are best used to generate hypotheses. These can subsequently be subjected to further empirical testing elsewhere with the ultimate aim of developing a model that is able to capture the dynamics of extremist networks. How do individuals within networks connect, remain connected, bring others into the fold, connect to other networks, and execute their ultimate objectives, while striving to remain undetected? Answers to these questions will go some way towards ascertaining the best means to contain and disrupt both the genesis and diffusion of networks that facilitate terrorist ends. By scrutinising prevailing assumptions and analysing the structure and dynamics of the three discernible AS networks that operated on American soil, we offer a set of hypotheses to capture the link between a network's function and structure.

Terror networks: overview of the state of knowledge

Insofar as they link actors who are working towards common goals,⁶ networks are important means to terrorist ends.⁷ They make it possible for terrorists to overcome collective-action problems arising out of complexity and the uneven distribution of assets that they need to carry out attacks. In the 'global Salafi jihad', 'the distribution of assets seriously affects its mission against the United States'.⁸ Networks are used by terrorist groups to recruit, train and prepare for an attack⁹ to compensate for inadequate resources, identity, culture, emotions, elite access, ideological support and recruits¹⁰ and to 'provide flexibility, adaptability, deniability, multidimensionality and the capacity to do things at a distance, often through surrogates'.¹¹

This article collates two strands of the literature, namely the inter- and intra-organisational connections between networks. The first investigates how larger, discrete, yet loosely affiliated networks interact with each other, such as the connections between al-Qaeda (AQ) and its primary counterpart in South-East Asia, Jemaah Islamiya.¹² The second investigates how a covert or peripheral network operating away from a central network

with which it identifies interacts with this central network and potentially with other networks under the same umbrella organisation. Krebs' investigation into the network of the 19 individuals who carried out the 9/11 attacks is an example.¹³

Although the very notion of a network contrasts with the notion of top-down decision-making and arbitration, and although 'networks are never managed by a single (central) authority', the notion of hierarchy pervades research on terrorist networks.¹⁴ Different forms of hierarchical control posited in the literature have different implications for the structure and dynamics of the organisation and the networks of which it is comprised: (1) top-down decisions made about the goals, objectives or function of individual networks (and the dissemination of the information required to carry these out), (2) ideas pertaining to the general goals of the entire organisation and the reasoning behind these goals (this could be considered the *ideology* of the group) and (3) the distribution of funds and resources to networks to advance either the particular or general goals of the group. This article covers only assumptions about the first and third forms of hierarchy. By contrast, this article is less concerned with the more 'macro' or 'abstract'¹⁵ level of terrorism, as opposed to what cells *do* to further the ideologically motivated goals of a terrorist entity and how these activities are funded.

It is sometimes assumed that a core network directs, at least to an extent, the operation of peripheral networks. This could include instructions on what to attack and how to attack it, when to engage in or abstain from activities, such as recruitment or fundraising, how many individuals should be part of the network, and which qualities members should (and should not) have. The 9/11 network was already quite well formed before its arrival in America,¹⁶ and it appears that the plot's targets and even the structure of the network were determined well in advance by AQ authorities outside of the attacking network, namely Khalid Sheikh Mohammed, who allegedly proposed the idea for the attacks to Osama Bin Laden as early as 1996.¹⁷ Although 9/11 was notorious for its complexity and the duration of its planning phase, other studies of terrorism also presume a substantial degree of external control over the activities of a particular network. A quote from Ilachinski captures several of assumptions about the operation of illicit network: 'the manpower mission requirement is an explicit goal that must be accomplished by the leader of the cell to which a given target is assigned'.¹⁸ Ilachinski not only assumes that a network has a *de facto* or *de jure* leader and that he or she sets, controls and accomplishes 'manpower mission requirements' (which in turn assumes that these networks coalesce in accomplishing a series of discrete tasks), but also assumes that the mission towards which this manpower is directed is assigned to the network by an external authority.

Similar assumptions are ubiquitous: 'a GTO [Global Terrorist Organisation] determines the nature and level of terrorist attacks in each country indirectly through its choice of representatives associated with the local terrorist group'.¹⁹ Similarly, Corman's study of a hypothetical model of AQ depicts the specialised function of some networks as operating at the behest of a central organisation, to the point where these specialisations correspond with individual top-level council members.²⁰ In the same vein, successful networks are thought to require strong individual leaders who can devise strategies in response to rapidly changing conditions and impose their will on sub-ordinates to operationalise their decisions.²¹ This is reflected in some suggestions for counter-terrorist policy that understands networks to be organised into hierarchical hubs where the removal of the central node, or leader in the group, will lead to disarray and dissolution of the network. Conversely, the removal of 'grassroots', lower-level actors, supposedly leaves the leader stranded and powerless.²²

The sort of specialisation Cormann ascribes to networks is an aberration in the literature on terrorism. Instead, networks are commonly thought to be multitasking: the same network recruits, fundraises and attacks. The division of labour is among the actors – not the networks. According to this conception, individuals hold rigid positions within a network with responsibilities for specific tasks, and people are recruited into networks (by a recruitment specialist, of course) to fill particular roles.²³ Yang and Sageman, for instance, assume that different individuals play highly specified and agreed-upon tasks within a single network. For example, ‘some key members may act as leaders who control the activities of the whole group, while others may serve as gatekeepers to ensure the communication and coordination between different groups of a larger network’.²⁴ This degree of specialisation between individual nodes is premised on central decision-making and delegation to define and assign roles.

This assumption seems to be founded on the belief that networks are preoccupied with planning and executing attacks coincident with their location. Tupman, for example, observes: ‘Western Europe still remains a recruitment target and perhaps a target for a spectacular atrocity, as does the USA’, because of the presence of terrorist cells covertly embedded into the fabric of Western society.²⁵ Another variant of this line of argument acknowledges the post-9/11 flattening of AQ that has led to an increased focus on autonomous self-funded groups (discussed below in greater detail). Nonetheless, it assumes that networks, formally disconnected from an umbrella organisation but informally linked through ideological solidarity and self-branding, are ultimately focused on perpetrating attacks in Western democracies.²⁶

Even when a decentralised network structure is assumed, the ‘parent organisation’ is thought to infuse ‘start-up capital’ into the fledgling peripheral cell.²⁷ This scenario has a post-9/11 AQ supplying ‘money to underwrite conflicts in many parts of the world’, including those involving separate but affiliated terrorist entities and perpetually masterminding or executing attacks.²⁸ Shapiro and Siegel’s application of rational choice theory to terrorist funding, for instance, is predicated on this very assumption, even though they themselves think it is no longer applicable, given the structural changes to AQ post-9/11.²⁹

Hierarchy, however, runs counter to the very characteristics of networks, which are heralded as ‘temporary, dynamic, emergent, adaptive, entrepreneurial and flexible structures’, a ‘cutting-edge design’.³⁰ Similarly, the rigid depiction of networks contrasts starkly with networks as an organisational structure that consists of ‘operatives [who] are highly adaptive, compartmentalised [and] mobile’.³¹ These observations are contradictory. On the one hand, terrorist networks pose a threat to Western interests because of their resilient connections to declared enemies abroad, such as AQ. On the other hand, such networks are a threat domestically because of their very ability to operate autonomously by being able to complete the variegated tasks of planning, funding and ultimately executing attacks with little more than ideological support passively offered by a central organisation. That is, the emphasis on *offensive* networks risks obscuring how peripheral networks support a central organisation in varied ways, with each manner of support entailing a different relation to the central organisation.

Variables: network structure and centrality

This section explains the relation between network structure and the way a network’s nodes influence the movement of information and resources. Networks can have different forms – chain, hub, multi-player, all-channel – but only two concern this article’s findings. A ‘hub’ network features a single node or very small cluster of nodes at the centre of three or more

other nodes which have few – if any – links.³² Nodes on the hub's periphery are likely only connected to each other through the centre of the hub, which, as a consequence, has a disproportionately large influence on the control of information and resources through the network. By contrast, an 'all-channel' network exhibits a much more horizontal formation, which decentralises the flow of information and resources. Only a few if any individuals in an all-channel network are seen as substantially more influential and well-connected than the rest, and nodes are generally connected to three or more other nodes in the network.³³ Network structure matters because it affects the flow of information and resources.

The three inter-related concepts of brokerage, degree centrality and betweenness centrality are useful in describing and analysing how nodes influence the movement of information and resources within and between the networks. Brokers are conferred positional advantage in a network insofar as they bridge structural holes – two unconnected groups of actors – by virtue of having greater access to information, opportunities and skills.³⁴ Morselli's study of members of the Hell's Angel's motorcycle gang in Quebec found that elite members of the group were directly connected to only a few other members of the network (i.e. low *degree centrality*), while at the same time many 'efficient paths pass[ed] through [the] given node' (i.e. high *betweenness centrality*).³⁵ These are precisely the traits of a broker: a node with few but influential connections. Ergo, an 'ideal broker' is an autonomous link between a single node in each of two networks, where such a link constitutes the only connection between them.³⁶

Brokers are advantageous because they can manage the flow of information and resources between two groups to the benefit of themselves and the networks they link.³⁷ Especially in illicit situations, members in each network can avoid making more connections to illicit individuals than necessary, which would increase their chances of detection,³⁸ while maximising opportunities to further their objectives through potential access to the resources of the other group via the broker.³⁹ In turn, the autonomous ideal broker – the most knowledgeable about both of the networks of all nodes involved – can act opportunistically, in this case by connecting transnational legal and illicit markets. As a result, brokers tend to reap the most monetary profits from illicit activity.⁴⁰

However, such an actor is described as 'ideal' for good reason; more often, one will observe 'one or two participants who are high in both degree and betweenness centrality', especially in smaller networks.⁴¹ While AS data does not allow for the precision of Morselli's study, Morselli's 2×2 matrix of the two varieties of centrality outlines four types of actors and their relation to the nodes of these networks (Table 1).⁴²

The matrix is useful because the evidence presented shows that recruitment and fundraising networks clearly differ in degree and betweenness centrality. They also differ in the special functions that some nodes serve and that are crucial to the overall function and dynamics of those networks. Differences in network structure and the centrality characteristics of nodes aside, their international linkages and the way they use funds are also distinct.

Table 1. Centrality matrix.

High in degree centrality and low in betweenness centrality	High in both betweenness and degree centralities
Low in both centralities	High in betweenness centrality but low in degree centrality

Method and limitations

The nature of the evidence perforce imposes limits on social network analysis (SNA) that has implications for its application to AS networks in the USA: the number of data points is insufficient to employ conventional network metrics. As a result, the application of SNA to terror networks in this article relies more on network concepts and visualisation than on quantitative measures. However unconventional, the results warrant the application of SNA.

Many insights gleaned about terrorist networks, including their genesis, purpose and the way they work, stem from interviews with incarcerated and former terrorists or their associates.⁴³ Yet, such subjective evidence needs to be corroborated.⁴⁴ Furthermore, victimisation surveys and Uniform Crime Reporting data were never designed to capture terrorism-related offences; offender reports are difficult to access, and data held by intelligence services are hard to come by.⁴⁵ In the light of these methodological challenges, we opted instead for an approach that relies on readily replicable data.

The illicit nature of these networks and the necessarily covert nature of investigations to detect and dismember them incentivises secrecy from network members and government officials alike. Identification of the temporal and geospatial patterns of the stochastic networks in question relied exclusively on open sources, including newspapers, academic research, court records, think tanks, governments, NGOs and the Internet (*caveat emptor*). These sources were used to map the Minneapolis Recruitment Network (MRN) and two less-extensive AS fundraising networks active in the United States around this same time, one based in Minneapolis and the other based jointly in St. Louis, Missouri, and San Diego, California. The nature of these sources imposes certain limitations. For example, the network diagrams in Figure 1 represent only links between nodes that are confirmed by these sources. Additional links between nodes are confirmed to exist between an individual and other nodes of a network, but court documents are too vague to draw these links reliably.⁴⁶ Nonetheless, the available information allows for the construction of robust models that exhibit patterns sufficient to generate hypotheses and draw inferences about the relationship between the nature and characteristics of a network, on the one hand, and its functionality, on the other hand.

Evidence

Minneapolis Recruitment Network

This network consists of 23 individuals, all of whom were American citizens; only one was not of Somali descent.⁴⁷ The purposes of this network were to (1) radicalise, (2) encourage its members to travel to Somalia to wage *jihad* with AS and (3) raise funds to defray the costs of travel. All 23 men left for Somalia during two periods of time about a year apart, with others leaving in-between and after these two minor exoduses. The first of these waves occurred in early December 2007, when six men aged 22–26 boarded planes en route to Somalia over the course of eight days.⁴⁸ Three months before, they had met in mosques, restaurants and private residences to discuss their plans and to co-ordinate fundraising activities to pay for airfare. All these meetings involved Mahamud Said Omar (MSO) and Omer Abdi Mohamed (OAM), who encouraged the others to travel to Somalia; MSO also helped raise funds for airline tickets and at least partially funded the tickets for these men.⁴⁹ Of the six, two pairs of men shared the same travel itinerary to Somalia.⁵⁰ Others left sporadically over the following months – MSO himself in January 2008, Zakaria Maruf (ZM) in February 2008 and Mustafa Ali Salat (MAS) and Mohammed Abdullahi Hassan (MAH) in August 2008, on the same flight.⁵¹

The second wave occurred in 2008 when six men aged 17–26 vanished from Minneapolis, including at least three in the period of 1–4 November.⁵² At least four of these men had met regularly in the Carlson building on the University of Minnesota campus in Minneapolis, where two of them worked as security guards.⁵³ The last known departures before federal authorities closed in on the conspiracy occurred in October 2009 when five men left Minneapolis destined for the United States–Mexico border at San Ysidro, which three of them ended up crossing en route to Somalia.⁵⁴ Two other young men have reportedly left Minneapolis for AS-related reasons, although no connections to this or any other network is discernible.⁵⁵

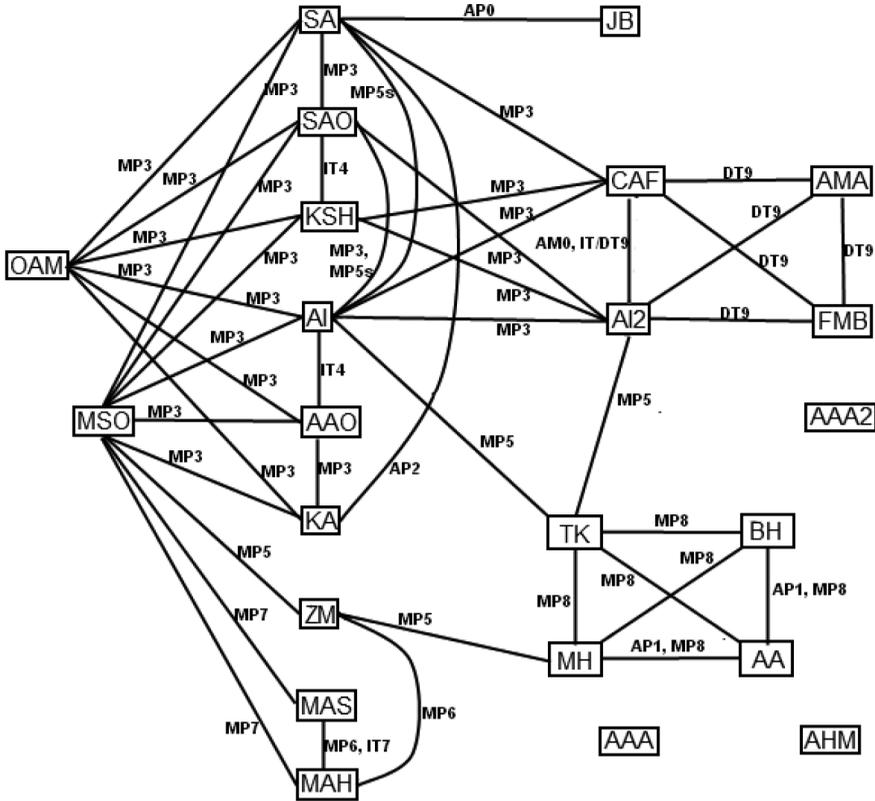
At first glance, this pattern of departures resembles a series of unrelated conspiracies. SNA, however, reveals a high degree of interconnectivity pointing to an all-channel network⁵⁷ between the co-conspirators: of 23 individuals implicated⁵⁸ in the plot, only three do not have a confirmed or highly suspected link to another member of the plot. This is shown in Figure 1.

Additional links, which could not be mapped due to less reliable information that proved more difficult to replicate, corroborate the all-channel nature of this network:

- Cabdulaahi Ahmed Faarax (CAF) travelled to Somalia in early 2007, apparently by his own volition, and court documents claim that between September and December 2007, he told some involved in sending the six men to Somalia in December 2007 that he experienced ‘true brotherhood’ there.⁵⁹ Court documents do not stipulate with which of these eight men he met, but the evidence suggests that CAF is probably connected to more of these nodes than is apparent from Figure 1.⁶⁰
- Although the eight men involved in the December 2007 departures are confirmed to have met multiple times, it is unclear whether all men attended all meetings; therefore, links in Figure 1 between the six men who left reflect only confirmed interactions and common travel itineraries. Yet, these six men were probably more interconnected than Figure 1 lets on. This is especially important to note, lest part of Figure 1 be (mis)interpreted to depict a ‘hub’ network pattern surrounding MSO and OAM.
- Court records indicate that MSO had contact with at least some of the men who left in November 2008, although the vagueness of these documents makes it difficult to establish definitive links between nodes.⁶¹ Court documents also indicate that he travelled to Somalia between January and April 2008, supplying funds to unspecified members of the network so that they could procure firearms.⁶²

Three nodes lack any verifiable link to any other node in the network. However, the degree of confidence that these nodes were indeed part of this network is high because:

- Court records for Adarus Abdulle Ali (AAA2) have him meeting with a group of men to discuss plans to travel to Somalia for the purposes of assisting AS and accompanying one of these men to the airport.⁶³ However, the court report does not indicate the group of men with whom he attended that meeting or which individual he accompanied.
- Links between Adbikadir Ali Abdi (AAA) and the other members of the plot cannot be confirmed, although the fact that he was indicted in the same document as ten of the other individuals here as well as his departure during November 2008 intimate links to at least some of the nodes of the network.⁶⁴



Node identity		Link quality		Link duration	
AA	Abdisalan Ali	IT	International travel for the furtherance of illicit objectives	1	2005-008
AAA	Abdikadir Ali Abdi	DT	Domestic travel for the furtherance of illicit objectives	2	March 2007
AAA2	Adarus Abdulle Ali	AP	Associates prior to involvement in illicit network	3	September-December 2007
AAO	Ahmed Ali Omar	→	(placed at receiving end of link) Transfer of funds for furtherance of illicit objectives	4	December 2007
AHM	Ahmed Hussein Mahamud	i	Placed by arrow, indicates international transfer	5	Early 2008
AI	Abdifatah Isse	d	Placed by arrow, indicates domestic transfer	6	February-August 2008
AI2	Abdiweli Isse	'n'	Number placed by arrow indicates the number of transfers (if n>1)	7	August 2008
AMA	Abdow Munye Abdow	MP	≥1 meeting in person for the furtherance of illicit objectives	8	Fall 2008
BH	Burhan Hassan	MT	≥1 meeting by telephone for the furtherance of illicit objectives	9	October 2009
CAF	Cabdulaahi Ahmed Faarax	FP	Furtherance of network objectives under false pretenses	0	Unknown/unverifiable
FMB	Farah Mohamad Beledi	UK	Unknown/unverifiable		
JB	Jamal Banna				
KA	Khalid Abshir				
KSH	Kamal Said Hassan				
MAH	Mohamed Abdullahi Hassan				
MAS	Mustafa Ali Salat				
MH	Mohamud Hassan				
MSO	Mahamud Said Omar				
OAM	Omer Abdi Mohamed				
SA	Shirwa Ahmed				
SAO	Salah Ahmed Osman				
TK	Troy Kastigar				
ZM	Zakaria Maruf				

Figure 1. Minneapolis recruitment network.⁵⁶

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- AHM is confirmed to have raised funds for several of the men who departed between August and November 2008. On three separate occasions between April 2009 and April 2010, once they had travelled to Somalia, he also provided two of the men with money at their behest.⁶⁵ However, court documents do not indicate to whom AHM was linked.

Stohl and Stohl hypothesise that ties of friendship and acquaintance can form the bedrock of a resilient network and are often strong ties that appear to be weak when scrutinised.⁶⁶ There are a few confirmed links between individual nodes that pre-dated any known radicalisation or illicit activity, but such antecedent ties probably existed, especially considering the geographic concentration of the nodes and the substantial number of subjects who attended the same educational institutions as well as the Abubakar As-Saddique mosque in Minneapolis. One confirmed example is Shirwa Ahmed and Jamal Bana, the latter of which has no other verifiable links to the network, despite his departure concurrent with five others in November 2008.

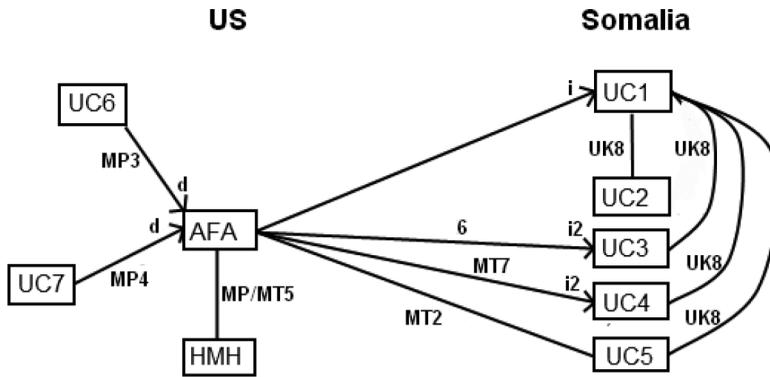
In sum, the MRN appears to be the largest known US networks connected to AS outside of Somalia. Although almost 2 years separate the first known departure from the last, a majority of nodes are highly interconnected and exhibit no discernible hub or chain networking patterns. In terms of their activities and objectives, (1) there is no indication that they were plotting an attack on American soil, (2) funds raised by the network were solely to facilitate members' travel to Somalia and (3) many nodes raised at least a portion of their own travel funds.⁶⁷

Minneapolis Fundraising Network

At about the same time as the MRN, three individuals in Minneapolis and one in Columbus, Ohio, conspired to provide financial support to AS. However, they did not conspire to leave the United States for Somalia. Their activities focused solely on fundraising and transferring funds to established contacts in Somalia for the purpose of furthering unspecified AS objectives. This network appears to consist of two hub networks, one situated in Somalia and one situated in the United States (Figure 2).

Beginning in September 2008, Amina Farah Ali (AFA) of Minneapolis was confirmed to have been in contact with an AS militant in Somalia, described in court documents as 'UC1', a financial representative for the organisation who was promoted to an administrative governor of several AS-controlled regions in February 2009.⁶⁸ Court documents identify four other contacts in Somalia who were subordinates of UC1 and who do not appear to have interacted with one another, three of whom oversaw accounts to which AFA transferred funds.⁶⁹ The account numbers corresponding to these individuals were supplied to AFA by UC1 with whom AFA was in contact repeatedly between September 2008 and July 2009.⁷⁰ Court documents have AFA corresponding directly with two of these subordinates, interacting with one only once in May 2009, and contacting the other in October 2008 to arrange for him to be a guest speaker at a fundraising teleconference that same month.⁷¹

In America, AFA was in contact with three individuals, one of whom assisted with bookkeeping and recording pledges, while the other two collected funds from donors and directed them to AFA for transfer to Somalia. One of these actors was explicitly instructed by AFA to collect funds under false pretense, while she tasked the other with collecting pledges made during one of the teleconferences.⁷² The available information suggests that these three nodes never interacted with one another. Unlike the MRN, there are no detectable ambiguities to suggest further links. Notwithstanding the close geographic



Node identity		Link quality		Link duration	
AFA	Amina Farah Ali	IT	International travel for the furtherance of illicit objectives	1	September 2008–July 2009
HMH	Hawo Mohamed Hassan	DT	Domestic travel for the furtherance of illicit objectives	2	October 2008
UC1	Unindicted Conspirator 1*	AP	Associates prior to involvement in illicit network	3	November 2008
UC2	Unindicted Conspirator 2*	→	(placed at receiving end of link) Transfer of funds for furtherance of illicit objectives	4	January 2009
UC3	Unindicted Conspirator 3*	i	Placed by arrow, indicates international transfer	5	February 2009
UC4	Unindicted Conspirator 4*	d	Placed by arrow, indicates domestic transfer	6	April 2009
UC5	Unindicted Conspirator 5*	'n'	Number placed by arrow indicates the number of transfers (if n>1)	7	May 2009
UC6	Unindicted Conspirator 6*	MP	≥1 meeting in person for the furtherance of illicit objectives	8	Unknown/unverifiable
UC7	Unindicted Conspirator 7*	MT	≥1 meeting by telephone for the furtherance of illicit objectives		
*identified as such in court documents		FP	Furtherance of network objectives under false pretenses		
		UK	Unknown/unverifiable		

Figure 2. Minneapolis fundraising network.

proximity between the MRN and some of the nodes of the *Minneapolis Fundraising Network* (MFN), an exhaustive search revealed no apparent connections between these networks. The conclusion to be drawn is that the MFN appears to be composed of two hub networks with AFA as the broker between the Minneapolitan and Somali hubs. While the individuals in Somalia may have other unknown functions in the larger AS network there, the conspirators in America appear to be concerned exclusively with supplying funds to be used at the discretion of AS operatives in Somalia.

St. Louis/San Diego Fundraising Network

Akin to the MFN, the St. Louis/San Diego Fundraising Network (SL/SD FN), active between January 2008 and March 2009, was concerned exclusively with raising funds and transferring them to contacts in Somalia for use there, including the purchase of a vehicle to transport AS militants.⁷³ Akin to the MFN, the function of the SL/SD FN relied on repeated contact with AS operatives in Somalia, which were more demanding than those

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in the MFN: they requested specific amounts of money for particular purposes. While court documents are unclear on how these funds were raised, the manner in which these funds were transferred to Somalia is indicative of a network similar in structure to the MFN. The main actor in this network was Mohamud Abdi Yusuf (MAY) of St. Louis, MO. From January to July 2008, he was in repeated contact with an Unindicted Co-Conspirator (UCC), based in San Diego, California. In February 2008, UCC communicated with Aryow (A), then the leader of AS,⁷⁴ and received funds with instructions from MAY to transfer them to ‘Omar Mataan’ (OM) based in Somalia.⁷⁵ Yusuf himself sent five installments to Duane Mohamed Diriye (DMD) in Somalia and interacted with ‘Sheikh Saeed’ (SS),⁷⁶ a contact in Somalia introduced to him by DMD.⁷⁷ MAY also had multiple conversations with an unknown acquaintance in Somalia with whom he discussed skirmishes between AS and Ethiopian forces.⁷⁸ UCC discussed plans to channel funds to AS with six other unindicted individuals between January and July 2008, but only one of them appears to have had eventual involvement in coordinating the solicitation of funds.⁷⁹ There is no evidence to suggest that any of these six individuals interacted with one other.

From May 2008 until March 2009, Yusuf was linked to Abdi Mahdi Hussein (AMH), an employee of Qaran Financial Express, LLC, a *hawala* remittance firm with a branch in Minneapolis. AMH agreed to make 14 remittances to an unknown contact in Somalia in a manner that obscured the identities of the sender and the receiver and in amounts small enough to avoid requiring the sender to provide and verify their identity. However, the court documents and the criminal charge against AMH indicate that he was unaware of any connection to AS.⁸⁰ MAY interacted with four other individuals about various aspects involved in sending money overseas to support AS, and AMH met one of them once in May 2008.⁸¹ This is the only direct link between individuals in America with whom Yusuf discussed his illicit activities. MAY and UCC represent the sole link between two hub networks, with MAY overseeing the remittance of funds to Somalia via UCC and AMH.⁸²

Findings and discussion

Functional differentiation

These illicit networks reveal patterns that challenge assumptions of current scholarship and lend themselves to generating hypotheses about the relationship between the ways in which terrorist networks in the West are structured and how they function. Corman applies the concept of Activity Focus Networks (AFNs) to terrorist networks, whereby networks are organised around ‘activity foci’, defined as categories of activities towards which resources and manpower are assigned strategically to achieve the organisation’s goals.⁸³ He (correctly) acknowledges that networks operating outside of the central network can have specialised functions,⁸⁴ but falls short of inferring that such specialisation can have consequences for the very structure of these networks. An initial goal of this article was to identify how existing literature predicts funding and recruiting-oriented networks to be structured, and subsequently to compare these expectations against the empirical evidence presented here. However, the apparent absence of such prediction in the literature suggests that the very notion of a relationship between network structure, on the one hand, and network function, on the other hand, is underexplored (if not *unexplored*) in the scholarship of terrorist networks.

The most striking observation that can be gleaned from these findings is the correlation between network structure and its functional objectives. The MRN follows an all-channel structure. Removing nodes from this network as individuals left for Somalia (and upon the

subsequent death of some of the actors there), even in significant numbers over a short period of time, did not dismantle the network or compromise its function of recruiting men and funding their travel to Somalia until the last wave of recruits departed in October 2009. For example, the departure of six recruits in December 2007 and of MSO, OAM and ZM in early 2008 did not noticeably affect the later departure of other recruits.

It is also not the case that an individual or small group of individuals remained in Minneapolis to act as a 'conveyor belt', helping groups of men to radicalise and depart under their supervision: MSO and OAM played an important role in the initial wave of departures without departing themselves at that time; in most of the later departures, they had less of a role, despite the high interconnectedness of all those who left. As far as publically available intelligence indicates, the network is no longer operational. While the removal of nodes did not impair the ability of remaining recruits to network and, eventually, leave for Somalia, the lack of new nodes being brought into the fold and the arrest of several subjects, including OAM and MSO, rendered the network unsustainable. This indicates that there were no undetected nodes primarily concerned with recruitment: although OAM, MSO, ZM and CAF helped to radicalise recruits and co-ordinate fundraising roles, they all travelled to Somalia at some point (CAF and ZM died there). There is no indication of the presence of recruiters who were above the fray of travelling to Somalia to join the insurgency there.

Contrary to much of the literature on terrorism, the network's function was highly specialised, while individual functions were undifferentiated. Two hypotheses follow from these observations:

H1: Terrorist networks are functionally differentiated.

H2: The structure and characteristics of terrorist networks is a function of their purpose.

Modes of control

Stohl and Stohl assert that terrorist groups such as AQ '[do] not maintain control over who is or is not admitted into the organisation'.⁸⁵ In effect, control over who was allowed into the network appears to have been informal and decentralised. Not only did no one person or small group of people within the network regulate who was to be recruited and groomed for travel to Somalia, the central organisation set no goals or quotas as to the quantity and quality of the Somalia-bound individuals. Just as no one was controlling who was a part of the network, no particular person seemed to have domain over any specific task.

The MRN was also highly geographically concentrated. All actors lived in or around the Twin Cities area, mostly in Minneapolis, although several resided in St. Paul and in adjacent suburbs such as New Brighton. This dense distribution of the nodes of the network enabled in-person meetings between a variety of nodes in an assortment of venues including mosques, restaurants, private residences and a university campus. Court documents do not indicate any interactions over telephone or the Internet between actors in Minneapolis and note only one conversation between an actor in Minneapolis and another in Somalia. This is especially noteworthy given the interest in the role of the Internet in radicalisation and recruitment.⁸⁶ While it is entirely possible that members of the network were exposed to radical videos circulating on the Internet, including those of Al-Awlaki, it seems that these face-to-face meetings were crucial to establishing trustworthiness, essential in convincing these individuals to travel overseas, and devising the plans and procuring the funds for them to do so.⁸⁷ This is not to say that the role of the Internet is unimportant;

Internet propaganda positions AS and its adherents as ideological authorities who ought to be esteemed by aspiring members of this network.⁸⁸ However, this ideological hierarchy did not come with any sort of top-down controls over the specialised function of the network, namely the recruitment of combatants for AS.

The two fundraising networks both exhibit a similar structure, and one that is distinct from the delinquency homophily – the tendency of individuals to associate with others of the same kind – exhibited by the recruitment network. Not only are the nodes situated in America strewn across at least two states in both cases, but each network also contains individuals located in Somalia who may have never been to America. The connections between these foreign nodes and others in Somalia are shadowy in both cases, but their individual contact with American nodes is well-documented and integral to the successful function of the network, which in both of these cases was to channel money to nodes in Somalia.⁸⁹ Unlike the recruitment network, not all fundraising was done under false pretense; two teleconferences held in October 2008 and February 2009 by the MFN used jihadi rhetoric to appeal to prospective donors.⁹⁰ Similar rhetoric may have been used in the recruitment network, but there is no discernible effort within either of the fundraising groups to encourage or facilitate travel to Somalia.

Both fundraising networks exhibit a ‘hub’ network pattern: in the MFN, HMH, UC6 and UC7, all had separate but similar tasks delegated to them by AFA, the node through which all funds were transferred to Somalia. Within this network, the five contacts in Somalia appear to resemble a hub pattern as well, UC1 being the common connection among the other four nodes. The peripheral nodes of each of these hubs have no recorded contacts, and contact between AFA and the peripheral nodes in Somalia was initiated and coordinated by UC1.

Likewise, the activities of the SL/SD FN were coordinated by nodes broken down into hubs. MAY is the most active node on the American side, connected to five other nodes of which only two had contact on a single occasion. One of these contacts, UCC, was also at the centre of a hub with six individuals aside from MAY, also with no documented connections except through UCC. As in the other fundraising network, no node expressed any desire to travel to Somalia. Connections between America and Somalia other than through MAY are inconsequential; UCC had a single conversation with a high-ranking AS official and sent funds to Somalia, but the quantity and destination of these funds were determined by MAY with some instruction from his two contacts in Somalia. Of the nodes in Somalia, DMD was the most important; while SS seems to exert influence over the quantity, timing and use of the Somalia-bound funds, MAY was introduced to SS through DMD. These ‘hub’ network structures ‘introduce an element of hierarchy’ to the network,⁹¹ with those positioned at the centre having access to information and control over the flow of information and resources that make them *de facto* leaders of sorts and analytically special within the network in ways discussed below.

Three more hypotheses follow from these observations:

H3: Recruitment-oriented networks rely on domestic all-channel networks that are geographically concentrated (that is, for the purpose of recruitment, proximity matters).

H4: Fund-raising networks rely on transcontinental hub networks (that is, proximity does not seem an impediment).

H5: Control over access to recruitment networks is informal and decentralised.

Presence of brokers

The MRN seems to be comprised of *many* individuals who are high in both degree and betweenness centrality, as well as a few peripheral nodes that are low in both. In this case, no one node or small groups of nodes appear to be brokers, especially if all or even some of the implied but unspecified linkages described above obtain. Simply put, there is an absence of actors within this network who are able to control the flow of information and resources to the extent that they can substantially determine or even influence the activities of the group.

Conversely, the MFN includes many individuals with minimal degree centrality (i.e. one link), which logically results in a betweenness centrality of zero. However, there are two individuals (AFA and UC1) who exhibit high degrees of both betweenness and degree centrality. The link between these two nodes constitutes the crux of the entire fundraising operation; without either of these links, the funds would have to find an alternate sender or receiver: they comprise the main conduit of information and resources for this network.⁹² Of note is that information (e.g. account numbers) travelled exclusively in one direction (from UC1 to AFA), while funds travelled exclusively in the other.

Likewise, the SL/SD FN matches Morselli's predictions for small networks. The individuals connected to Yusuf and UCC who were situated in America exhibit a low degree centrality and, with the exception of one link between two 'spokes' in Yusuf's hub (see Figure 3), non-existent betweenness centrality. Here, brokers play less crucial a role than observed in the MFN. This is because there are multiple links across which funds and information flowed between America and Somalia within this network. However, one pair of brokers, MAY in America and DMD in Somalia, appears to be especially integral to the network's function. While both Hussein and UCC sent money to Somalia, and UCC had a relatively high betweenness centrality due to his links to MAY as well as A and OM in Somalia, MAY overwhelmingly received and controlled the flow of information from the AS operative in Somalia and controlled the timing and quantity of funds remitted. Like the Minneapolis network, the removal of the link between MAY and DMD or SS (a link forged due to MAY's prior link with DMD) compromised the functionality of the network. The hypotheses that follow are:

H6: Fundraising networks rely heavily on the actions of 'brokers'.

H7: Recruitment networks do not rely on brokers.

Financial dimensions

Most scholarship on *hawala* centres focuses on how government policy and media attention towards Islamic remittance practices is misplaced or futile to stop the minority of *hawala* transactions that are criminal in nature.⁹³ The specialised structure of some fundraising networks in the United States as elucidated here can give rise to equally specialised strategies for network identification and dismantlement, hence drawing attention away from the vast *hawala* system and towards targeting individual networks. As Tupman notes, 'it is difficult to typologise by financing, as groups resort to a variety of financing activities over time',⁹⁴ and this remains potentially true for AS, as they may utilise other means of accruing funds within Somalia's borders.

Technically, the Minneapolis 'recruitment' network explicitly engaged in fundraising as well as radicalisation/recruitment, but the pattern of fundraising and the use of these funds differ qualitatively from the two fundraising networks. Within the recruitment network,

all known fundraising activity was in the form of door-to-door solicitation under false pretense, including sending one of the subjects to Saudi Arabia to study the Koran and supporting orphanages of Somalia. Almost all of these funds were spent in the Minneapolis area to purchase airline tickets for the men travelling to Somalia. Even in the two cases where this rule does not hold, the funds were intended for use by individual members of the network while in Somalia. This includes MSO's trip to Somalia between January and April 2008, where he supplied money to help unspecified members of the MRN to purchase weapons, and AHM's transfer of small sums of money (three transactions totaling \$200) to help unspecified members of this network to purchase firearms. Fundraising activities coordinated and carried out by this group were necessary to the recruitment function, and in this case, the effective use of such recruits required an expensive travel itinerary. What few other funds were raised or distributed by this group were used towards arming specific recruits after their arrival in Somalia. This funding and spending model is not mentioned in literature: an autonomously funded group disinterested in domestic attacks, sending manpower rather than money to support the central organisation.

The opposite is true of the other two networks. Funds raised were not consumed by the Western portion of the network; instead, they were transferred directly overseas to members of AS' administrative network in Somalia for general disbursement. When funds were destined for specific purchases, the quantity and use were determined by the central group. Overall, the recruitment network did not raise funds for use beyond the network, while the American nodes of the fundraising networks did the exact opposite. The fundraising networks represent a nuanced form of hierarchy between the centre and the periphery, where the ideological authority of the centre compelled actors in the West to mobilise on behalf of the centre, which in turn relied in part on funds raised by the periphery to achieve objectives in Somalia. This interdependence hinges on ideological authority, or in Bakker et al.'s terms, *external legitimacy*, which a grievance-driven group, such as AS, needs to maintain to convince people to risk legal prosecution by offering financial support.⁹⁵

There is no evidence that any of these networks, irrespective of their structure or function, received funds or material resources from AS affiliates outside of the network, nor did they expect such assistance.⁹⁶ Such financial isolation did not result in a turn to criminal activity to procure funds.⁹⁷ This is especially interesting in the case of the recruitment network, which contained several individuals with prior criminal records, including at least one individual indicted on charges of theft.⁹⁸ The use of *hawala* services, especially by Hussein in the SL/SD FN, for remitting funds to Somalia and the manner in which these funds were obtained represents an atypical case under-represented in literature. This is especially pertinent to the case of AS and Somalia because the failed state does not support Western banking/wiring services such as Western Union; so, this group cannot effectively make use of the Western banking system, as terrorist groups such as AQ have in the past.⁹⁹ A final hypothesis follows:

H8: Transfer of funds from the central network to peripheral networks is not necessarily indicative of the pursuit of terrorist ends.

Table 2 summarises key differences and similarities between recruitment and fundraising networks observed in this section:

Table 2. Observed differences in structure and characteristics of sample recruitment and fundraising networks.

Network type	Fundraising	Recruitment
Network structure	Hub	All-Channel
Select nodes function as brokers	Yes	No
Centrality characteristics of nodes	Brokers: High betweenness centrality, low degree centrality All other nodes: Low betweenness centrality, low degree centrality	High betweenness centrality, high degree centrality
International linkages	Yes	No
Verifiable intent to commit domestic attacks	No	No
Use of funds	Internal domestic activities: mostly to purchase airfare	Remittances: American donors to AS contacts in Somalia

Conclusion

The exploratory sample in this study is necessarily small, thus limiting the inferences that can be drawn from the findings and their generalisability. Yet, the evidence on which the study draws is quite robust. Although the study cannot control for endogenous effects by virtue of the fact that all networks it investigates were in the United States, the ability to compare three networks across the same time and space makes it possible to control for similarities and differences in ways that would otherwise be more difficult methodologically if context and conditions were held less constant. The hypotheses generated in the process of the comparison require further empirical scrutiny and validation, both through comparison to other AS networks and through comparison to other terror networks about which reliable information is available, so that brokers can be identified where they exist, linkages confirmed, and an accurate model of the entire network and its relations to a central organisation can be constructed. The fact that all actors in these networks save one is a member of America's Somali diaspora raises the importance of diasporas and ethnic capital as means of decreasing marginal and transaction costs as an issue that also warrants further study. Ethnic identity compounded by radical Islamist/jihadist ideology certainly had a hand in congealing these networks.

This study of all known US-based networks connected to AS has yielded hypotheses that challenge some of the conventional wisdom surrounding the structure and function of terrorist networks, especially those in the West. Most importantly, this study finds that such networks have specialised functions and that the structure of such networks seems to correlate with these functions. These different functions determine the nature of their relationship with the central organisation. This has implications for law enforcement and counter-terrorism.

First, information about the function of a network, even when many of its nodes and linkages remain obscure, can be indicative of its structure and, therefore, how best to intercept it. For example, knowledge that the network is oriented towards raising and remitting funds would warrant the search for a 'broker' node whose disruption would debilitate the function of the network, at least temporarily. By contrast, networks specialising in

recruitment appear to be more robust and resilient to the removal of even multiple nodes. As Bakker et al. confirm, much work remains to be done on how networks replace nodes, re-establish links or re-route flows of information or resources through other nodes; so, it is difficult to predict how effective the removal of nodes would be over time.¹⁰⁰ However, the possibility that a network's function and structure are related represents a promising step towards a more nuanced strategy to contain and deter such networks: not all terror networks are alike. This is a significant empirical finding for counter-terrorism. Knowing the function of a network makes it possible to counter it by detecting and debilitating the nodes. Conversely, knowing the structure of a network makes it possible to surmise its purpose.

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Notes

1. Robertson and Cruikshank, "Somali AQ's Western Reach."
2. IPT News, "Prosecutor Warns"; Labott, "State Dept."
3. Shinn, "Al-Shabaab's Foreign Threat," 204.
4. Dunbar, "Survey"; "Craig Baxam 'helped al-Shabab'"; Stickney and Kreuger, "Accused Terrorist." Accurate figures for the total US Somali population are hard to come by and range from 35,000 to 150,000.
5. United States District Court, District of Minnesota, "Affidavit in Support of Request for Extradition"; District of Minnesota, State of Minnesota, "Affidavit of Michael N. Cannizarro Jr."; United States District Court, District of Minnesota, "Third Superseding Indictment."
6. Powell, "Neither Market nor Hierarchy," 295–336.
7. Stohl and Stohl, "Networks of Terror," 95.
8. Sageman, *Understanding Terror Networks*, 145.
9. Matthew and Shambaugh, "The Limits of Terrorism," 617–27.
10. Giraldo and Trinkunas, "Introduction," 7–20; Mette Eilstrup-Sangiovanni and Jones, "Assessing the Dangers," 7–44; Gunning, "Terrorism, Charities, and Diasporas," 93–125; Gunning, "Social Movement Theory."
11. Sheffer, "Diasporas, Terrorism and WMD," 133–70.
12. See Abuza, "Terrorist Funding," 169–99, and also Magouirk et al., "Connecting Terrorist Networks," 1–16.
13. Krebs, "Mapping Networks," 43–52.
14. See Mette Eilstrup-Sangiovanni and Jones, "Assessing the Dangers," 11–12; Stohl, "Networks, Terrorists, and Criminals," 65.
15. Corman, "Activity Focus Networks," 36.
16. Krebs, "Mapping Networks," 49.
17. *Ibid.*, 47; "Suspect 'Reveals Terrorist Planning'."
18. Ilachinski, "Insurgent and Terrorist Networks," 51.
19. Siqueira and Sandler, "Support and Delegation," 238.
20. Corman, "Activity Focus Networks," 40; Stohl, "Networks, Terrorists, and Criminals," 66.
21. Vertigans, *The Sociology of Terrorism*, 106.
22. Asal and Karl Rethemeyer, "Researching Terrorist Networks," 70; Keller et al., "Dismantling Terrorist Networks," 1016–7.
23. See Shapiro, "Terrorist Organizations' Inefficiencies," 63 for an example of these assumptions at work.

24. Yang and Sageman, "Terrorist Social Networks," 301.
25. Tupman, "Ten Myths," 202; see also Stohl, "Networks, Terrorists, and Criminals," 69 – his description of the self-funding of autonomous cells (described below) implicitly assumes that the aim of such cells is a domestic attack.
26. Giraldo and Trinkunas, "Introduction," 17.
27. Acharya, *Targeting Terrorist Financing*, 47.
28. *Ibid.*, 27.
29. Shapiro and Siegel, "Underfunding in Terrorist Organizations," 426.
30. Corman, "Activity Focus Networks," 35; Stohl, "Networks, Terrorists, and Criminals," 66.
31. Corman, "Activity Focus Networks," 45.
32. A single node or small cluster of nodes with links to only one or two other nodes may constitute one end or link in a 'chain' network.
33. Like hub networks, defining all-channel networks as generally having one or two connections per node avoids conflation with 'chain' networks.
34. Burt, *Structural Holes*; Burt, "The Network Structure," 345–423; Burt, "Structural Holes and Good Ideas," 349–99.
35. Morselli, "Vulnerable and Strategic Positions," 385–6; Horne and Horgan, "Methodological Triangulation in the Analysis of Terrorist Networks," 187.
36. Morselli, "Vulnerable and Strategic Positions," 386.
37. Morselli and Roy, "Brokerage Qualifications," 72–3.
38. Morselli, "Vulnerable and Strategic Positions," 384.
39. Burt, "The Network Structure," 347, 353.
40. Morselli, "Vulnerable and Strategic Positions," 385.
41. *Ibid.*, 388.
42. *Ibid.*
43. Bowyer-Bell, *The IRA 1968–2000*; Coogan, *The IRA*; Della Porta, *Social Movements, Political Violence*; Christine Fair, "Who Are Pakistan's Militants?," 49–65; Hegghammer, "Terrorist Recruitment and Radicalization," 39–60; Jamieson, *The Heart Attacked*; Taylor, *The Terrorist*; White, *Provisional Irish Republicans*.
44. First, interviewees are subject to sampling bias and, consequently, information gleaned from interviews subject to omitted variables and less-robust results, since convicted terrorist are difficult to access and most refuse to be interviewed. (See LaFree, "Generating Terrorism Event Databases," 41–64.) Second, we cannot just take the claims of interview subjects at face value without corroborating evidence. Third, *ex post facto* interviews are prone to the psychological phenomenon of hindsight bias: an interviewee's memory is susceptible to distortion when asked to recollect and reconstruct content. They may also intend to deceive. Fourth, interviews may suffer from the Hawthorne effect: people change their answers by virtue of the fact that they know that they are being studied. Fifth, interview results are subject to coding bias. Sixth, information gained through interviews is subject to a priming effect that is inherent in the way questions are posed and the order in which they are posed.
45. Chermak et al., "American Terrorism and Extremist Crime," 91–218.
46. The networks mapped herein include individuals who have interacted or coordinated with each other for purposes related to AS. They exclude friends and family members who may have interacted with these individuals during their recruitment, yet remained oblivious to their involvement with AS until after their departure or death. As a result, not all known connections between radicalised individuals and members of the Somali diaspora are mapped and analysed; we required a strong indication that advancing of AS-related objectives was part of the relationship between two individuals.
47. Meryhew and Walsh, "Young Men."
48. Yuen and Aslanian, "The missing Somali Men"; "Shirwa's Journey"; United States District Court, District of Minnesota, "Indictment," 4–5.
49. United States District Court, District of Minnesota. "Indictment"; United States District Court, District of Minnesota, "Government's Total Brief."
50. United States District Court, District of Minnesota. "Indictment," 4–6.
51. *Ibid.*, 4–6; Yuen, "Man Killed in Somalia."
52. Elliot, "A Call to Jihad"; Elliot, "Road to Terror"; Meryhew, "Minneapolis Somali Man Killed."
53. Elliot, "A Call to Jihad."

54. District of Minnesota, State of Minnesota, "Affidavit of Michael N. Cannizarro Jr.,"; United States District Court, District of Minnesota, "Government's Sentencing Positioning Paper," 6.
55. Yuen, "Terrorist Pipeline Continues."
56. All-channel networks tend to be horizontal with a high interconnectivity of nodes. If any nodes appear to be especially central and interconnected, they are few and only marginally more influential than the rest.
57. 'Implicated' means that the individual was either indicted by an American court on terrorist charges related to these activities or the individual has personally admitted involvement or is widely acknowledged by AS, but was killed before he could be indicted. Burhan Hassan, who departed in November 2008, exemplifies the latter.
58. District of Minnesota, State of Minnesota, "Affidavit of Michael N. Cannizarro Jr.," 9.
59. This refers to the six men who departed in December 2007, as well as MSO and OAM.
60. United States District Court, District of Minnesota, "Indictment."
61. Todd Jones and Cooney, "Man Extradited from Netherlands."
62. United States District Court, District of Minnesota, "Information", 1.
63. See United States District Court, District of Minnesota, "Third Superseding Indictment."
64. These represent the quality and duration of links *between* people; therefore, international or domestic travel independent of other network nodes is not indicated on this sociogram, but is indicated in the text.
65. United States District Court, District of Minnesota, "Plea Agreement."
66. Stohl and Stohl, "Networks of Terror," 101–2; also see Krebs, "Mapping Networks," 49 for the importance of such ties to the 9/11 hijackers network.
67. United States District Court, District of Minnesota, "Third Superseding Indictment"; United States District Court, District of Minnesota, "Government's Total Brief."
68. United States District Court, District of Minnesota, "Indictment," 2.
69. *Ibid.*, 2–3.
70. *Ibid.*, 6–8.
71. *Ibid.*
72. *Ibid.*; of this network, only Ali and the book-keeper (Hawo Mohamed Hassan) were indicted on charges by the United States government. Information about unindicted co-conspirators was crucial to justifying these indictments and is important here (and in the third network, to be discussed shortly) in accurately portraying the nature of this network's activities and the structure of the network necessary for these activities. Information on non-indicted individuals in the Minneapolis recruitment network is not included because no such individuals can be credibly implicated in any of the network's illicit activities, despite numerous calls from the community alleging complicity of the religious leadership of the Abu-Bakar As-Saddique mosque in Minneapolis.
73. United States District Court, Eastern District of Missouri, Eastern Division, "Indictment."
74. *Ibid.*, 4.
75. *Ibid.*, 9, 12–13.
76. This name as well as OM is always in quotations in court documents, leading to the suspicion that they are known to be code names by American authorities. This further obscures the nature of relations between the nodes situated in Somalia, which are unknown except for the link between Diriye and 'Sheikh Saeed.'
77. *Ibid.*, 10.
78. United States District Court, Eastern District of Missouri, Eastern Division, "United States Response."
79. United States District Court, District of Minnesota. "Indictment," 9.
80. United States District Court, Eastern District of Missouri, Eastern Division, "Indictment," 20–3.
81. *Ibid.*, 21.
82. Yusuf oversaw the transmission of some funds to Diriye himself, while the other funds were channelled through UCC to 'Omar Mataan' and then through Hussein to an unknown destination, and not at all through any of the other 'spokes' of these hubs.
83. Corman, "Activity Focus Networks," 38.
84. *Ibid.*, 39.
85. Stohl and Stohl, "Networks of Terror," 105, 115; furthermore, this point does not countenance the hierarchical assumptions raised in the introduction, perhaps most succinctly put in

- Matthew and Shambaugh's dictum that 'Networks are easy to create, but hard to control.' (See Matthew and Shambaugh, "The Limits of Terrorism," 621–2.)
86. See Chen et al., "Uncovering the Dark Web," 222; Nesip Ogun, "Terrorist Use of Internet," 205–8; Sageman, "The Next Generation of Terror," 41.
 87. See Vertigans, *The Sociology of Terrorism*, 100.
 88. See Schmidle, "Positioning Theory," 65–78.
 89. This is, of course, relative. Plane tickets for the Minneapolis recruits were reported to cost between \$1500 and \$2000 each, but the Minneapolis and St. Louis/San Diego fundraising group each channeled approximately \$8500 and \$30,000 to AS operatives in Somalia.
 90. United States District Court, District of Minnesota, "Indictment," 6–7.
 91. Mette Eilstrup-Sangiovanni and Calvert Jones, "Assessing the Dangers," 12.
 92. Given, as is the case, that the receiving node controls the information (i.e. the account numbers that correspond to his sub-ordinates) that allows the sending broker to successfully transfer funds to these nodes.
 93. See Dougherty, "Hawala," 333–5; de Goede, "Hawala Discourses," 514–15, 520–2; Looney, "Hawala," 166–7.
 94. W.A. Tupman, "Ten Myths," 198.
 95. Bakker et al., "Dark Network Resilience," 54.
 96. While it may have been more expeditious for the individuals in the recruitment network to receive money from AS for airfare, no actors in this network seem to have stayed behind for lack of funds. Abdiweli Isse planned to depart in December 2007, but was held back because his identification needed to travel internationally was not up-to-date. He departed successfully in October 2009.
 97. Door-to-door solicitation (under false pretense or not) for an organisation recognised as a foreign terrorist entity is a criminal activity; but door-to-door solicitation separate from the terrorist element is not, unlike activities such as theft or trafficking narcotics. Elliot, "A Call to Jihad"; US Attorney's Office, District of Minnesota, "Terror Charges Unsealed."
 98. Josh Kron, "American Identified as Bomber"; Yuen, "Family IDs Minn. Man."
 99. de Goede, "Hawala Discourses," 517; Razavy, "Hawala," 289.
 100. Bakker et al., "Dark Network Resilience," 56–7.

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