

From Whole Cloth: Making up the terrorist network

Richard Rothenberg, MD

Emory University School of Medicine, Atlanta, USA

Little firm information exists about the global terrorist network, and the type of data used by network analysts—testimony of participants—is not available. Relying on newspaper and other media reports, some general conjectures about the network features of the terrorist organization can be offered: It may well be characterized by a high degree of connectivity and considerable redundancy. The dynamic units are probably small, with high personnel turnover and considerable structural equivalence. The network is not 'managed' in the strict hierarchical sense, but a central leadership appears to plan major moves, to provide training, finance and logistical support, but to permit considerable autonomy at the local level. Such structure contrasts markedly with typical governmental hierarchies. Success against terrorism may be contingent, in part, on governments' ability to set aside formal structure and match the fluidity and nimbleness of terrorist networks.

Social network analysts know something about social networks, and some may know something about terrorism, but it is highly unlikely that any of us knows anything about terrorist networks. Some interesting guesses have appeared, but the very methods that are used to investigate networks are not available to researchers, except perhaps long after the fact. And, in the current circumstances, we seem unhappily far from long after. To understand networks, one has to interview people; learn about their friends, relations and contacts; describe the relationships; deduplicate so that everyone is represented only once in the network, albeit in multiple roles; describe their movements; determine the processes of fission and fusion that create their particular dynamics; and connect the dots. An alternative is to be a participant-observer, but in either case, the fundamental data set that permits network analysis is simply not available.

The only information to go on, at the moment, is "what you read in the papers," (though the real investigators likely have more). The literature available to try to piece together some concept of the shape, size, composition, and dynamics of a network is less than spotty, and only available through clues in newspaper reports. A review of the New York Times archive from September 11, 2000 to October 31, 2001 uncovered about two dozen articles that mentioned "terrorists," "networks," together with "chronology," "movement," and "activity," from well over 500 articles that dealt with the terrorist aspect of the events directly.

The articles mention about 25-30 persons by name who appeared to play some role in the events of September 11, 2001 (there is some overlap with 22 persons made public as most wanted¹). The major relationship described was that of a small group, referred to as the Hamburg cell, that had close ties to at least three of the men who were pilots on the suicide flights. A wedding of one of them was attended

¹Anon. A Nation Challenged: The Hunted: The 22 most wanted suspects, in a five-act drama of global terror. New York Times. October 14, 2001

by most of these actors, including a person with presumed direct and indirect contact to bin Laden. The articles also describe activities in Malaysia and the Philippines that involved persons associated with the hijackers and with others who had been implicated in previous terrorist acts. A Turkish connection is also described. The reports are peppered with specific moments of connection (like the wedding), and with discussions of how money is exchanged over long distances (*hawala*)² and how a string of honey stores were a front for transactions.³ There are occasional insights offered in a way that is certainly believable, but without real documentation. The group is described as "a loose organization of terrorists who may have no idea who the leader is or where the plans come from."⁴ Alternatively, a picture is described of "an underground army so scattered and self-sustaining that even the elimination of Mr. Bin Laden and his closest deputies might not eradicate the threat they have created."⁵ Weiser and Golden quote Juliette Kayyem of the Harvard University Kennedy School of Government: "Bin Laden is the leader of a movement that doesn't necessarily need a leader to function and be effective... This is such a diffuse structure that it can survive without him." In a description of the European dragnet that has picked up a number of suspects, a European intelligence official is quoted as saying: "We don't think there is a structured network, perfectly organized into cells or groups."⁶

What the reports do describe is a loose association of two types of persons, planners and doers. The former gather intelligence, pick targets, and provide the materiel.⁽⁵⁾ The latter are "expendable," persons whose commitment to the cause, but lack of special training, places them in such a role. Interestingly, testimony to the FBI from one of the participants suggests that nationality matters less than the commitment. The force is composed of a variety of ethnic and national groups, whose belief presumably binds them to the cause, and not necessarily to a given organization or leader. Chris Hedges, in a radio interview, noted that the tie that may bind the diverse ethnic groups is their common experience fighting the Serbs in Bosnia.⁷ Wieser and Golden provide one more 'solid' network fact. In describing one of the doers: "He was then placed with five other Algerians in a cell led by a contact who kept in touch with al Qaeda operatives in Europe."

There is, however, another level of network association, which might be viewed as the command structure. This appears to resemble the more traditional hierarchy—a leader (the *emir*, who is bin Laden), a council of about a dozen advisers (the *shura*) and committees responsible for "military operations, religious affairs, finances, and the production of false travel and identity documents."⁽⁵⁾

Thus, the incomplete picture conjures up a highly dynamic group, with some semblance of leadership structure that may be important for the large efforts, but may not be critical for the maintenance of the terrorist activity. The group is financed by large amounts of money that bin Laden has brought to the process, but has been augmented by significant contributions and, probably, considerable entrepreneurial activity. Rothstein, in a commentary, hypothesized that the model for the overall network process is the Internet, a decentralized, highly interactive but highly flexible network with no

² Frantz D. A Nation Challenged: The Financing; Ancient secret system moves money globally. New York Times. October 3, 2001

³ Miller J and Gerth J. A Nation Challenged: Al Qaeda; Honey trade said to provide funds and cover to bin Laden. New York Times. October 11, 2001

⁴ McFadden RD. A Nation Challenged: In Profile; Bin Laden's journal from rich, pious boy to the mask of evil. New York Times, September 30, 2001

⁵ Weiser B. and Golder T. A Nation Challenged: bin Laden's network; Al Qaeda: sprawling, hard-to-spot web of terrorists-in-waiting. New York Times, September 30, 2001

⁶ Hedges C. A Nation Challenged: The search: A European dragnet captures new clues to bin Laden's network. New York Times. October 12, 2001

⁷ Hedges C. Radio interview on Fresh Air. National Public Radio, October 30, 2001. <http://freshair.npr.org/dayFA.cfm?todayDate=archive>

AND hierarchy
flat network

nodes so central that their loss would interrupt transmission.⁸ The Japanese author, Haruki Murakami, is quoted as describing the process as one of a clash of networks (which he calls "circuits")—open vs. closed. He states that the open circuit is our society, and the closed one is the world of religious fanaticism.⁹

In sum, not much to work with. This leaves the field safe for conjecture.

With the appropriate caveats—none of this is known to be true—presented here are some possibilities about what a terrorist network, either local or global, might look like, and the characteristics that define it. It should be noted at the outset that this approach is really an invitation to others to use their powers of conjecture and add to the discussion, since it is hard to know what else to do.

- The entire global network is a connected component.

Estimates of the size of this network are as varied as estimates of the size of personal networks. If it numbers in the thousands, as the information on training camp attendees suggests, then it is unlikely that everyone knows everyone else. It is, however, likely that anyone in the network can be reached in some way by anyone else (not that they would necessarily want to do that). Moreover, it is likely that on the local level, individual ties are very strong: the two persons know each other very well and they know dozens or even scores of persons in common. On a higher level (regional, national, international), individual ties are likely to be weaker but the strength of association (the people that are known in common) is likely to remain high. It is such an arrangement that permits extensive use of the Internet and telephone (a petard by which at least some appear to have been hoist). (Note that postulating a path of some length from everyone in the global network to everyone else runs counter to the instructions from a recently uncovered 'handbook' for terrorist activity [see below]¹⁰).

- The network is redundant on every level.

Each person can reach other people by a multiplicity of routes. Information and material can travel along multiple routes with the same destination. Though there will be some variation in degree centrality (the number of persons with whom an individual is in active contact), this variation will be small, so that the loss of no one person can interrupt transmission. Comparing small units (say 4-6 people), there will be considerable, though approximate, structural equivalence, so that the loss of a unit will not be deleterious. The redundancy in communication channels will be mirrored in the redundancy of active groups (provide for many so that a few make it through to the end). Finally, there is a redundancy in the leadership, that is, numerous persons who can play a pivotal role. (In the current arena, several persons have been informally designated as "central," and it remains to be seen whether their presence is critical to the life of the organization. As the situation unfolds, it is likely that key figures will emerge, but the network's dependency on them remains to be determined.)

- On the local level, the network is small and dynamic.

It is likely that small cells (say, 4-6 people) operate with relative independence and little oversight in the intermediate term. Since the glue that binds this small unit to others and to the global whole are money, moral certitude, and an unrelenting faith worth dying for, and since human beings vary in their capacities, it is likely that there is some turnover in personnel, particularly in light of a long leadup time. Such dynamics are aided by the considerable structural equivalence of roles in the network (see Figure 1 for a primitive example), so that persons can be deployed in different locations with ease, or can be

⁸Rothstein E. Lacking a center, terrorist networks are hard to find, let alone fight. *New York Times*, October 20, 2001

⁹French HW. Seeing a clash of social networks; a Japanese writer analyzes terrorist and their victims. *New York Times* October 15, 2001

¹⁰Weiser B. Captured terrorist manual suggests hijackers did a lot by the Book. *New York Times* October 28, 2001.

eliminated if need be. (Has anyone thought to look into unsolved murders of young men of Middle Eastern origin over the past 5 years in the United States or Europe?)

- The network has formidable barriers to entry and exit. *→ what about*

Exit, as noted, is not tolerated, though a few examples are documented in press reports. Entry is only possible through having led an entire life that becomes the individual's credential. New recruits are sought, but the screening process is arduous, training interminable, selectivity high, and the waiting process after training can be long. Entry is a process that takes years, so that rapid penetration of the network is impossible. Perhaps the most important attribute of the network is its impenetrability, but it is not clear that there have as yet been serious attempts. *edpend-
able*

- The network is not managed.

First intimations were of a highly organized, managed and disciplined network. But such operations, if covert, can be fragile. The network instead has fuzzy organization (that is, considerable room for maneuvering on the part of individual actors), minimal moment-to-moment top-down management, and little overt discipline. Rather, during most of its existence, the purpose of such network units is to be, not to do. Though some persons occupy positions of authority, on the ground there is dependence on local decisions. The discipline is internal, in the beliefs and loyalty of the participants, rather than in a command structure. For much of its existence, such a small group's major problem with discipline probably involves the forces for and against a strict adherence to a Western life style, and the maintenance of intensity in the face of waiting. ✓

Management implies record keeping. The most mysterious aspect of this network is the way it keeps track of people, of money, or of activities. Perhaps it does not. Based on the system of *hawala*, there are no computers, no paper, no records, no remains. A system built on trust is untraceable. Such trust is built on the beliefs and loyalty, the shared experience of living and training in a world of no prospects, and a shared language (Arabic, for the most part) plus many other dialects that provide individuals with an almost unbreakable code as well as evidence of their trustworthiness. (Didn't we once have an unbreakable code, during World War II?)

- These structural characteristics of the network give it operational flexibility.

Compare the terrorist acts to the response of American bureaucracy. The terrorist network(s) had the option to use postal conveyance of anthrax and it is assumed to have done so, to an extent currently unknown, by a number of operatives currently unknown, at a multiplicity of sites (currently unknown), with or without advance planning (currently unknown), and with or without the foreknowledge of the amplifier effect of central postal handling. Thus, small, multipotential groups, with considerable internal discipline but considerable local decision making, adherence to a common cause, few direct contacts but a connection to a larger whole, and an unshakable belief structure has shown itself capable of performing multiple tasks with agility and audacity. Even in the face of some individual bungling that has become evident, the operation can rest its successes on its network characteristics. In response, we have witnessed the mobilization of large hierarchies at the federal, state, and local level, internal dissension, a top-down discipline, a highly documented audit trail, secrecy and a cultural of noncollaboration, and recrimination at all levels (failure is not an option). This is perhaps an object demonstration of the clash of of Murikami's circuits. Our power dwarfs theirs, but our network is no match.

- The network didn't 'just happen' but its construction was not planned.

The network was unlikely to have been mapped ahead of time. Organizers realize the fruitlessness of planning on behalf of those on the ground, and the considerable leeway in local decision making permits organic growth, a far preferable outcome than hierarchical imposition. Such a network has the dual features of local control and responsiveness to outside mandates. It is thus likely that the specific features of the network differ in different places, and may in fact change at any given site, but

the general structure, devolved upon by those in the field, probably looked approximately like that depicted in Figure 1.

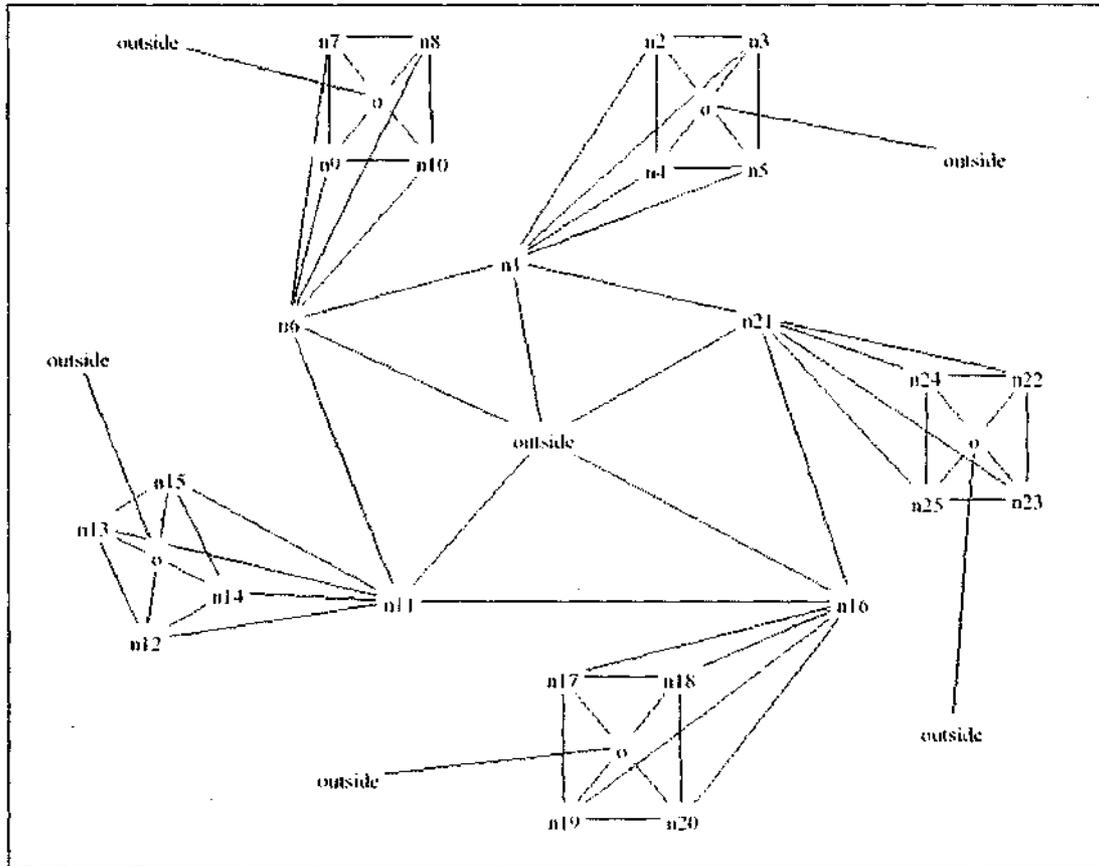


Figure 1. Simplified depiction of terrorist network

The graph incorporates the elements of redundancy, relative lack of centrality, multiplicity of communication channels, structural equivalence of certain roles, and manageable size. What cannot be easily communicated visually is the structural relationship of this group of 'cells,' which might be thought of as a 'pod,' to other such pods operating in the same area, in different areas, or in different countries. It is likely that the channels of communication and conveyance among the pods will mimic the channels among cells—multiple and redundant. As noted, the specifics of this general pattern are likely to differ with time and place, and it may be that even a diagram such as this is "too much." Hedges, in his radio interview, pointed out that this sort of diagram may well be an example of the Western need to impose structure on an activity that has none.⁽⁷⁾

The breakdown of such a network, whether on the local or global scale, depends obviously on two factors: money and trust. The U.S. and other governments are in hot pursuit of the former, but (given what we know from the media) appear befuddled by the latter. Though the approach to network dissolution seems straightforward, the technique is not. Rothstein, and others, pursuing the Internet analogy, suggest that a virus introduced into the network can help to disrupt it.⁽⁸⁾ Sowing viruses of distrust is difficult within a network that has major obstacles to entry, is highly decentralized, and whose leader's status as a symbol is likely to be untouched by what will happen to him (assassination, capture, trial, conviction, escape, or disappearance). Peripheral persons play a role, but primarily as purveyors of needed goods and not as participants; such roles may or may not be useful in infecting the network.

It may be, however, that the nature of the terrorist network itself will provide instruction for its dissolution. The bureaucratic networks that face the problem are unlikely to be able to deal with it in their current network configuration. They will need to look a lot more like the terrorists—in their organization, management, information flow, control, and local flexibility. Fashioning a network that can do the job may be the most significant obstacle to undermining the terrorists. (Didn't we once have such a network, during World War II?) On the other hand, it is also possible that their network will grow and become more like ours. Size and success are the true viruses of failure.

The terrorist manual, recently uncovered,⁽¹⁰⁾ confirms at least some of this conjecture, but contradicts it on several points. First, it is urged that persons in cells not know those in other cells, so as to have less to tell when captured. The manual thus puts secrecy above communication. It is not clear from the few emerging facts, however, that this mandate is obeyed. Second, a strict discipline with regard to "stories" to be told in the event of capture is espoused, but a number of examples belie the ability of operatives to do this. For example, a recent counterterrorist operation successfully aborted a major terrorist strike, in part because of information provided by a key terrorist operative who was captured.¹¹ (Unfortunately, the counterterrorists were forced to act quickly and missed the opportunity to describe the network in detail.) In any event, the terrorist manual could serve as well as a blueprint for counterterrorism, an opportunity that will hopefully not go unnoticed by the bureaucratic "circuit." The response to anthrax notwithstanding, my guess and hope is that the ponderous bureaucracy has set its own nimble network in motion, and is smart not to tell us.

Manual
Secrecy
FIRST

It has been noted repeatedly that the terrorists are the beneficiaries of the American democratic system that they seek to destroy, a system that permits open movement, freedom of choice, and respects privacy. It is in such a society that the network that they have successfully developed can flourish. It has been noted as well that if we accede to the pressures that terrorists place on American society, they will have won. We are in the process of acceding (e.g. the recent antiterrorism bill that gives expanded power of surveillance to government agencies), and it is likely that the very factors that permitted growth of a terrorist network will be altered. In the long run, our society loses, but so do the terrorists, since their process of network growth will destroy the circumstances that permit it.

Richard Rothenberg, MD
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Afterward (1-23-2002)

Since this article was submitted (11-1-01), virtually the entire field war in Afghanistan has taken place. A good deal of new information about the terrorist network patterns has come to light, including considerable information about the 19 (possibly 20) hijackers, and about al Qaeda connections with other terrorist groups. New light has been shed as well on the motivation of the terrorists (Mneimneh H, Makiya K: Manual for a 'Raid' New York Review of Books, 1-17-02). The details 'on the ground,' though clearer, remain fuzzy, but it has come to light that some governments, whose history of being the direct object of terrorism dates than of the United States, have adopted appropriate network tactics. Perhaps the most telling metaphor has been French Magistrate Jean-Louis Bruguière's comparison of the terrorists' network to the AIDS virus, with its enormous capacity to reform itself with renewed resistance (Hedges, C. A Powerful Combatant in France's War on Terror. NYTimes, November 24, 2001).

¹¹Hedges C. The inner workings of a plot to blow up the U.S. Embassy in Paris. New York Times. October 27, 2001

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