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Brokers and Key Players in the Internationalization of the FARC

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The Fuerzas Armadas Revolucionarias de Colombia *(Revolutionary Armed Forces of Colombia—FARC) was originally founded to protect Colombian peasants from harsh landowner policies in exchange for food and supplies. Over time, it has evolved into an internationally connected, narco-trafficking organization that displays little concern for the peasants it once vowed to protect. In recent years, Colombian authorities have become more adept at countering the FARC, forcing it to operate increasingly outside of Colombia. The FARC's transformation from a local insurgency into an internationally connected one is the focus of this article. Using social network analysis it identifies key leaders who are tied to this transformation and discusses implications concerning the FARC's future.*

The *Fuerzas Armadas Revolucionarias de Colombia* (Revolutionary Armed Forces of Colombia—FARC), an insurgent group based in Colombia, is believed to be the oldest and, at its height, the largest guerrilla group in the world, at least in the Americas. It was originally founded in 1964 to protect rural peasants from the harsh policies of large landowners and provide them with education in exchange for food and supplies.[1] Over time it evolved into an international organization that now controls the drug trade in Colombia and displays little or no concern for the peasants it once vowed to protect. Violence associated with the FARC against innocent civilians has more than doubled since 2000, and other forms of human-rights violations abound.[2] This has led many leftist intellectuals and much of the international community, who once supported the FARC, to turn against it. At the same time

the Colombian government has become more adept in its counterinsurgency capabilities, making it increasing difficult for the FARC to function in Colombia. This has forced it to increasingly operate outside of Colombian borders and seek assistance from international groups and governments that are either sympathetic to its goals or see it as a useful proxy for pursuing their own interests.

The transformation of the FARC from a local insurgency into a more internationally connected organization is the subject of this article. It begins with a brief history of the FARC, from the roots of the conflict that contributed to its rise to its transformation into a proxy of the South American Bolivarian movement led by Venezuela's President Hugo Chavez.[3] This is followed by an overview of the FARC's organizational structure. Next, using the tools of social network analysis (SNA), it seeks to uncover key leaders who are actively engaged in the FARC's transformation. It then turns to a discussion of these individuals, highlighting their current roles within the FARC, and what this possibly tells us about the insurgency's future. The article concludes with a brief reflection on the results of the analysis as well as suggestions for future research.

An Abbreviated History of the FARC

The FARC was initially established as a military wing of the Colombian Communist Party in the aftermath of *La Violencia* ("the Violence"), the ten-year period that followed the 1948 assassination of populist politician Jorge Eliécer Gaitán.[4] However, the conflict that helped produce *La Violencia* and give rise to the FARC had its roots in agrarian class divisions that began to form in the sixteenth century with the advent of Spanish colonialism.[5] Attempts at land reform in the nineteenth and twentieth centuries did little to reduce the disparities between large landowners and the people who worked for them, and conflict between the two groups became increasingly common.[6] This conflict was reflected in the divide between Colombia's Conservative and Liberal parties as well. The Conservative party identified more with the interests of Colombia's landowners, while the Liberal party identified more with the interests of the country's poor. The Conservative party dominated Colombian politics in the early part of the twentieth century, but in 1930 the Liberal party captured the presidency. This ushered in a sixteen-year period known as the "Liberal Republic" where the presidency was occupied by a member of the Liberal party and the Liberal party attempted to reduce the disparity between Colombia's rich and poor.[7] This resulted in increased tension between conservative and liberals, ultimately leading to *La Violencia*:

> The Liberal Republic ushered in a wave of state centralization and direct in-tervention in the economy. . . . In 1932, an agrarian-reform proposal began to develop in government whereby individuals could acquire legal ownership of public lands merely by working the land. The social agenda instituted by the Liberals during this period thus met with unwavering Conservative resistance and increased tension between Conservative and Liberal partisans. These ten-sions finally erupted as *La Violencia*.[8]

While order was, for the most part, maintained in Colombia's urban areas, violence and the breakdown of social order reined through most of the countryside, much of it the result of state-sanctioned terror, which in turn gave rise to insurgent self-defense organizations.[9] By 1953 the violence became so widespread that the military seized control of the government, which at the time the Conservative Party was leading, and offered amnesty to insurgents, a move that led to the demobilization of thousands of fighters. A handful of insurgent groups,

however, in particular those aligned with the Communist party, refused to hand over their arms and retreated to isolated areas of the country, in particular Tolima,[10] where they established self-defense communities and set up "parallel government structures, providing food, security, and other sources of social support to local populations."[11]

Civilian rule was restored in 1958 after moderate Conservative and Liberal party members, along with dissident sectors of the military, united under a bipartisan coalition known as the National Front. Interestingly, regardless of the outcome of particular elections, the two parties agreed to alternate as to which party controlled the presidency and that all positions in the three branches of government would be distributed evenly among the two parties.[12]

At the same time the influence and strength of some of the self-defense groups grew and became a serious threat to the government. One such group, the "Marquetalia Self-Defense Movement," declared that Marquetalia[13] was an independent republic and elected Pedro Antonio Marin (aka "Tirofijo") as its leader. The Colombian government initially ignored the growing influence of these autonomous communities, but in 1964 it launched the "Marquetalia Operation," which sought to suppress both this guerrilla group and other groups located in the south. The operation succeeded in recovering the territory, but the nucleus of the group escaped and later reorganized as the "Southern Bloc" (*Bloque Sur*) in 1964. At a follow-up meeting (or conference) in 1966, the group renamed itself the *Fuerzas Armadas Revolucionarias de Colombia* (FARC) and appointed Tirofijo (i.e., Pedro Antonio Marin) as its commander.

In the 1960s and '70s the FARC held four more conferences, but it was its seventh in May 1982 that signaled a major shift in its strategy.[14] Up until that time the FARC had fought primarily in rural areas and limited itself to small-scale confrontations with the Colombian forces, but it now saw itself as expanding into an irregular army that could stage large-scale attacks against the Colombian government.[15] Specifically, it identified three stages in its struggle to liberate Colombia's peasant population: (1) A general offensive throughout the country in order to weaken the military forces and the government and to generate chaos; (2) the installation of a provisional government composed by revolutionary members; and (3) the defense of the revolution to eliminate any remaining forces and consolidate the government.[16] To accomplish these goals, the FARC concluded that it had to grow both in terms of members and wealth, so it gradually became involved in Colombia's burgeoning illegal drug trade, by taxing drug producers and traffickers, as well as providing protection to coca fields, laboratories, and illegal airstrips. Its involvement in this industry helped it grow from approximately 2,000 soldiers in 1982 to more than 18,000 in 2001, but it also led to friction with drug traffickers and created a situation where the latter would occasionally side with government efforts to reduce the FARC's influence.[17] This friction, however, led the FARC to become progressively involved in additional steps in the drug trafficking process in order to ensure and solidify the valuable income, such as coca cultivation, which ultimately paid off after the death of Pablo Escobar and the fall of the Cali cartel.[18]

In August 1982 Belisario Betancur became president and initiated a peace process with four guerrilla groups—the FARC, the Popular Liberation Army (EPL), the 19th of April Movement (M-19), and the National Liberation Army (ELN).[19] This led to the 1984 Uribe Agreement (named for the municipality in which it was signed) that called for a cease-fire in which the FARC agreed to renounce kidnapping, blackmail, and terrorism, and the government promised that it would make concerted efforts to promote the education, health, and economic well-being of all Colombians.[20] The FARC accepted the cease-fire agreement, and along with a number of other leftist and communist groups, formed the *Union Patriotica* (Patriotic Union— UP), a political party that sought a number of political and economic reforms. Although some of the UP's members were involved in the FARC,

most were not.[21] The UP was initially successful, doing better in the elections than any other leftist party had ever done in Colombian history. In 1986 UP candidates (including former FARC commanders) won 350 local seats, 23 deputy positions, nine seats in the House of Representatives, and six in the Senate, and three years later, it won mayoral elections in 23 counties. Its success was short-lived, however. In part because it was associated with FARC, the UP became the victim of political attacks from conservative paramilitary forces, drug traffickers, and rogue military forces. It eventually disbanded after the assassination or disappearance of approximately 4,000 of its members.[22]

In 1985 Colombia's major insurgent groups (EPL, FARC, M-19, and ELN) came together under an umbrella organization known as the Guerrilla Coordinating Board. In 1987 the group renamed itself the Simon Bolivar Guerrilla Coordinating Board (CGSB) and facilitated negotiations between various guerrilla groups and the Colombian government.[23] Some of these efforts were successful; some were not. The M-19 and EPL demobilized, but the FARC and the ELN did not although they continued negotiating with the Colombian government through 1993 when the CGSB disbanded and the FARC and ELN went their separate ways.

In March 1993 the FARC held its eighth conference where it adopted a new military strategy and decided that it would increase its efforts to attract broad international support. In support of the latter goal it attempted to portray FARC guerillas as freedom fighters, it established contacts in other countries to assure refuge from political persecution by the Colombian government, it formed ties with international weapons traffickers to strengthen its logistical system, and it highlighted any and all human rights violations by the Colombian government.[24] It also established the International Front or International Committee (COMINTER) to serve as its diplomatic body and pursue its international objectives. The front quickly expanded its operations to cover 27 Latin American and European countries.[25]

In terms of adopting a new military strategy, it turned to a mobile, multifront approach and improved its battlefield tactics, such as the use of cylinder bombs, which helped lead to a series of military victories over Colombian forces:

- On 30 August 1996, the FARC attacked a 1996 Army base located in Las Delicias, Putumayo. After 17 hours, the outpost surrendered. 31 soldiers were killed, 17 were injured, and 60 were taken hostage.[26]
- On 21 December 1997, approximately 300 FARC soldiers attacked an Army communications relay station located in Patascoy, Nariño. After a 30-minute engagement, the group killed 22 soldiers and took 18 hostage.[27]
- On 2 March 1998, 400 guerrillas from the Southern Bloc attacked a small, newly formed Army counterguerrilla battalion comprised of 152 soldiers in El Billar Caquetá. After 24 hours, they killed 65 soldiers and took 43 hostage.[28]
- On 3 August 1998 more than 500 FARC guerrillas simultaneously attacked an Army Company and a National Police Counter-Narcotics detachment in Miraflores Guaviare. After more than 30 hours of battle, the FARC killed 30 soldiers/policemen and took approximately 100 hostage.[29]
- On 1 November 1998, more than 1,500 FARC soldiers seized Mitú, the capital city of Vaupes. The city only had 120 police officers and within 48 hours, the FARC had killed 37 and taken 61 hostage.[30]

By 1998, the overall security situation in Colombia had deteriorated to such an extent that President Andres Pastrana granted the FARC a five county, 42,000 square kilometer safe haven, (i.e., a demilitarized zone—DMZ) in the hope that his gesture would jump start peace talks.[31] While granting the DMZ was one of the FARC's preconditions for

commencing peace talks, the talks progressed slowly, and the FARC used the DMZ as a rearguard area where it conducted training, replenished supplies, treated the sick and wounded, and prepared for attacks on military and police units, villages, and the country's energy and transportation infrastructure.[32] Coca crops existed in the DMZ, and the FARC took advantage of and increased the size and quantity of the fields as well as its involvement in the drug trade. The FARC not only taxed growers, but it also bought coca paste to resell. In some cases, it built the basic and hydrochloride (HCL) labs for producing coca paste and pure cocaine. It also controlled illegal airstrips in the zone, which in turn facilitated the transport of the coca paste outside the DMZ.[33] At this stage the FARC was not heavily involved in the smuggling of cocaine, most of which was controlled by the United Self-Defense Forces of Colombia (*Autodefensas Unidas de Colombia*— AUC).[34] This fact, along with a series of high-profile terrorist actions such as the kidnapping several politicians and the presence of three Provisional Irish Republic Army (PIRA) members teaching bomb-making methods to the FARC, led President Pastrana to declare an end to the peace talks and ordered Colombian forces to retake the DMZ.[35] Shortly after the talks ended, the FARC kidnapped Ingrid Betancourt, a presidential candidate, who was traveling in FARC-controlled territory.[36]

With the ascension of Alvaro Uribe to the presidency in 2002, the Colombian government renewed its assault on the FARC. Uribe had campaigned on an anti-FARC platform and was determined to defeat it,[37] largely because the FARC had killed his own father in an attempted kidnapping in 1983.[38] Soon after taking office, Uribe launched a large military operation into FARC-controlled territory that proved quite successful: The FARC lost territory it had controlled for years, it was forced to retreat into the Colombian jungles, and thousands of its fighters were either killed or captured and even more deserted.[39] The FARC also lost a number of key leaders as a direct result of operations, such as Luis Edgar Devia Silva (a.k.a. Raul Reyes), FARC's second-in-command, and Tomas Medina Caracas, who was in charge of the FARC's drug trade.[40]

The FARC's popularity also waned during this time, largely because of its well-documented human rights violations, some of which dated back to the 1990s.[41] For example, its use of cylinder bombs led to numerous civilian casualties because of their inaccuracy, and in 1998 it attacked the town of Mitu, located in the southern Amazon jungle, killing 80 policemen and 15 civilians.[42] Then in 1999 it received worldwide condemnation for killing three indigenous human rights activists, who were working with the U'Wa people to build a school for U'Wa children.[43] Such instances were just the beginning, however, as the FARC's indiscriminate use of violence increased over time:

- According to witnesses, 1999 the FARC left a town in Antioquia in ruin and executed 21 police officers, many of who were seeking medical assistance at a hospital.[44]
- In 2003 and 2004 the FARC participated in a wide variety of coercive activities that included the intimidation of noncombatants.[45]
- When criticized for killing 34 coca gatherers in June 2004, the FARC responded that international humanitarian law was a "bourgeois concept" that it did not have to obey.[46]
- In July of 2004, the FARC killed seven peasants and displaced eighty others in San Carlos, Antioquia, which led the office of the United Nations' High Commissioner for Human Rights to publicly condemn the group.[47]
- This condemnation did not deter the FARC, however. In September of 2004 the group returned to San Carlos where they detonated a mine and opened fire on a civilian vehicle, killing four civilians and injuring seventeen more.[48]

The FARC's loss of popular support has left it with limited options for a successful outcome in Colombia. In order to maintain its viability, it has begun to increasingly rely on its international connections to gain political and financial support, establish safe havens, and undermine the Colombian government.[49] In particular, it has focused on forming ties with the governments of Venezuela, Ecuador, and Nicaragua.[50] Ties with Venezuela are of particular interest because they suggest that the FARC is in the process of transforming itself into a transnational proxy of the South American Bolivarian movement led by Venezuela President Hugo Chavez.[51] That is why it should not have been too much of a surprise that when the FARC released two political hostages in January 2008, it handed them over to the Venezuelan, rather than the Colombian, government.[52] The timing of the release was not coincidental, either, for on the next day, during his annual state of the nation address, President Chávez asked Colombian President Uribe and the governments of the Continent and Europe to recognize the FARC as a belligerent force rather than as a terrorist group.[53] This would grant the FARC rights enjoyed by sovereign states, such as diplomatic privileges, the ability to sign international treaties, trade legally (including weapons), and recognition that it was seeking to establish a separate and independent state.[54] We now turn to a brief overview of the FARC's organizational structure, which provides background necessary for the analysis that follows.

The FARC Organizational Structure

The FARC's command structure is complex, which makes defeating it through leadership targeting difficult. It is ostensibly a hierarchical organization with a well-defined chain of command and rank structure at the higher levels of authority with semi-distributed command system that extends across a huge territorial expanse in both rural and urban environments. The FARC's current structure was adopted during its ascendancy period in 1993 when it was convinced that it needed a mechanism for transforming the movement into a maneuver warfare force.[55] Its hybrid structure, which includes elements of both a dispersed operational force and a hierarchical command structure, would, in theory, allow the forces to avoid a decisive defeat by the Colombian government, ensure that strategies could be resourced effectively, and allow the FARC to continue the control the pace of the insurgency.

The FARC's strategies and operational policies are determined by the Central High Command, which includes the Secretariat, which has five permanent members, one of whom is the Commander-in-Chief, and two supplemental members, and the Estado Mayor Central (EMC) (General Staff), which has approximately thirty members.[56] Both the Secretariat and the EMC coordinate the activities of the individual blocks. Below the Central High Command, the FARC is broken down into seven blocs or commands. There are five regional blocs (i.e., Eastern, Southern, Northwestern, Caribbean, and Middle Magdalena) and two joint commands (i.e., the Joint Central Command and Joint Western Command). The blocs are composed of at least five fronts, each of which receives its guidance from a bloc commander, who is also a member of the EMC, while the joint commands consist of four or fewer fronts led by a coordinator who receives guidance directly from the FARC senior leadership. Historically, the blocs have had a larger degree of local control and freedom of movement than the joint commands. They also have dedicated support staffs, while the joint commands are much more reliant on the ability of the coordinator to disseminate information.[57] There is a notional General Command comprised of select members of the Secretariat and the bloc commanders in order to better coordinate a military campaign against the Colombian military, but it has yet to be activated as the FARC has been unable to transition from guerrilla to maneuver warfare. In addition, the FARC operates a series

of specialized mobile columns that focus on specific tasks, including but not limited to the following:[58]

- The *Heroes of Maquetalia* was established to provide personal protection to former FARC leader Alfonso Cano and was led by Magaly Grannobles until her death in an armed clash with Colombian Special Forces in July 2010.
- The *Teófilo Forero* mobile column is one of the FARC's most aggressive structures and is composed of approximately 90 specialized militants that operates mostly in the Southern Bloc.
- The *Yesid Ortiz* mobile column operates primarily in the Southern Bloc whose main goal is to regain previously lost territory.
- The *Red Urbana Antonio Nariño* mobile column (RUAN), or the Antonio Nariño Urban Network, operates in urban settings and since 2002 has been predominantly located in Bogotá.[59]
- The *Alfonso Castellanos* mobile column, which reportedly operates in the Arauca department bordering Venezuela.

As previously mentioned, the FARC also has an International Bloc, which seeks to secure international support from like-minded groups and governments as well as improve its ability to interact with other transnational terrorist groups and international criminal cartels.[60]

This article now turns to the tools of SNA in order to uncover current and future leaders of the FARC who are actively engaged in the continual transformation of the FARC from simply a local insurgency into an internationally networked movement. It begins with a brief description of the data and methods that will be used in this analysis. It then draws on a series of SNA metrics (brokerage, key player, and emergent leader) in order to identify individuals with the FARC who are either currently or potentially in a position to facilitate the FARC's transformation. The analysis next turns to a discussion of these individuals, what their current roles are within FARC, and what this may tell us about the future of the FARC.

Data and Methods

The data used in the following analysis were coded from official documentation from the Colombian government, academic works on the group, and open source media reports of FARC activity. Initially, we coded a series of "demobilization reports," which include extensive relational and attribute data, of former FARC members who demobilized and provided information to the Colombian authorities with regards to FARC units operating inside of Colombia. In order to account for the FARC's international network, we supplemented these data with the International Institute for Strategic Studies' exceptional report that draws information from the Raul Reyes computer seized by Colombian authorities in 2008.[61] We then turned to open source reports, such as news articles and academic publications, to fill in potential gaps in the data.

The data are a mix of one- and two-mode network data on a variety of relations (e.g., kinship, communications, meetings, and mentor/student) and group affiliation among 198 individuals and 84 organizations/groups, most of which are FARC fronts, companies, columns, and so on. Given our interest in potential brokers, key players, and emerging leaders, these data contain only actors who were "Alive and Free" at the time of the report and positioned at the higher echelons of leadership, namely actors who have achieved leadership roles at the front-level and above. These actors can serve as any type of commander (i.e., "cabecilla") at these levels. For example, commanders fourth in line within any given front meet the criteria and are included in the data set. Analysis in this article is also limited

to the individual level. Specifically, one-mode network data were derived from the two-mode group data and aggregated with the one-mode personal data into a multirelational network. The aggregated network was then dichotomized in order to visualize the networks and calculate the variety of metrics estimated in this article.[62]

The following analysis draws on both network visualizations and the estimation of SNA metrics.[63] It draws on both because by themselves, visualizations and metrics are often inadequate. Metrics provide detailed estimations of actor's positions within networks but "are insufficient to fully appreciate and understand the structural information contained in network data," which is why network visualizations are also valuable tools in the analysis of networks.[64] It is to metrics and visualizations that this article now turns.

Analysis and Results

The goal of the following analysis is to determine, using a variety of SNA algorithms, whether there are certain individuals within the FARC who are consistently found to be located in positions within the network that provide them with the potential for leadership. The analysis begins by identifying brokers in the FARC network. Brokers are individuals who find themselves in a position to control the flow of information and other resources through the network and/or mediating between two (or more) otherwise unconnected actors.[65] As McAdam, Tarrow, and Tilly note,[66] brokerage is often the mechanism through which violence and other forms of contention spread, thus it is an important mechanism to identify in the present context. The analysis then turns to the identification of key players, including not only those whose removal would fragment the network, but also those whose position facilitates the diffusion of information (or disinformation) through the network. Finally, it turns to a series of algorithms that seek to identify emergent leaders, namely those individuals who are in a position to take over the leadership of the FARC if current leaders were removed from the network.

Brokers and Brokerage

There are a number of SNA algorithms available to help analysts identify actors in a network that are in positions of brokerage. This article focuses on three: betweenness centrality, constraint, and brokerage roles. Betweenness centrality calculates the extent to which each actor in a network lies on the shortest path (i.e., geodesic) between all other actors in a network.[67] It assumes that such actors are potentially influential because they are in a position to broker connections between other actors such that they can bring to bear the influence of one actor over another or to serve as a gatekeeper between the two. Figure 1 presents the FARC social network where node size varies in terms of betweenness centrality (i.e., the larger the node, the higher the betweenness centrality). As the graph indicates certain individuals figure more prominently in the network than do others. These results are also displayed in the first column of Table 1, which lists the top fifteen actors in terms of normalized (i.e., standardized) betweenness centrality.

Constraint is a measure developed by Ron Burt that builds on Granovetter's study that found that weak ties are more likely to function as bridges between groups than are strong ties.[68] Burt's analysis directs attention away from the strength of a tie and toward the gaps in the network (what he calls "structural holes") that they span. He argues that individuals whose ties span these gaps, regardless of whether they are weak or strong, are at a competitive advantage over those whose ties do not because the former provide actors with the opportunity to broker the flow of resources. Constraint is the measure he developed
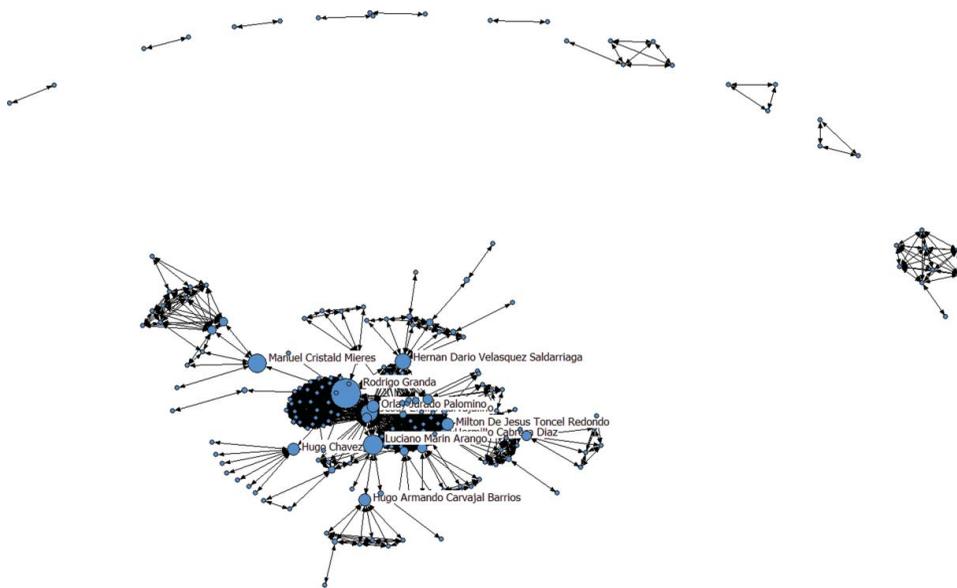
Figure 1. FARC network (node size equals betweenness centrality). (Color figure available online).

for tapping into this competitive advantage and is inversely related to brokerage potential. Figure 2 presents the FARC social network where node size varies in terms of constraint (i.e., the larger the node, the higher the constraint). While the variation in node size is not as pronounced here as it was in Figure 1, the analysis identifies many of the same individuals as before. Again these results are displayed Table 1 (column two) which ranks the top ten actors in terms of constraint (the next five individuals "tied" for eleventh place).[69]

Group affiliation is often an important factor in brokerage processes. For example, in brokering deals in Congress, U.S. Representatives not only take into account their own interests and desires but also the political party of which they are apart. While they very much might want to support a particular bill, their party membership may constrain what they are able to do and say. Roger Gould and Roberto Gonzalez[70] attempted to capture this dynamic by laying out five different types of brokerage roles that actors can play based their group affiliation ties: (1) coordinators, (2) itinerant brokers/consultants, (3) representatives, (4) gatekeepers, and (5) liaisons:

- *Coordinators*—Mediate between members of one group where the mediator is also a member of the group
- *Itinerant Brokers/Consultants*—Mediate between members of one group where the mediator is not a member of the group
- *Representatives*—Mediate between two groups where mediator regulates the flow of information or goods from his or her group
- *Gatekeepers*—Mediate between two groups where mediator regulates the flow of information or goods to his or her group
- *Liaisons*—Mediate between two groups where mediator does not belong to either group

When Gould and Fernandez identified these brokerage roles, they did so with directed networks (i.e., when ties between actors are not always reciprocated) in mind. Tie

Table 1

Rankings by normalized betweenness centrality, Burt's measure of constraint, and raw Gould and Fernandez broker roles (scores in parentheses)

| Rank	Betweenness centrality	Constraint	Gould and Fernandez brokerage roles		
			Itinerant Broker/Consultant	Gatekeeper	Liaison
1	Rodrigo Granda (8.371)	Jesus Emilio Carvajalino Carvajalino (.0530)	Herman Dario Velasquez Saldarriaga (18)	Jesus Emilio Carvajalino Carvajalino (189)	Rodrigo Granda (12)
2	Luciano Marín Arango (4.834)	Orlay Jurado Palomino (.0560)		Rodrigo Granda (176)	
3	Manuel Cristaldo Mieres (4.416)	Luis Alberto Albán Urbano (.0570)		Alias Gentil (135)	
4	Jesus Emilio Carvajalino Carvajalino (3.834)	Rodrigo Granda (.0630)		Hernan Dario Velasquez Saldarriaga (91)	
5	Hernan Dario Velasquez Saldarriaga (3.778)	Luciano Marín Arango (.0790)		Alias Ruben Zamora (35)	
6	Hermillo Cabrera Diaz (2.704)	Erasmo Traslavina Benavides (.0840)		Alias El Negro Eliecer (34)	
7	Orlay Jurado Palomino (2.231)	Hermillo Cabrera Diaz (.0870)		Erasmo Traslavina Benavides (33)	
8	Hugo Chavez (2.191)	Alias Sargento Pascuas (.0870)		Alias Pedro Aldana (33)	
9	Milton De Jesus Toncel Redondo (2.157)	Timo Leon Jimenez (.0941)		Luciano Marín Arango (31)	
10	Hugo Armando Carvajal (2.144)	Alias Gentil (.0910)		Milton De Jesus Toncel Redondo (30)	
11	Luis Alberto Albán Urbano (1.542)	5 Individuals with same score (.0920)		Hermillo Cabrera Diaz (29)	
12	Alias Cadete (1.465)			Hugo Chavez (12)	
13	Alias Pablo 13 (1.436)			Arturo Cubillas Fontan (8)	
14	Erasmo Traslavina Benavides (1.307)			Alias Victor (5)	
15	Gabriel Zarate Cordozo (0.0241)			Manuel Cristaldo Mieres (15)	

486
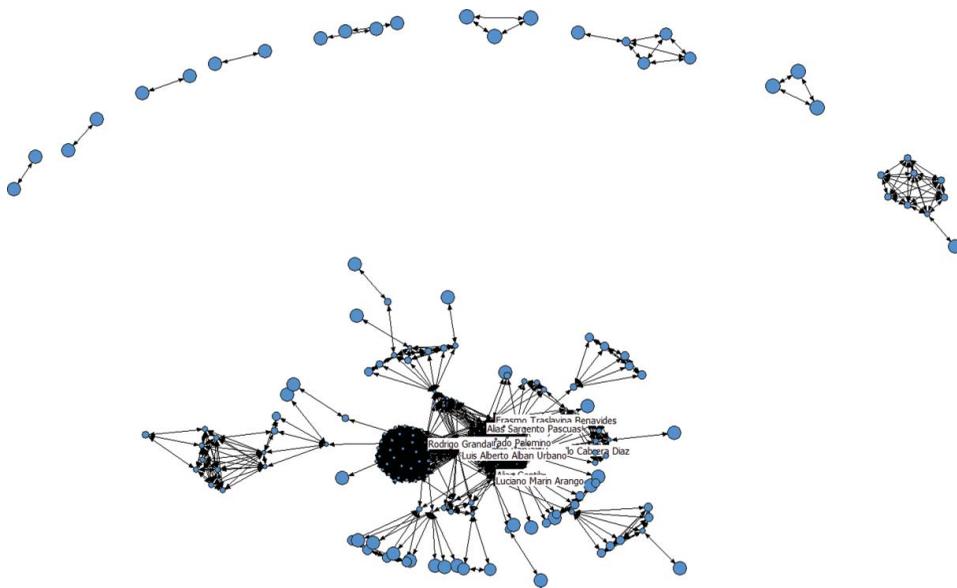
Figure 2. FARC network (node size equals constraint). (Color figure available online).

direction, however, only distinguishes between the representative and the gatekeeper roles. That is, when analyzing an undirected network (i.e., when all ties are reciprocated), the representative and brokerage role scores will be the same. That is the case in this article. Additionally, since in this article we are only interested in brokers between groups (rather than within them), we limit our analysis to identifying itinerant brokers/consultants, gatekeepers, and liaisons.[71]

Columns 3–5 in Table 1 present the results of the brokerage role analysis. As they indicate, only one individual is identified as a consultant, fifteen are identified as gate-keepers, and one is identified as a liaison. Figure 3 summarizes these results by varying node size by the aggregated score of the three measures. As it illustrates, the Gould and Fernandez approach identifies fifteen unique individuals within the FARC network who lie in a position where they can broker between groups. That they correlate highly with those who were identified using betweenness centrality and Burt's measure of structural holes should not be seen as coincidental.

Key Players

Actors whose removal disconnects a network are generally called cut-points, cut-vertices, articulation points, and/or boundary spanners. They are seen as crucial to the flow of resources in a network. In well-connected networks, however, it is unusual that there are individual actors whose removal can disconnect the network. To address this issue Borgatti developed a series of algorithms that instead seek to identify *sets of actors* whose removal *significantly fragments* the network. Two variations of the algorithm exist. The first ("Fragmentation") uses the standard measure of fragmentation, which is the ratio of disconnected pairs of actors[72] in the network over the total number of pairs of actors in the network, to gauge how much various sets of actors fragment the network when they are removed from the network. That is, a fragmentation score is calculated both prior to and
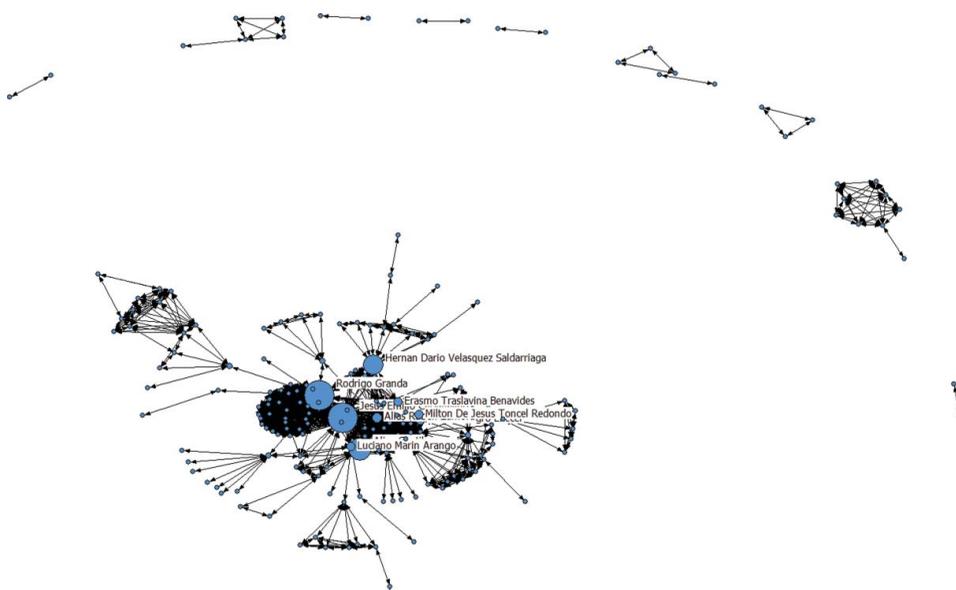
Figure 3. FARC network (node size equals total brokerage score). (Color figure available online).

after the removal of each of the sets, and the set that increases the level of fragmentation the most is considered optimal. The second ("Distance-weighted Fragmentation") is similar to the first except that rather than using the standard fragmentation measure, it uses a distance-weighted measure, that identifies the optimal set of actors whose removal lengthens the average distance (in terms of path length) between all pairs of actors in the network.

Recognizing that the removal of actors may not always be the best or desired strategy when working with dark networks (i.e., covert and illegal networks),[73] but instead analysts may want to "select an efficient set of actors to surveil, to turn (as into double-agents), or to feed misinformation to," Borgatti developed two additional algorithms that seek to identify the optimal set of actors for the diffusion of information or other resources (material or nonmaterial) through the network. These algorithms are designed to find the optimal set of actors that reaches the highest number of other actors. The first ("Percent Nodes Reached") simply counts the proportion of distinct actors reached by the set of key actors, while the second ("Distance-Weighted Reach") weights this calculation by the path distance between the set of key actors and all other actors in the network.

Table 2 presents the results of an analysis that identified the optimal set of 15 actors for each of the four key player algorithms.[74] Note that the key player algorithms do not rank actors within a set; they only identify them as members of a set. Hence, Table 2 presents the individuals alphabetical, not rank, order. As it indicates Borgatti's key-player algorithms identified a handful of individuals that the previous analyses did not. At the same time, however, they selected twelve individuals who repeatedly were among the top ranked individuals in Table 1 and appeared in at least two of the three figures (i.e., Figures 1–3) above.

Emergent or Potential Leaders

Finally, we turn to identifying what are referred to as emergent or potential leaders. The algorithms used for this task trace their roots to work on cognitive demand by Kathleen Carley and her colleagues.[75] According the Carley and Ren cognitive demand captures

Table 2
Key player sets

	Fragmentation	Distance-weighted fragmentation	Percent of actors reached	Distance-weighted reach
1	Alias Cadete	Alias Cadete	Alias Anderson	Alias Cadete
2	Alias El Negro Eliecer	Alias El Negro Eliecer	Alias Benhur Rivera	Alias El Perro
3	Alias Kokorico	Alias Gentil	Alias Cadete	Alias Emiro
4	Alias Ruben Zamora	Alias Pedro Aldana	Alias El Perro	Alias Franco Región Ariari
5	Erasmo Traslavina Benavides	Erasmo Traslavina Benavides	Alias Franco Región Ariari	Alias Gonzalo Porras
6	Hermillo Cabrera Diaz	Hermillo Cabrera Diaz	Alias Gentil	Alias Jairo Chivo
7	Hernan Dario Velazquez Saldarriaga	Hernan Dario Velazquez Saldarriaga	Alias Pablo 13	Alias Jimmy (2)
8	Jesus Emilio Carvajalino Carvajalino	Jesus Emilio Carvajalino Carvajalino	Alias Ramiro	Alias Kokorico
9	Liliana Lopez Palacio	Liliana Lopez Palacio	Frankin Ramirez Gonzalez	Arturo Cubillas Fontan
10	Luciano Marín Arango	Luciano Marín Arango	Henry Lopez Sisco	Frankin Ramirez Gonzalez
11	Luis Alberto Albán Urbano	Luis Alberto Albán Urbano	Hugo Armando Carvajal Barrios	Gabriel Zárate Cordozo
12	Milton de Jesus Toncel	Milton de Jesus Toncel	Jaime Roldos	Henry Lopez Sisco
13	Orlay Jurado Palomino	Orlay Jurado Palomino	Magna Meza Martinez	Hugo Chavez
14	Rodrigo Granda	Rodrigo Granda	Martin McCauley	Martin McCauley
15	Timo León Jiménez	Timo León Jiménez	Rodrigo Granda	Rodrigo Granda

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the extent to which each actor is connected to other actors, possesses knowledge key to the network's operations, has access to valued resources, and demonstrates expertise in tasks valuable to the network.[76] They contend that actors scoring high in cognitive demand are emergent or potential leaders; namely, those who by virtue of their position in the network are engaged in so many diverse cognitive activities that they act as change agents directing the activities of others. Not surprisingly, the network analysis software package developed by Carley, Organizational Risk Analyzer (ORA),[77] implements the cognitive demand/emergent leader algorithm and is used for estimating the emergent leader metrics displayed in Table 3.

Others have picked up on this notion and have developed their own measures to detect emergent or potential leaders. One that we use below argues that emergent leaders are those who score high in terms of degree centrality but low in terms of eigenvector centrality. Degree centrality is the simplest of the centrality measures as it is simply a count of the number of ties an actor has. For example, in a friendship network, an actor with a degree centrality of five has five friends. Eigenvector centrality is related to degree centrality in that the number of ties an actor has is important; however, in this case an actor's ties are weighted by whether his or her ties are to central or peripheral actors.[78] Returning to the example of the friendship network, if two actors both have a degree centrality of five but one is tied to highly central actors while the other is tied to peripheral ones, the former will score higher in terms of eigenvector centrality than the latter. In this analysis, this emergent leader measure is calculated by subtracting normalized (i.e., standardized) eigenvector centrality from normalized degree centrality.

The results of this analysis appear in the first two columns of Table 3. The first presents the alternative emergent leader scores, while the second presents Carley and Ren's cognitive demand scores. Although the results differ somewhat, there is still considerable overlap. Six individuals (Carvajalino, Granda, Palomino, Diaz, Benavides, and Urbano) appear in both rankings, albeit in a different order.

Summary

The final column of Table 3 summarizes this analysis of brokers, key players, and emergent leaders. It ranks the top ten individuals by the proportion of times that they appeared in a particular metric's ranking. For instance, Rodrigo Granda ranks in the top fifteen of every metric except in the Gould and Fernandez consultant brokerage role. In fact, he was one of two individuals (Alias Cadete being the other) who appeared in all four key player sets. The individuals who immediately follow Granda (i.e., Jesus Emilio Carvajalino Carvajalino, Hermillo Cabrera Diaz, and Erasmo Traslavina Benavides) tied in terms of the proportion of times they appeared in each metric's rankings. However, because Carvajalino was ranked in the top three in 42.86 percent of the various metrics used in this study, as compared to 14.29 percent for Diaz and 0 percent for Benavides, he is ranked ahead of the other two, and Diaz is ranked ahead of Benavides.[79] Four other individuals, Orlay Jurado Palomino, Luis Alberto Alban Urbano, Hernan Dario Velasquez Saldarriaga, and Luciano Marín Arango, also tied in the summary rankings, appearing in 54.55 percent of the rankings. In Table 3 they are listed in terms of the percentage of times they appeared in the top three of each metric. Because Saldarriaga and Arango appeared in the top three (14.29 percent) and the top five (28.57 percent) the same number of times, they are listed by their average rank when they scored in the top 15 across the various metrics (Saldarriagga (4.5) and Arango (5.75)).

Table 3

Emergent leader scores and summary rankings (proportion of times the individual was ranked in all of the metrics used in this analysis)

Rank	Emergent leaders		Top ten summary rankings (%)
	High degree/Low eigenvector	Cognitive demand	
1	Jesus Emilio Carvajalino Carvajalino (.0970)	Jesus Emilio Carvajalino Carvajalino (.092)	Rodrigo Granda (90.90)
2	Rodrigo Granda (.0790)	Orlay Jurado Palomino (.084)	Jesus Emilio Carvajalino Carvajalino (63.64)
3	Orlay Jurado Palomino (.0740)	Luis Alberto Albán Urbano (.071)	Hermillo Cabrera Diaz (63.64)
4	Gabriel Zarate Cardozo (.0660)	Rodrigo Granda (.061)	Erasmo Traslavina Benavides (63.64)
5	Hermillo Cabrera Diaz (.0630)	Hermillo Cabrera Diaz (.059)	Orlay Jurado Palomino (54.55)
6	Erasmo Traslavina Benavides (.0620)	Erasmo Traslavina Benavides (.057)	Luis Alberto Albán Urbano (54.55)
7	Alias Victor (.0610)	Luciano Marín Arango (.052)	Hernan Dario Velasquez Saldarriaga (54.55)
8	Hernan Dario Velasquez Saldarriaga (.0570)	Alias Sargento Pascuas (.051)	Luciano Marín Arango (54.55)
9	Alcides Oviedo Britez (.0560)	Victor Tirado (.049)	Alias Cadete (45.45)
10	Carmen Villalba (.0560)	Abelardo Caicedo C. (.049)	Alias Gentil (36.36)
11	Rosa Villalba (.0560)	Edgar Lopez G (.049)	
12	Osvaldo Villlaba (.0560)	Rodolfo Restrepo R (.049)	
13	Magna Meza Martinez (.0560)	Timo Leon Jimenez (.048)	
14	Luis Alberto Albán Urbano (.0560)	Alias Cadete (.047)	
15	Gilberto Setrini (.0560)	2 Individuals with the same score (.044)	

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Discussion

This analysis has uncovered a series of individuals who appear to be significant players within the FARC network. Interestingly, of the ten that appear in the third column of Table 3, only two (Arango and Diaz) are listed as known leaders of the FARC by Wikipedia.[80] This highlights one of SNA's potential strengths: namely, its ability to not only identify known leaders within an organization, but to identify other actors who either are or are at least in the position to exert influence on a group's operations. Here, SNA has identified several FARC members who appear to be flying below the conventional wisdom radar, but are most likely playing (or will play) key roles in the FARC. Interestingly, several of these individuals do not live in Colombia. Some live in neighboring Venezuela, while others bounce between Colombia and other countries, suggesting that the FARC's international presence is increasingly important. What follows is a brief discussion of these individuals. Rather than examine all ten individuals listed in Table 3's summary rankings, however, the discussion focuses only on those eight who appeared in more than half of the rankings. It begins by discussing the two "known" leaders of the FARC (Arango and Diaz) before turning to a discussion of the "lesser known" six. (Granda, Carvajalino, Benavides, Saldarriaga, Benavides, and Urbano).

Luciano Marín Arango

Also Known As: Iván Márquez, Compadre, and Pescado (Fish)

Several SNA algorithms used in this analysis identified Luciano Marín Arango as playing a central or key role in the FARC, including the two brokerage measures (betweenness and constraint), the gatekeeper/representative metric, and the two fragmentation algorithms (see Table 1). Arango joined the FARC in 1985 and became a member of the Secretariat after Luis Alberto Morantes, alias "Jacobo Arenas," died in 1990. Arango is reportedly the FARC's second-in-command and has extensive political experience, including membership in the UP and serving as an alternate congressman in Caquetá in the 1980s.[81] He currently lives in Venezuela and is the FARC's foreign minister as well as an advisor to the Northwest and Caribbean Blocs cocaine.[82] In Venezuela he has represented the FARC during negotiations for a swap of hostages held by the FARC and FARC guerillas imprisoned by the Colombian government. He has also been instrumental in developing the FARC's ties with the Colombian drug cartels and for setting its policies directing and controlling the production, manufacture, and distribution of cocaine. He also developed the concept of taxing the narcotics trade in Colombia, which has created a robust and much-needed revenue stream for the FARC. Thus, there are good reasons why he is known quantity and that there is a $5 million reward for his arrest and/or conviction.[83]

Hermilo Cabrera Diaz

Also Known As: Bertulfo, Comandante Bertulfo Alvarez and Ermilo Cabrera Diaz

Hermillo Cabrera Diaz is a well-known member of the FARC's General Staff and is a "Suplente" (i.e., Reserve) member of the FARC Secretariat.[84] He is also the head of the Caribbean Bloc and reportedly operates out of Venezuela.[85] Several metrics used for this analysis provide additional evidence to his key role in the leadership network, including the gatekeeper/representative metric, both brokerage potential measures, the two emerging leader measures, and both fragmentation metrics (Tables 1–3). These results

suggest he is in a favorable position to control the flow of material and nonmaterial goods within the network. His central role in the FARC's cocaine operations is a likely factor contributing to these results. In fact, the U.S. Department of State (DOS) identifies him, like Luciano Marín Arango, as a critical player in setting cocaine policies and directing and controlling the production, manufacture and distribution of cocaine to the United States.[86] Consequently, the DOS offers a reward up to $2.5 million for information leading to his arrest and/or conviction. Bertulfo's reported health problems, however, may negate his ability to capitalize on his emerging leader potential along with potentially limiting his opportunities to continue gaining influence in the network.[87]

Rodrigo Granda

Also Known As: Rodrigo Granda Escobar, El Gallo (Cockerel), Ricardo Gonzalez, Ricardo Tellez, and R.T

Rodrigo Granda is a well-known member of the FARC's International Front, where he is second-in-command and serves as the international spokesman, and he is a member of the General Staff. Thus, it is little surprise that he ranks in over 90 percent of the metrics used in the analysis (Tables 1–3). The results suggest he serves as a structural liaison, a gatekeeper/representative, an emerging leader, and he is located in a structurally advantageous position to control the flow of information and resources through the network. Interestingly, he moves between Venezuela, where he is a naturalized citizen and is even registered to vote, and Cuba.[88] On several occasions he has met with President Hugo Chavez, former Venezuelan Interior Minister Ramon Rodriguez Chacin, and Senior Venezuelan Generals Hugo Carvajal and Rangel Silva. He has also been a guest of honor at many of the Bolivarian celebrations hosted by President Chavez and has numerous contacts at many levels with the Venezuelan DISIP (the Venezuelan Internal Security Service). Escobar was once captured by bounty hunters, who turned him over to Colombian Army in 2004, but in an effort to achieve the release of a prominent FARC hostage, Ingrid Betancourt, and to assuage the pressure of Betancourt's champion, French President Nicolas Sarkozy, he was freed by President Uribe although no hostages (including Betancourt) were freed by the FARC in return.[89]

Jesus Emilio Carvajalino Carvajalino

Also Known As: Alias Andrés París and Commander Ariel

Jesus Emilio Carvajalino Carvajalino ranks in more than 60 percent of the metrics used for this analysis, including the following: both brokerage potential measures, the gatekeeper/ representative metric, both emerging leader measures, and the two fragmentation algorithms (Tables 1–3). These results suggest he possesses relatively high brokerage potential within the leadership network and between the FARC and actors outside of Colombia. Indeed, his membership in the FARC's International Front and General Staff place him in a structurally advantageous position within the leadership network, while his involvement in the international drug trade and his contacts in several Central and South American countries, including Venezuela and Mexico, makes him a critical actor to the FARC's international operations.[90] His former role as the FARC's representative to Venezuela from 1996–2000, including his direct contacts with Venezuelan officials involved in the 1999 Colombia–FARC peace talks, and his reported residences in both Colombia and Venezuela further highlight his importance within the leadership network.[91] Interestingly, he ranks

first in both emerging leader measures, thus indicating his potential to continue gaining clout within the FARC leadership network. He is reportedly suffering from health issues, however, which will likely reduce his ability to act on this potential.[92]

Orlay Jurado Palomino

Also Known As: Hermes, Anibal, Mauricio, and Hermes Aguilera

Orlay Jurado Palomino ranks in over half of the metrics used for this analysis. The results in Table 1 suggest he likely serves as a key broker of information and resources within the FARC leadership network. Along with Granda and Carvajalino, Palomino is a key member of the FARC's International Front and also a member of the General Staff. He is reportedly Granda's "right-hand" man, which certainly contributes to his high-level status within the International Front and the FARC in general. In fact, Palomino reportedly took over for Granda during the latter's incarceration during the 2004 "Granda Affair."[93] Palomino has also served as an operative in Brazil, where he reportedly used to live, and he has served as an operative in Venezuela, where he currently resides. His high-level of activity in the region is further highlighted by his contacts in other countries, namely Argentina, Paraguay, and Cuba. He does not, however, simply serve as a diplomatic representative in the region; he was implicated in the kidnapping and killing of former Paraguayan President Raul Cubas's daughter in 2004.[94] Interestingly, he does not appear to receive the same notoriety that others do with similar qualifications; this is probably due to his relatively minor involvement in the international drug trade. Nevertheless, his emerging leader potential and his ability to continue gaining prominence in the leadership network is questionable given his alleged health problems.[95]

Hernan Dario Velazquez Saldarriaga

Also Known As: Oscar El Paisa, El Paisa, Hermides Buitrago, Oscar Montero, and Oscar Moreno

Hernan Dario Velazquez Saldarriaga, better known as "El Paisa," is a member of the General Staff and is a key actor within the Southern Bloc. He is best known as the overall commander of the FARC's Teófilo Ferero Mobile Column (TFMC), which is one of the FARC's most aggressive columns and acts as a Special Forces unit out of the department of Caquetá. The TFMC, on the orders of El Paisa, has been involved in several notable operations, including the kidnapping of Congressman Jorge Eduardo Gechem, the kidnapping and killing of Caquetá Governor Luis Francisco Cuellar in 2009, and the 2003 car bombing of El Nogal club in Bogotá that killed 36 and wounded approximately 200 more.[96] Consequently, El Paisa is a high value target of the Colombian government and the Department of Justice (DoJ) has offered a reward of up to $1,000,000 for information leading to his capture.[97] His ruthlessness affects FARC members as well; he has reportedly ordered the assassination of many FARC affiliates.[98] Thus, it makes sense that several metrics (betweenness centrality, the consultant and gatekeeper/ representative metrics, and both key player fragmentation algorithms) identified him as an important actor within the FARC's leadership network. Furthermore, El Paisa's potential to serve as an emerging leader (Table 3), along with his leadership in one of the FARC's most audacious units and the health problems of several other key players outlined in this analysis, suggest he is likely to move up in the FARC leadership network.

Erasmo Traslavina Benavides

Also Known As: Jimmy Guerrero and Ismardo Mucia Lozada

Erasmo Traslavina Benavides, commonly known as Jimmy Guerrero, is the current commander of the FARC's 33rd Front and is a member of the General Staff. He reportedly operates out of Venezuela along the Colombian–Venezuelan border near Norte de Santander. Benavides is known to participate heavily in narcotics trafficking, and he is listed in the DoJ's Reward List offering up to $1,000,000 for information leading to his capture.[99] Table 3 indicates that Benavides ranks seventh overall and places in the two brokerage potential measures, the gatekeeper/representative metric, the two fragmentation algorithms, and the cognitive demand emerging leader measure (Tables 1–3). Interestingly, he is one of the two top ten actors who lives outside of Colombia and is also not a member of the International Front, suggesting that the FARC's internationalization extends beyond the group's diplomatic body. Benavides's potential to continue gaining influence, as indicated by the cognitive demand measure in Table 3, is only likely to increase in the future. In fact, his ascension through the ranks appears to have already begun; he only became the overall commander of the 33rd Front in late 2011.[100]

Luis Alberto Albán Urbano

Also Known As: Marcos Calarcá and Marco León Calarcá

Luis Alberto Albán Urbano is a member of the FARC's International Front. The results suggest he serves as a potential broker of information and resources, a key player in the leadership network, and has the potential to continue gaining influence with the FARC leadership network (Tables 1–3). Interestingly, he attempts to participate in every left-wing event scheduled in Latin America and Europe in order to expand the FARC's support network. Additionally, he lobbies the leadership of the major left-wing parties in Latin America and Europe in an attempt to entice them to soften their positions on issues related to narcotics trafficking. Urbano has reportedly visited Cuba, Venezuela, Peru, Costa Rica, and Mexico, has ties to Bolivia,[101] and he used to live in Canada with his family where they had developed an extensive support network.[102] He has actively worked to expand FARC influence in Mexico while working there from 1997–2002 with members of the Mexican Popular Socialist Party.[103] Today, Urbano reportedly resides in Brazil where he suffers from health problems.[104] Through these multiple international and political contacts Urbano has steered national policies and positions in directions that favor the FARC's activities. He is assisted by his sons: Raúl Ernesto Albán Torres, who works as an agro-ecology professor in the Universidad Bolivariana of Venezuela and is one of the main leaders of the left-wing *Coordinadora Continental Bolivariana* (*Bolivarian Continental Coordinator*) in Caracas, and Juan Jacobo Albán, a sociology student at the University of Havana and a member of the FARC's International Commission.[105]

Summary

Table 4 summarizes the role and geographical location of the eight key individuals identified in this article's analysis. What is striking is that only one of these leaders currently lives in Colombia full time—Hernan Dario Velasquez Saldarriaga. The rest live outside of Colombia's borders in some capacity: two bounce between Colombia and Venezuela, one between Venezuela and Cuba, another between Colombia and Brazil, and three live in Venezuela full time. The important players identified in this analysis also have connections

Table 4
The FARC's international connections

Name	Position	Colombia	Venezuela	Brazil	Cuba
Rodrigo Granda	FARC General Staff, International Front		X		X
Jesus Emilio Carvajalino Carvajalino	FARC General Staff, International Front	X	X		
Hermillo Cabrera Diaz	FARC Secretariat (Suplente), General Staff, Caribbean Bloc		X		
Erasmo Traslavina Benavides	FARC General Staff, 33rd Front	X	X		
Orlay Jurado Palomino	FARC General Staff, International Front		X		
Luis Alberto Albán Urbano	FARC International Front		X	X	
Hernan Dario Velasquez Saldarriaga	FARC General Staff, Teofilo Ferero Mobile Column (TFMC)	X			
Luciano Marín Arango	FARC Secretariat, General Staff, NW and Caribbean Blocs		X		

in several other countries, including Canada, Ecuador, Peru, Argentina, Paraguay, Cuba, Mexico, Bolivia, and Costa Rica, to name a few. While we could expect the members of the International Front to live abroad, the fact that several other key players live abroad is somewhat surprising and lends empirical support that the FARC is becoming increasingly internationalized. This is not to argue this is an entirely new phenomenon or that the FARC is abandoning Colombia as its prime area of operations, but it does suggest that attempts to disrupt the FARC in the future will need to take the FARC's international character (and key players) into account.

Conclusion

This article has explored the transformation of the FARC from a local insurgency to a internationally connected organization that has been serving as a proxy of the South American Bolivarian movement led by Venezuela President Hugo Chavez. After a brief overview of the FARC's history and social structure, it drew on the tools of social network analysis to identify key leaders who are actively engaged in the FARC's current operations. It then turned to a discussion of these key leaders, highlighting their current roles within the FARC and what their prominence might suggest about the insurgency's future. In particular, this article has empirically demonstrated that the FARC is more than a local or national insurgency. One likely factor lying behind this transformation is the Colombian

government's improved counterinsurgency efforts, which has forced many FARC leaders to seek sanctuary outside of Colombia. Nevertheless, as was noted in 1993 the FARC established the COMINTER (International Front) to serve as its diplomatic body to help attract broad international support, which meant that an institutional structure was already in place to help facilitate the FARC's transformation. Thus, it should be unsurprising that individuals with ties to the FARC's international bloc are currently in positions of influence and appear to be in position to take on increasing levels of responsibility and coordination. Moreover, the FARC has become increasingly adept at tapping into regional ideological themes advocated by President Hugo Chavez, which suggests that the FARC may be taking a page from the manual of the terrorist group Hezbollah in developing a transnational strategy to export their influence while seeking legitimacy alongside Chavez's Bolivarian movement. If so, although the FARC's future appears to be dim as a Colombian-centric movement, it appears to be brighter as an international one. By focusing on limiting the influence of the aforementioned FARC's central, key, and emergent leaders and their transnational aspirations, the international community can work to hinder the growth of this potentially destabilizing influence.

Clearly, more work needs to be done with regard to the FARC. This analysis has only begun to scrape the surface of the FARC's transformation. One potentially promising avenue of research is to expand the network data used in this analysis to include additional relational data of insurgent groups such as the Euskadi Ta Askatasuna (Basque Homeland and Freedom—ETA) and Ejército del Pueblo Paraguayo (Parguayan People's Party—EPP) as well as government officials from Venezuela, Nicaragua, and Ecuador. Building out the data to include other non-members of the FARC but who have ties with the FARC could help identify individuals through which international authorities can exert a pacifying influence on the FARC. Another approach that would undoubtedly yield considerable benefits would be to overlay these relational data with geospatial data. Such an analysis could provide additional insights into the dynamics of the FARC network and offer possibilities for its disruption. Finally, a longitudinal analysis of the FARC could help tease out how its structure has varied over time (e.g., has it become more or less centralized) and identify the causes behind significant changes in the network.[106] Not only would such studies help researchers better understand the nature of insurgent networks, but they could also aid analysts in the disruption or destabilization of such networks.

Notes

1. Claire Metelits, *Inside Insurgency: Violence, Civilians, and Revolutionary Group Behavior* (New York and London: New York University Press, 2010), p. 79.

2. Ibid., pp. 108–109.

3. Harold A. Trinkunas, "Defining Venezuela's 'Bolivarian Revolution,'" *Military Review* 4 (2005), pp. 39–44.

4. Between 200,000 and 300,000 individuals died from the violence, most of whom were peasants and wage laborers living in rural areas. See Nazih Richani, *Systems of Violence: The Political Economy of War and Peace in Colombia* (New York: SUNY Press, 2002), pp. 23–28 and Metelits, *Inside Insurgency*, p. 88.

5. Frank Safford and Marco Palacios, *Colombia: Fragmented Land, Divided Society* (New York: Oxford University Press, 2002).

6. Metelits, *Inside Insurgency*, pp. 83–87.

7. Jorge P. Osterling, *Democracy in Colombia: Clientelist Politics and Guerilla Warfare* (Piscataway, NJ: Transaction, 1989).

8. Metelits, *Inside Insurgency*, p. 88.

9. Gonzalo Sanchez, "The Violence: An Interpretive Synthesis," in Charles Berquist, Ricardo Penaranda, and Gonzalo Sanchez, eds., *Violence in Colombia: The Contemporary Crisis in Historical Perspective* (Wilmington, DE: Scholarly Resources, 1992), pp. 75–124.

10. Tolima is a State in Colombia, located south of the capital city, Bogota.

11. Metelits, *Inside Insurgency*, p. 90.

12. Safford and Palacios, *Colombia*, p. 324.

13. Marquetalia is a county in the state of Tolima.

14. International Crisis Group, *Ending Colombia's FARC Conflict: Dealing the Right Card* (Brussels, Belgium: International Crisis Group, 2009), p. 3.

15. Safford and Palacios, *Colombia*, p. 326. See also Wikipedia, "Revolutionary Armed Forces of Colombia" (Wikipedia, 2011). Available at http://en.wikipedia.org/wiki/Revolutionary_Armed_Forces_of_Colombia (accessed 10 November 2012).

16. At this time the FARC began sending fighters to Vietnam and the Soviet Union for advanced military training as well. See Wikipedia, "Revolutionary Armed Forces of Colombia" and Carlos Padilla, *The FARC and Hugo Chávez: Is Contemporary Venezuela a Threat to Colombia?* (Master's Thesis, Naval Postgraduate School, 2010), p. 16.

17. Metelits, *Inside Insurgency*, p. 100.

18. International Crisis Group, *War and Drugs in Colombia* (Brussels, Belgium: International Crisis Group, 2005), pp. 8–10. We thank our anonymous reviewer for providing us with additional direction and guidance into the FARC's involvement in narco-trafficking.

19. The ELN is an armed Marxist and Cuban Revolution–inspired group. It was formed in the 1960s and it is currently the second largest guerrilla group in Colombia. Although the ELN is often thought to be more ideological than the FARC, it is heavily involved in extortion, kidnapping, and narcotics trafficking, albeit to a lesser extent than the FARC. Similarly, the EPL emerged in the late-1960s but as a Communist–Socialist organization seeking to overthrow the Colombian government and replace it with a communist state. The EPL officially disbanded in the early-1990s, but dissident members continue to operate. The M-19 formally emerged as the April 19th Movement in the 1970s as an urban group adhering to an ideology mixing nationalism, socialism and populism and largely consisted of middle-class students, activists, and even FARC members. During the mid-1980s, the M-19 was considered the country's second largest guerrilla group, and carried out several notable operations, including the siege on the Dominican Republic embassy in Bogotá in 1980 and the subsequent storming of the Palace of Justice in the capital in 1985. The group, however, officially renounced its armed struggle by the early-1990s. The relationships among these groups following the peace process have been somewhat contentious. For example, the ELN and the FARC have clashed over the control territory and resources and many of the demobilized EPL have been targeted by some of the other guerrilla groups, namely the FARC.

20. Ibid., p. 97.

21. Wikipedia, "History of the Revolutionary Armed Forces of Colombia" (Wikipedia, 2011). Available at http://en.wikipedia.org/wiki/History_of_the_Revolutionary_Armed_Forces_of_Colombia (accessed 15 November 2012).

22. Metelits, *Inside Insurgency*, pp. 98–99; Padilla, *The FARC and Hugo Chávez*, p. 18; Safford and Palacios, *Colombia*, pp. 356–357.

23. Wikipedia, "History of the Revolutionary Armed Forces of Colombia."

24. Luis A. Villamarin, *Complot Contra Colombia* (Bogota: Ediciones Luis Alberto Villamarin Pulido, 2009).

25. International Institute for Strategic Studies, *The FARC Files: Venezuela, Ecuador and the Secret Archive of "Raul Reyes"* (London: International Institute for Strategic Studies, 2011), p. 30.

26. Semana, "Golpes De Pecho," *Semana* (2008). Available at http://www.semana.com/wf_InfoArticulo.aspx?IdArt=35493 (accessed 12 November 2012).

27. El Tiempo, "Sangriento Ataque De FARC En Patascoy," *El Tiempo* (1997). Available at http://www.eltiempo.com/archivo/documento/MAM-717465 (accessed 13 November 2012).

28. El Tiempo, "El Destacamento Atacado Preparaba Golpe a Jojoy," *El Tiempo*, (1998). Available at http://www.eltiempo.com/archivo/documento/MAM-717465 (accessed 15 October 2012).

29. El Tiempo, "Miraflores, Eje De Las FARC," *El Tiempo* (1998). Available at http://www.eltiempo.com/archivo/documento/MAM-816762 (accessed 11 October 2012).

30. El Espectador, "Mitú Fue El Infierno," *El Espectador* (2008). Available at http://www.elespectador.com/impreso/nacional/articuloimpreso87232-mitu-fue-el-infierno?page=0,0 (accessed 15 September 2012).

31. Geoff Simons, *Colombia: A Brutal History* (London: Saqi Books, 2004), pp. 188–189.

32. Wikipedia, "History of the Revolutionary Armed Forces of Colombia."

33. Semana, "Viento En Coca," *Semana* (1999). Available at http://www.semana.com/noticias-nacion/viento-coca/40253.aspx (accessed 14 November 2012).

34. Although we do not address it below, the FARC's transition into a major drug-trafficker facilitated the formation of ties outside of Colombia that contributed to its internationalization. We thank an anonymous reviewer for pointing this out.

35. BBC News, "Colombian Army Moves against Rebels," *British Broadcasting Company* (2002). Available at http://news.bbc.co.uk/2/hi/americas/1832060.stm (accessed 11 November 2012); Jörg Raab, and H. Brinton Milward, "Dark Networks as Problems," *Journal of Public Administration Research and Theory* 13 (2003), pp. 413–439; and Simons, *Colombia*, pp. 284–289, 305.

36. Betancourt was held hostage by the FARC until 2 July 2008, when she was rescued as part of Operation Jaque; see Simons, *Colombia*, p. 307.

37. Wikipedia, "History of the Revolutionary Armed Forces of Colombia."

38. BBC News, "Profile: Álvaro Uribe Velez," in *British Broadcasting Company* (2008). Available at http://news.bbc.co.uk/2/hi/americas/3214685.stm (accessed 11 October 2012).

39. Metelits, *Inside Insurgency*, p. 118; International Crisis Group, "Ending Colombia's FARC Conflict."

40. International Institute For Strategic Studies, *The FARC Files*. See also Metelits, *Inside Insurgency*, p. 118; International Crisis Group, "Ending Colombia's FARC Conflict."

41. International Crisis Group, 2009, "Ending Colombia's FARC Conflict," p. 3.

42. Simons, *Colombia*, p. 190.

43. Mario A. Murillo and Jesús Rey Avirama, *Colombia and the United States: War, Terrorism and Destabilization* (New York: Seven Stories Press, 2002), p. 74.

44. Human Rights Watch, "Colombia: Human Rights Developments," *Human Rights Watch* (2000). Available at http://www.hrw.org/legacy/wr2k1/americas/colombia.html (accessed 15 October 2012).

45. Metelits, *Inside Insurgency*, p. 108.

46. Human Rights Watch, *Colombia*.

47. Wikipedia, "History of the Revolutionary Armed Forces of Colombia."

48. Amnesty International, "2005 Annual Report for Colombia" (2005). Available at http://www.amnestyusa.org/annualreport.php?id=ar&yr=2005&c=COL (accessed 13 August 2012).

49. International Institute for Strategic Studies, *The FARC Files*.

50. The FARC's ties to these countries were detailed in the computers and memory chips recovered during the raid that lead to the death of Raul Reyes. See Metelits, *Inside Insurgency*, p. 118 and International Institute for Strategic Studies, *The FARC Files*.

51. Trinkunas, "Defining Venezuela's 'Bolivarian Revolution.'" In 2000 the FARC founded two underground groups: The Clandestine Colombian Communist Party (PCCC or PC3) and the Bolivarian Movement for the New Colombia (MBNC). Both are inspired by "a mix of Marxism-Leninism, the revolutionary ideas of South American independence hero Simón Bolívar, anti-imperialist thought and Latin American unity-and-sovereignty discourse." International Crisis Group, "Ending Colombia's FARC Conflict," p. 4.

52. See, however, Metelits, *Inside Insurgency*, p. 118. The FARC handed them over in the jungles of Colombia, from which they were then transported to Venezuela and received by President Chávez.

53. International Crisis Group, "Ending Colombia's FARC Conflict," p. 18.

54. Simons, *Colombia*, p. 196.

55. Paul E. Saskiewicz, "The Revolutionary Armed Forces of Colombia—People's Army (FARC-EP): Marxist-Lenninist Insurgency or Criminal Enterprise?" (Masters, Naval Postgraduate School, 2005).

56. Wikipedia, "Revolutionary Armed Forces of Colombia."

57. Saskiewicz, "The Revolutionary Armed Forces of Colombia—People's Army (FARC-EP)," p. 60.

58. The information on the status and location of the FARC fronts noted here was culled from the demobilization reports discussed in the next section.

59. InSight Crime, "Police Chief Backs Down from Accusing FARC of Bogota Bomb," *InSight: Organized Crime in the Americas*.

60. Ibid., p. 71.

61. International Institute for Strategic Studies, *The FARC Files*. Raul Reyes was killed during a March 2001 raid in Ecuador and served as the FARC's second-in-command and as the head of the International Front.

62. Some readers may wonder whether we should infer a tie between two actors simply because they share a common group affiliation. While in some cases such an inference would be problematic, here that it is not the case because of two important reasons. One is that the groups are relatively small, which makes it likely that group members know and have formed ties with one another. The second is that because insurgent networks tend to recruit along ties of trust if two individuals who did not know one another prior to joining a group shared a common friend in the group, it is likely that a tie will form between them. Thus, we believe that not inferring a tie in this context would lead us to underestimate the number of ties within the FARC network.

63. Unless otherwise noted, the metrics were estimated using UCINET (Stephen P. Borgatti, Martin G. Everett, and Linton C. Freeman, *UCINET for Windows: Software for Social Network Analysis* (Harvard, MA: Analytical Technologies, 2002)), while the visualizations were created in NetDraw (Stephen P. Borgatti, *NetDraw 2.0* (Lexington, KY: Analytical Technologies, 2011)).

64. Ulrik Brandes, Jörg Raab, and Dorothea Wagner, "Exploratory Network Visualization," *Journal of Social Structure* 2 (2001), p. 1.

65. Doug McAdam, Sidney Tarrow, and Charles Tilly, *Dynamics of Contention* (New York and Cambridge: Cambridge University Press, 2001); John F. Padgett and Christopher K. Ansell, "Robust Action and the Rise of the Medici, 1400–1434," *American Journal of Sociology* 98 (1993), pp. 1259–1319; Ion Bogdan Vasi, "Brokerage, Miscibility, and the Spread of Contention," *Mobilization: An International Journal* 16 (2011), pp. 11–24.

66. McAdam et al., *Dynamics of Contention*.

67. Linton C. Freeman, "Centrality in Social Networks I: Conceptual Clarification," *Social Networks* 1 (1979), pp. 215–239.

68. Ronald S. Burt, *Structural Holes: The Social Structure of Competition* (Cambridge, MA: Harvard University Press, 1992); Mark Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 73 (1973), pp. 1360–1380 and Mark Granovetter, *Getting a Job* (Cambridge, MA: Harvard University Press, 1974); Jukka-Pekka Onnela, Jari Saramaki, J. Hyvönen, G. Szabó, David Lazer, Kimmo Kaski, J. Kertész, and Albert-Laszlo Barabasi, "Structure and Tie Strengths in Mobile Communication Networks," *Proceedings of the National Academy of Sciences of the USA* 104 (2007), pp. 7332–7336.

69. While Burt's measure of constraint essentially identified the same actors as before, the lack of variation in the scores suggests that by itself (and in this context), it does not adequately identify who might be considered "high value targets," which points to the importance of using more than one metric when identifying key network members. It is also important to note that the lack of variation is far more obvious in Figure 2 than it is in Table 1, which highlights why those who use SNA to analyze insurgent networks should almost always combine metric analysis with network visualization.

70. Roger V. Gould and Roberto M. Fernandez, "Structures of Mediation: A Formal Approach to Brokerage in Transaction Networks," *Sociological Methodology* (1989), pp. 89–126.

71. In order to estimate the various brokerage roles, we need to provide a clustering partition that sorts each actor into a particular subgroup. While there are several clustering algorithms available, the community detection algorithms developed by Newman and his colleagues have gained considerable purchase in the SNA community. See Aaron Clauset, Mark E. J. Newman, and Cristopher Moore, "Finding Community Structure in Very Large Networks," *Physical Review E,* 70, 066111 (2004); Michelle Girvan and Mark E. J. Newman, "Community Structure in Social and Biological Networks," *Proceedings of the National Academy of Sciences USA* 99 (2002), pp. 7821–7826; and Mark E. J. Newman, "Detecting Community Structure in Networks," *European Physical Journal* 38 (2004), pp. 321–330. Here, we used the Girvan-Newman algorithm in NetDraw (Stephen P. Borgatti, *Netdraw 2.0* (Lexington, KY: Analytical Technologies, 2011)), which identified 14 clusters (subgroups) in the network, which yielded the highest modularity score (.560) of all potential clusters ranging from one to twenty.

72. A pair of actors in a network is considered disconnected if they are not tied to one another either directly or through one or more other actors.

73. Jörg Raab and H. Brinton Milward, "Dark Networks as Problems," *Journal of Public Administration Research and Theory* 13 (2003), pp. 413–439.

74. While any number of actors could have been chosen (anywhere from 1 to 198), 15 was selected in order to remain consistent with the previous analysis.

75. Kathleen M. Carley, Ju-Sung Lee, and David Krackhardt, "Destabilizing Networks," *Connections* 24 (2002), pp. 79–92; Kathleen M. Carley, and Yuqing Ren, "Tradeoffs between Performance and Adaptability for C3i Architectures," *Proceedings of the 2001 Command and Control Research and Technology Symposium* (Annapolis, Maryland, 2001).

76. Carley and Ren, "Tradeoffs between Performance and Adaptability for C3i Architectures."

77. Kathleen M. Carley, *Organizational Risk Analyzer (ORA)* (Pittsburgh, PA: Center for Computational Analysis of Social and Organizational Systems (CASOS): Carnegie Mellon University, 2001–2011).

78. Phillip Bonacich, "Power and Centrality: A Family of Measures," *American Journal of Sociology* 92 (1987), pp. 1170–1182.

79. Obviously, the key player metrics were excluded from this calculation since the key player algorithms only identify sets of players and does not rank individuals within a particular set.

80. Wikipedia, "History of the Revolutionary Armed Forces of Colombia."

81. InSight Crime, "Luciano Marin, Alias Ivan Marque," *InSight: Organized Crime in the Americas* (2011). Available at http://www.insightcrime.org/personalities/colombia/ivanmarquezfarc/item/148-ivan-marquez-farc (accessed 2 October 2012).

82. Jane's World Terrorism and Insurgency Centre, "Ejercito Del Pueblo Paraguayo (EPP)," in *Jane's World Insurgency and Terrorism* (2011). Available at http://jtic.janes.com.libproxy.nps.edu/JDIC/JTIC/documentView.do?docId=/content1/janesdata/binder/jwit/jwita120.htm@current&pageSelected=allJanes & keyword=Manuel%20Cristaldo%20Mieres & backPath=http://jtic.janes.com/JDIC/JTIC/search&Prod_Name=&activeNav=/JDIC/JTIC (accessed 12 November 2012).

83. Bureau of International Narcotics and Law Enforcement Affairs, "Luciano Marin Arango," *Narcotics Rewards Program* (Washington, DC: U.S. Department of State, 2011).

84. Gregory Wilson, and Kalev I. Sepp, eds., *FARC Systems Analysis Workshop Report* (Monterey, CA: Department of Defense Analysis, Naval Postgraduate School, 2011).

85. El Espectador, "Los Tentáculos De Las FARC in Venezuela," *El Espectador* (2010). Available at http://www.elespectador.com/impreso/articuloimpreso-203909-tentaculos-de-farc-afuera (accessed 1 November 2012).

86. Bureau of International Narcotics and Law Enforcement Affairs, "Hermilo Cabrera Diaz," *Narcotics Rewards Program* (Washington, DC: U.S. Department of State, 2011).

87. El Espectador, "Correos De Las FARC: Varios Miembros Del Secretariado De Las Farc Están Enfermos, Dice Santos," *El Espectador* (2011). Available at http://www.elespectador.com/noticias/judicial/articulo-268084-varios-miembros-del-secretariado-de-farc-estan-enfermos-dicesan (accessed 19 August 2012).

88. Personal communication from Colombian authorities to Col. Greg Wilson.

89.   Jens Glüsing, "Hope Running out for Colombian Captives," *Spiegel Online International* (2007). Available at http://www.spiegel.de/international/world/0,1518,488066,00.html. (accessed 5 November 2012).

90.   Donald Garrett, "Drug Trafficking." Paper presented at the *FARC Systems Analysis Workshop*, Monterey, CA, 30 August—2 September 2011.

91.   International Institute for Strategic Studies, *The FARC Files*, pp. 42–43.

92.   Personal communication from Colombian authorities to Col. Greg Wilson.

93.   This "Granda Affair" refers to the late-2004 capture of Rodrigo Granda in Venezuela by bounty hunters reportedly hired by the Colombian government. The event sparked a break-down in diplomatic relations between Colombia and Venezuela and worsened what were already strained relations between the two countries. Venezuela argued that Colombia violated its sovereignty and Colombia accused Venezuela of harboring FARC members. Nevertheless, Granda was released in early 2005.

94.   International Institute for Strategic Studies, *The FARC Files*, p. 9 and Wilson and Sepp, *FARC Systems Analysis Workshop Report.*

95.   Personal communication from Colombian authorities to Col. Greg Wilson.

96.   Semana, "Los Fusilados De Las FARC," *Semana* (2010). Available at http://www.semana. com/nacion/fusilados-farc/134904–3.aspx (accessed 7 November 2012) and Semana, "El Paisa, El Jefe Guerrillero Incapturable," *Semana* (2012). Available at http://www.semana.com/wf_Info Articulo.aspx?IdArt=35493 (accessed 9 October 2012).

97.   Garrett, "Drug Trafficking."

98.   Semana, "Los Fusilados De Las FARC."

99.   Donald Garrett, "Drug Trafficking."

100.   Jane's World Terrorism and Insurgency Centre, "Fuerzas Armadas Revolucionarias De Colombia (FARC)," *Jane's World Insurgency and Terrorism* (2011).

101.   Urbano was arrested in March 1998 after arriving from Peru. He was subsequently released and went to Mexico. See International Institute for Strategic Studies, *The FARC Files*, p. 49.

102.   Semana, "Golpes de Pecho."

103.   Doris Gomorrah, "Apoyo De FARC Para Izquierda Mexicana," *El Universal* (2007). Available at http://www.eluniversal.com.mx/nacion/150855.html.

104.   Personal communication from Colombian authorities to Col. Greg Wilson.

105.   Semana International, "The Sons and Daughters of the FARC Leaders," *Semana International* (2008). Available at http://www.semana.com/noticias-print-edition/the-sons-and-daughters-of-the-farc-leaders/115791.aspx

106.   Sean Everton, *Disrupting Dark Networks* (Cambridge and New York: Cambridge University Press, 2012); Sean Everton and Dan Cunningham, "Detecting Significant Changes in Dark Networks," *Behavioral Sciences of Terrorism and Political Aggression*, doi:10.1080/ 19434472.2012.725225; Ian McCulloh and Kathleen M. Carley, "Detecting Change in Longitudinal Social Networks," *Journal of Social Structure* 3 (2011). Available at http://www.cmu.edu/joss/content/ articles/volume12//McCullohCarley.pdf (accessed 14 August 2012).