PART 4

Records of Global Civil Society

Network Approaches to Global Civil Society

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Purpose

In this edition of the Yearbook, we explore a different, though complementary, approach to measuring and analysing global civil society. Whereas in 2002 we developed and introduced the Global Civil Society Index, and in 2003 examined aspects of geographical distribution by focusing on the spatial patterns of global civil society, the 2004 methodology chapter looks at the relational aspects of transnational interconnectedness. In other words, our focus is on global civil society as a transnational system of social networks and, methodologically speaking, on analysing global civil society through the lens of network analysis. We are interested in finding out how useful the various approaches and tools of network analysis are for describing, analysing and understanding global civil society.

As with the methodological approaches introduced in previous editions of the Yearbook, using network analysis is an attempt to go beyond the limitations of what Beck (2003), Shaw (2003) and others have labelled 'methodological nationalism', or the tendency of the social sciences to remain in the statistical and conceptual categories of the nation state. This tendency has become a persistent handicap: it equates nation, culture and polity, and ultimately discourages thinking beyond nineteenth- and twentieth-century categories. As an approach, it seems increasingly at odds with the realities of a globalising world.

By contrast, network analysis is promising because it has been little affected by nation-state thinking and national traditions, and therefore facilitates the analysis of non-contiguous social units that traverse the nation state, even regions and continents. As a field, it developed in a systematic way only from the mid-1970s with the publication of two seminal papers (White, Boorman, and Breiger, 1976; Boorman and White, 1976) that laid much of the intellectual and methodological groundwork[1]. It initially emphasised small, local networks rather than the larger, macro-level units like the nation state, and disregarded the statistical systems that dominated conventional social science at that time.

This is not to say that network analysis emerged inherently transnational in scope and with the aspirations of a social science freed of methodological nationalism; rather, its usefulness in analysing transnational phenomenon was unintentional, as its rapid development over the last 25 years was largely confined to an elite of American, European and Australian sociologists who cared about the structure of social relations independent of locale and circumstance. Loosely organised around the Sunbelt Network Conference, they paid little attention to the cultural meanings and contents of social ties; instead, what seemed important was the explanatory power that combinatorics, Boolean algebra, and graph theory could bring to the analysis of complex social structures.

Yet it is precisely this 'acultural' or somewhat 'removed' quality that makes network analysis attractive in examining the relational patterns of global civil society. Since it is based on lower levels of aggregation and is not limited by geography or political units, network analysis is potentially a very promising tool for examining transnational phenomena like global civil society. Put simply, for network analysis it primarily matters whether actors A and B are connected or not, and what their connections with others such as C, D or E might be; the fact that A might be French, B, Nigerian, C, American, D, Japanese and E, German or Israeli matters only secondarily. The structure of relations is key.

Against this background, this chapter explores the utility of network analysis for examining patterns in global connectedness among non-contiguous, multi-site entities, using interpersonal and interorganisational and other network ties as the basic unit of analysis. Given the space limitations of this chapter, we can only hint at initial results, and we propose to present a fuller analysis in the 2005 edition of the Yearbook. Nonetheless, we hope that the preliminary analyses presented here illustrate the potential contribution network analysis can make to our understanding of global civil society.

1 *For an introduction and overview, see Wasserman and Faust (1994) and Scott (1999).*

Network analysis

Network analysis is not a theory but a set of related approaches, techniques and tools for describing and analysing relationships among individuals, organisations and other social entities. What unites these different approaches is a basic focus on structure. Put differently, network analysis measures social reality not by reference to people's individual attributes (gender, class, age, values, and so on) but by looking at their social relationships, the patterns they form, and their implications for choices and behaviour. Take a hypothetical person such as Akiko Deguchi. Conventional social science would be interested in her nationality (Japanese), gender (female), age (40), marital status (married), number of children (one), education (PhD), occupation (manager), type of field/industry (working for an international NGO), religion (Buddhist) and political orientation (liberal).

Network analysis takes a different starting point: rather than looking at individual attributes, it asks about relational aspects or the social ties Akiko has with others in her daily life, in special settings such as conferences and work situations, or with her friends, professional contacts and the like. Who are her best friends and are they interconnected among themselves? Who are the people she trusts and distrust? With whom does she interact professionally as a manager in a Japanese NGO, and with whom socially? What funding agencies is her organisation in contact with, and what government agencies? Who are her peers in Japan and abroad? What causes does she support? What are her organisational memberships? On what boards does she serve?

For network analysis it is important to know how people (or organisations) are connected and relate to each other, and what structural patterns emerge from such interconnectedness. It is connectedness, not attributes, that is at the focus of network analysis. It is less important for network analysis to know that Akiko is Japanese, female and so on; rather, what matters is the relational patterns she forms and is part of. In conventional social science, her socio-economic background and status, opinions, attitudes and so forth would be at the centre of analytic attention; in network analysis it is how she fits into a wider web of social affiliations between individuals, groups and organisations.

Network analysis is a highly technical field, yet has retained a very straightforward basic intellectual thrust, with three major approaches that take different, though complementary, paths:

- a micro-level view that looks at ego-centered networks and focuses on one particular individual or organisation and its connectedness; analysing Akiko's personal and professional network and their mathematical properties such as reach, density, overlaps, and so on would be an example
- a macro-level perspective that addresses emergent structures among network members; for example, the patterns that can be identified in the relations from not only Akiko's perspective but from those of all her colleagues and friends combined
- hyper-networks that examine network structure generated by combining networks of the same or different kinds. For example, the memberships Akiko and her friends may have in NGOs create links not only between members within the respective organisations but also among the organisations through joint or interlocking memberships, that is, the hyper-network.

We will describe the approach and explore its relevance to global civil society, using a variety of examples. However, before we present them, we have to address one critical question: why analyse global civil society through a social network perspective in the first place?

Why network analysis?

We suggest that network analysis is useful for one basic reason, irrespective of the relatively high level of technical and mathematical knowledge it requires: global civil society is a very relational, 'networky' phenomenon. Indeed, globalisation research is rich in network metaphors, and many connote some notion of connectedness. Examples include Yergin and Stanislav (1998) who use the metaphor of the 'woven world'; Keane (2001: 23–4) who describes global civil society as an 'interconnected and multilayered social space' comprised of 'cross-border networks' and 'chains of interaction' linking the local to the global; Roseneau (1995) who describes global governance as a framework of horizontal relations; and, most notably, Castells' (1996) argument that actors increasingly form meta-networks at the transnational level and create a system

of 'decentralised concentration', where a multiplicity of interconnected tasks takes place in different sites.

Since the 1970s, Castells points out, enabling technologies such as telecommunications and the Internet brought about the ascendancy of a 'network society' whose processes occur in a new type of space, which he labels the 'space of flows'. This space, comprising a myriad of exchanges, came to dominate the 'space of places' of territorially defined units of states, regions and neighbourhoods, thanks to its greater flexibility and compatibility with the new logic of network society. Nodes and hubs in this space of flows construct the social organisation of this network society. For Castells, this new space is at the core of the globalisation process – and, for understanding global civil society within the larger process of a shift from 'place' to 'flows', network analysis holds great promise.

Unfortunately, an explicit and systematic focus on network analysis has not been commonplace in global civil society scholarship so far[2]. As Townsend (1999) points out, despite frequent reference to the 'network' character of global civil society as a structured space, global maps of flows and interconnectedness are still missing. For example, Held et al (1999: 17–27) propose that the major contours of global civil society can be described by three related characteristics: *extensity* as the overall spread of the network; *intensity* of the overall density of the network in terms of the number and types of connections involved among the various 'nodes'; and *velocity* of the overall network, as a measure of the frequency with which connections are made or used among network nodes. Yet, like others, these and similar approaches, useful as they are, generally remain metaphorical, and their full descriptive and analytical potentials remain unexploited. In this brief chapter, we want to show the significant potential that network analysis offers for exploring the concepts and theories proposed by Held, Castells and the others just mentioned.

Principles of network analysis

Network analysis is a way of simplifying the complexity of social relations in order to reveal underlying patterns and trends. While this may appear highly abstract, a simple example might help. To anyone standing in the middle of a busy square or intersection in Beijing, Paris, New Delhi or New York, with hundreds of people and many cars, buses, trucks and bicycles going by, individual movements might appear seemingly random. However, if one observes the same movements from an elevated platform – say, the Arc de Triomphe, or from the roof of an adjacent building – patterns, as well as shifts in patterns, become more apparent, and the flow of traffic seems more ordered and, indeed, simpler. Similarly, much of network analysis is about finding the best way of reducing the complexity of social interactions to simpler patterns, and of finding the right 'observation platform'. As highlighted below, there are different ways of doing this.

Let us first return to Akiko to appreciate the challenge network analysis faces and to show its promise. Like most professionals in international NGOs or corporations, Akiko typically knows hundreds of other professionals and individuals with whom she interacts in different kinds of projects, on different levels and in different contexts. These relationships involve supervisory, reporting, collegial, supportive, adversarial, friendship and conflict relations, among many others. If we assume that Akiko has contacts with, say, 500 other people, and that these contacts involve 10 different types of ties (share information, work jointly on project, report to, are friends, acquaintances, and so on), we would potentially have 500 times 10, or 5,000, relations to examine. If we were to include the relations among the 500 others mentioned, we would have to examine 500 times 5,000 data points when limiting ourselves to those mentioned by Akiko, and many more if we were to include those cited not by her but by the others.

Even assuming that we could collect all this information on Akiko's network, how could we then reduce the complexity of these 2,500,000 data points among these 500 people? The answer depends, of course, on what we are looking for in this vast amount of information. Fortunately, network analysis has developed five basic principles or 'conceptual–methodological lenses' for reducing the complexity of social relations to simpler patterns that can be summarised under two general headings: single-mode networks and hyper-networks.

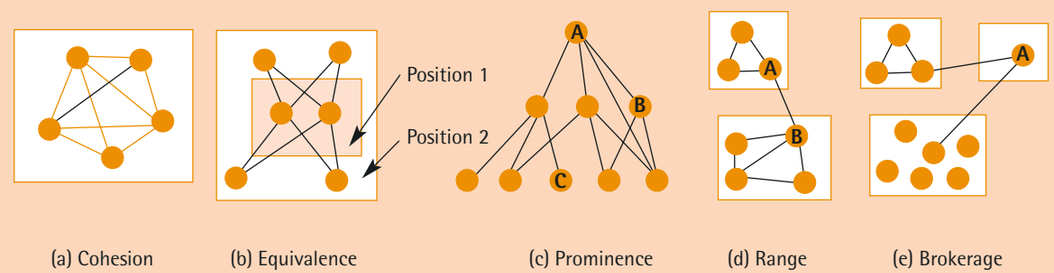
Single-mode networks

This is perhaps the core of most network analysis and emphasises the relations among network 'nodes' (people, organisations) along five principles (Figure M1):

- *Cohesion* emphasises the interconnectedness of social relations and their tendency to form cliques or areas of higher density, that is, a greater likelihood that links exist. For example, one would look for cohesion in a network among activists to understand the strength of communication ties, the 'bonding' and degree of integration, as suggested in Figure M1(a)
- *Equivalence* emphasises the degree to which members of a network have similar relations with others; if they do, members who occupy a common position can be represented by it, and the complexity of the original structure is thus reduced. In Figure M1(b), note how the two actors in the shaded area have identical relations to all others; in fact, the network can be reduced to two positions: Position 1 comprising actors in the shaded area, and Position 2 comprising those outside. Searching for positions of equivalence is useful for examining reference groups, conflict relations, coalitions, and patterns of homogeneity and diversity in networks
- *Prominence*, indicated by Figure M1(c), refers to positions in networks that originate from being objects of relations with other less or equally prominent contacts (Actors A or B). Conversely, the degree of marginality is a network position based on not being such an object (Actor C). Prominence analysis is useful for analysing formal and informal group structure, leadership formation and power and control relations
- *Range* is basically a bridging phenomenon between two otherwise unconnected networks, as shown in Figure M1(d). While Actors A and B belong to different groups, their mutual relationship provides a structural bridge that can allow for 'flows' between these two networks. Range analysis is important for understanding mobilisation processes and information, resource and innovation flows. For example, advocacy groups located in different countries are typically linked via such bridges. Such bridges linking clusters in sparse networks promote the development of a 'small world' phenomenon, which we examine below
- *Brokerage* is related to range, and refers to a network situation in which one actor (A) sees a structural hole between two groups of actors, which she then tries to connect (Figure M1(e)). Brokerage is the network equivalent of entrepreneurship in markets, and refers to the extent to which actors as entrepreneurs connect and organise networks. The activities of some of the social entrepreneurs presented in Chapter 6 of this edition offer illustrations of this process. Brokerage is important for understanding both the degree of autonomy in a network and its potential for organisation.

Of course, these principles, while highlighting distinct aspects of network structures, complement each other: the extent of range in a network is related to the extent that brokerage is possible; prominence is important for understanding the internal hierarchy of a network, and is also crucial for range: depending on the prominence of bridging actors, the outcomes of range and brokerage can be different. Finally, note that cohesion is a special case of a structurally equivalent position in a wider network: a fully connected circle of friends (cohesive group), for example, in a wider network of relations with lower density would occupy a common position (structural equivalence).

Figure M1: Principles of network analysis



2 *One of the only exceptions is Mario Diani's work; see, for example, his recent edited collection on social movements and networks (Diani and McAdam, 2003).*

Hyper-networks

Hyper-networks, or two-mode networks, are another and somewhat more complex case. The single-mode networks introduced above require information about direct links among actors. Two-mode networks, however, allow us to deduce ties through coincidental participation in groups or events. Two-mode networks arise from overlapping participation of actors in entities such as boards of directors, or in events such as conferences or demonstrations. For example, two executives serving on the same committee or two organisations participating in the same event are assumed to have a tie between them.

Thus, if we imagine a two-mode network as a matrix, the list of meetings would represent its columns and the list of participating actors its rows. We would observe which actors attend which meetings, and also which meetings are attended by which actors. This creates a 'dual network': we can look at the network of contacts among actors created by their co-participation in various meetings; we can also look at the network of relations among meetings generated by those actors participating in two or more. Examples of two-mode networks in the context of global civil society are organisational memberships in umbrella organisations, interlocking board memberships, people attending various forums, multiple individual memberships in advocacy networks, volunteers donating their time to more than one organisation, and multiple memberships in various UN NGO committees.

Network data

Network data are most often collected using self-reports, normally through surveys or interviews. Actors participating in the network are asked about their connections with other actors as well as about the content and effect of such connections. Link information can be specific, such as cash transfers, or diffuse, such as friendship; it can be unidirectional or mutual; it can have different degrees of intensity or the relationship can be binary, that is, either a relation exists or it does not.

Analysis of social networks places a special burden on data collection. It usually requires that data on the 'complete' network be collected, even though the boundaries of a network can be hard to ascertain. Network sampling is likewise a challenge to more standard statistical methods, as the 'universe' of nodes to be sampled is often difficult to establish and somewhat arbitrary (we are all connected, somehow), and each node requires two pieces of information: how A relates to B and how B relates to A. Obviously, this data challenge is greater for large networks and geographically dispersed relations.

Network studies that use egocentric networks are less demanding, as data are not collected on the entire network but only on one focal node: for example, Akiko as the 'ego' and the ties she has with other actors. If such egos are selected carefully, their egocentric networks can be highly informative and even potentially representative of the larger population (Marsden, 1990). In this sense, Akiko could stand for a larger group of professionals in similar positions, and we would attempt to measure and analyse the 'typical' network structure of Japanese NGO executives.

Networks of global civil society: four examples

Having reviewed some of the basics of network analysis, however briefly, we will now present four examples of network analysis in the context of global civil society, each representing a major strand of analysis.

1. It's a small word after all (for NGOs)

Most of us have experienced the 'small world' phenomenon: during small talk with a participant at some conference, you find out that you unexpectedly share a mutual acquaintance. Perhaps her friend's wife sits on the same committee as the uncle of your daughter's new boyfriend. Or while at a New York meeting you may discover that you share a mutual acquaintance from Nairobi with a person from Jakarta you just encountered. All of a sudden the world feels small. The small-world phenomenon brings together people who are often geographically separate and even temporarily disconnected. Of course, as network analysts remind us, such seemingly unexpected connections are not at all random events but the result of an underlying network structure.

Milgram (1967) decided to examine systematically how 'close' we really are to each other in terms of connectedness. In a famous 1967 study, he tried to see how many intermediaries would connect any two randomly selected persons in the US through personal acquaintance chains. To his astonishment, he found that the average number was 5.5. In other words, on average, every randomly selected pair of US individuals can be connected via a chain with five or six links. Over time, this number was rounded to the 'six degrees of separation' that allegedly exist between every two people. It suggests that, despite the enormous size of the US population, or the world's for that matter, we are nonetheless closely connected through traceable webs of relations, affiliations and acquaintance ties.

But what precisely are 'small worlds'? At a fundamental level, they are a signal that a particular network is making the transition from chaos to order (Barabási, 2002). They are an indication that large networks, despite their overall sparseness, have a high degree of clustering. For example, Akiko's network of 500 individuals is indeed small and hence sparse compared with the potential 110 million ties she could have to Japanese citizens alone, let alone the billions of possible ties globally. Yet it is the clustering and the range or brokerage effects that matter: relatively small and distant clusters are connected by relatively small numbers of bridging actors. Consequently, most nodes in small-world networks may have few links to other nodes, but a minority of well-connected hubs shortens the average path among all (see Figure M1(d)).

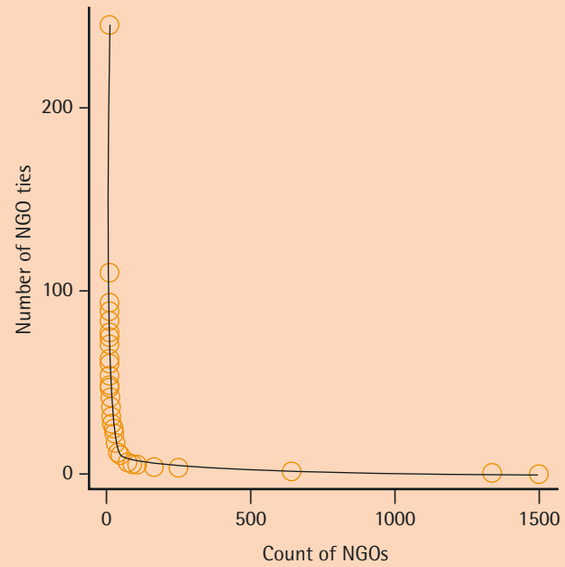
The distribution of links that nodes in a small-world network have corresponds to what is called the power law: a very small number of hubs have ties with many other nodes in the network, and a very large number have few ties. If we sort a given network population by the number of ties they have, we find this number declining rapidly, as shown by the hyperbolic curve in Figure M2. This pattern gives rise to the small-world phenomenon.

Small worlds were found in a variety of real-world networks, including technical, natural and social networks (Barabási, 2002). Is global civil society a small world too? To answer this question, we took a random sample of 5,158 international and internationally oriented NGOs, made available to us by the Union of International Associations (URL) (constituting 25 per cent of the total number of NGOs in their database). We found that the distribution of nodal degrees (the number of links each node has) is compliant with the power law: a small number of NGOs has disproportionately large numbers of links with other organisations, whereas the huge majority of nodes have very few links. Figure M2 shows that there is only one organisation that has over 200 links (top left point), one that has over 100 links, and so on. At the other end of the continuum, we find that about 1,500 organisations have no ties at all (bottom right), approximately 1,400 organisations have only one tie to another organisation, about 600 have two ties, and so on.

When we calculate the length of the shortest path between each of the 26.6 million possible pairs among the 5,158 NGOs in our sample, we find that, on average, the two nodes in each pair of nodes in this network are 7.3 links apart. This suggests that, on average, each NGO is 'traceable' through about seven organisations. For example, information, be it important advice or some rumour, needs to go through only seven organisations, on average, to reach the global NGO community. The longest such path between two nodes in this network is 21 links, which is the case for five pairs in our sample.

How small is this small world? Not very, at least at first glance. Of course, the 7.3 steps are at first sight close to Milgram's 'six degrees of separation'. However, the network we are discussing here is, with just over 5,000 nodes, much smaller than Milgram's US population of some 180 million at that time. One the one hand, this is an indication that, organisationally, global civil society networks are still not very structured, even though clusters of higher connectivity are emerging, triggered by the connecting capacity of the few large hubs shown in Figure M2. One the other hand, we have to keep in mind that we are looking at interorganisational networks only, and not at personal ties among NGO staff and members. It seems reasonable to assume that the combined effect of organisational and

Figure M2: Distribution of number of links in NGO network



individual ties could indeed make the world of global civil society a rather small one.

2. Egocentric networks and connectivity: does being Southern mean being more global?

Egocentric networks are less demanding in terms of data requirements[3]. Egocentric networks are often used to study the social environment of individuals and organisations, such as social support networks, amounts of social capital and relations within organisational task environments. Egocentric networks can be studied as single cases or comparatively, as when we look at the composition and structure of personal networks across different actors, as we do here.

The egocentric networks presented for illustration purposes in M3 were created not directly by researching the two organisations portrayed but rather by extracting their relations from the larger NGO data-set mentioned above. Both cases are prominent NGOs, one located in Switzerland and dealing with NGO–government relations (O2474), the other a Christian development organisation with headquarters in Ethiopia (O3548). Both have almost the same number of network links (28 and 26, respectively).

The fact that one is 'Northern' and the other 'Southern' reveals both similarities and differences in structure and composition. First, in the Swiss organisation's network there is only one organisation not from the North, and 18 of the remaining 27 organisations are also from Switzerland (most probably from Geneva). The Ethiopian organisation's network includes organisations from eight different countries, most of them Northern, too (eight from the UK, eight from the US, and only two organisations from developing countries), making the pattern more global in its geographic dispersion.

So does a Southern location make NGOs more transnational, more global in outreach? By looking at the structure of the two networks, we learn that, in both cases, links between the focal NGO and its 'alters' tend to be mutual, and that links between alters are sparse, as shown in Figure M3. Moreover, inter-alter links are mostly local and always between Northern NGOs. Thus, the two egocentric networks suggest not only that NGO networks tend to be sparse and Northern centered but also that Northern NGOs appear to be more mutually interconnected, even when the focal organisation is a Southern one. Surprisingly, despite the overall sparse network, we find that four organisations link the two ego-networks (126, 3056, 3272 and 4680), which are all Northern and all religious. In other words, while NGO networks reach into developing countries, they are denser and more elaborate in the North. By implication, being Southern makes NGOs more global in the sense that their peripheral position requires them to seek links to better-connected organisations in the North.

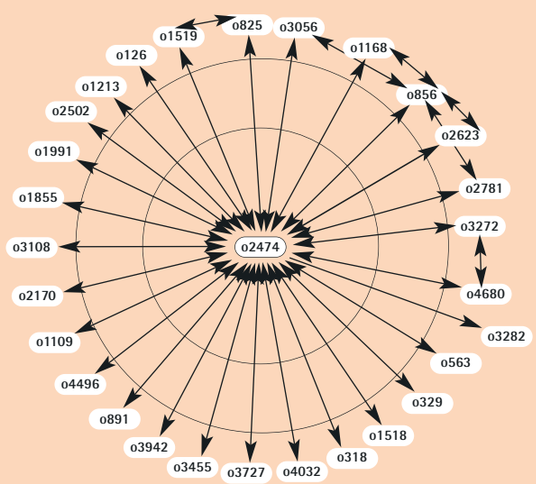
3. When things go wrong: blockmodel analysis

Blockmodel analysis can be a powerful tool for understanding underlying relationships in complex networks; it is also a very demanding approach in terms of data requirement and analysis, and therefore a time-consuming exercise. Blockmodels represent a simplification of a network, and are based on the principle of structural equivalence as shown in Figure M1(b). People or organisations in similar positions in a network are grouped into blocks and are treated as 'joint actors' in a reduced network. The relationships between the blocks are then analysed, revealing structures and relationships between network groups and roles rather than individual actors. At present, we have no current blockmodel analysis of global civil society aspects, but we hope to present one in the 2005 edition of the Yearbook. To illustrate its utility, however, we will make use of two cases conducted by one of the authors and reported in Anheier and Romo (1999).

In two African countries, Nigeria and Senegal, local and international NGOs decided to form a common umbrella organisation with three stated purposes: to share information domestically as well as with international funders; to encourage cooperation; and to act as a formal voice and negotiation body with government. In each case, a permanent administrative body would perform these functions, and in each case, a task force was entrusted to organise an initial membership meeting to set the creation of the organisation in motion. In Nigeria, after an initially positive and energetic mobilisation among the 60 NGOs involved, consensus soon turned to series of negotiations, leading to the emergence of complex and shifting alliances among participants, and ultimately to a prolonged period of disarray, with various factions trying to create competing umbrella organisations. In Senegal, the creation involved much less mobilisation of the local NGO community, but it was swift and relatively well-organised; yet it initially had little impact.

3 *'One good sitting' is usually enough to 'reconstruct' the egocentric network for an individual, but in an organisation it is important to gather information from more than one informant due to the effects of hierarchy and specialisation.*

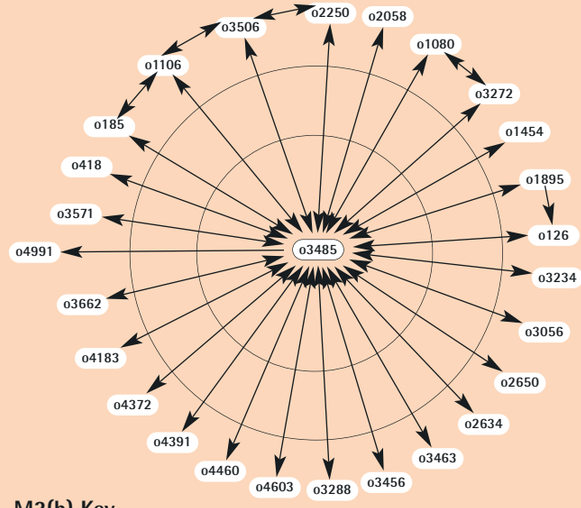
Figure M3(a): Egocentric network of Swiss NGO-government relations organisation (O2474)



M3(a) Key

Label	Region	Subject
126	N America	Welfare, religious
318	N America	Humanitarian, religious
329	W Europe	Peace
563	W Europe	Economic development
825	W Europe	Child rights
856	W Europe	Women, religious
891	W Europe	Conflict resolution
1109	W Europe	Literary
1168	W Europe	Peace, feminist
1213	W Europe	Motor sports
1518	W Europe	NGO coordination
1519	N America	Mental health
1855	Africa	Economic development
1991	N America	Economic development
2170	W Europe	Refugees
2502	W Europe	Travel
2623	W Europe	Social rights
2781	W Europe	Education, religious
3056	W Europe	Mission, religious
3108	W Europe	Economic research
3272	N America	Religious
3282	W Europe	Development
3455	W Europe	Religious
3727	W Europe	University
3942	N America	Food security
4032	W Europe	Health rights
4496	W Europe	Development
4680	W Europe	Vocational, religious

Figure M3(b): Egocentric network of Ethiopian Christian development (O3548)



M3(b) Key

Label	Region	Subject
126	N America	Welfare, religious
185	W Europe	Elder rights
418	W Europe	Child rights
1106	W Europe	Family & child rights
1454	W Europe	Economic development
1895	N America	Development, religious
2058	W Europe	Medical
2250	W Europe	Women's rights
2634	N America	Mission, religious
2650	W Europe	Development
3056	W Europe	Religious
3234	W Europe	Disabled
3272	N America	Mission, religious
3288	W Europe	Child & family rights
3456	W Europe	Voluntary association
3463	Africa	Development
3506	W Europe	Child rights, religious
3571	N America	Pediatric medicine
3662	N America	Food security
4183	N America	Food security
4372	N America	Environment
4391	W Europe	Food security
4460	N America	Medicine
4603	W Europe	Reproductive medicine
4680	W Europe	Vocational, religious
4991	East Asia	Development

The blockmodels tell us much about why these umbrella organisations turned out so differently: in essence, they replicated structural patterns that are typical for the wider society in which they operated. In the Nigerian case (NADA), it was the emergence of highly ambivalent relations of trust and distrust, support and conflict among NGOs; in Senegal (SADA), the dominance of a patron–client relationship between larger and smaller NGOs and between those based in urban areas and those in the vast rural hinterland. The only dissent in Senegal came from 'progressive' social entrepreneurs operating in the Sahel, who were critical of the Islamic authorities in the region and saw the umbrella organisation as yet another instrument of control.

Tables M1 and M2 show only the end results of a more detailed analysis that looks at the relational patterns among these organisations, using ten different types of ties, grouped into two broad classes:

- *support* (for example, cooperate, share information, have same opinion about consortium, vote for)
- *conflict* (for example, decline cooperation, have different opinion, seek to exclude from consortium, dispute actions).

With this information as input in matrix form, blockmodel analysis seeks to reduce the relational structure to a simpler one by trying to identify structurally equivalent groups, that is, NGOs that find themselves in similar relational patterns with others. Once these groups are found, the matrices are rearranged and then further simplified by binarising the matrix using the median block density as the cut-off point, yielding what are called image matrices in Tables M1 and M2. In other words, using the Nigerian case as an example, we reduced the 60 times 60 times 10 data points (that is, 10 types of ties among 60 NGOs), or 36,000, to 36 relationships between blocks as shown in each of Table M1(a) and M1(b). The assumption is that a simpler representation also reveals underlying relational patterns.

In the Nigerian case (Table M1(a)), support relations are much less pronounced than in Senegal (Table M2(a)), which shows solid support across positions. By contrast, conflict relations are more pronounced in Nigeria, and virtually absent in Senegal (Tables M1(b) and M2(b)). In fact, Block 4, which consists of the disenchanted social entrepreneurs from the Sahel, were relatively isolated in the sense that their conflict ties remained unreciprocated. The Nigerian structure is strikingly different: here those who support each other also oppose each other, as the frequent overlap on '1s' in Tables M1(a) and M1(b) demonstrate.

In NADA, Blocks 4, 5 and 6 are in an uneasy coalition united against Block 3, whereas the other blocks are splitting their support among Blocks 3, 4, 5, and 6. In addition, Block 3 reveals internal conflict among its members. Anheier and Romo (1999: 226) suggest that this pattern is characteristic of 'tournament structures', in which small contestant groups align and realign, and struggle with each other for the support of other constituencies, albeit without ultimately succeeding in gaining control or forming sustainable coalitions. The structural patterns suggest a situation of relatively free competition, with no elite or coalition able to achieve popular endorsement from the membership at large. The outcome was a state of stalemate and finally failure.

From a structural perspective, members of Blocks 3 and 5 in particular found themselves in positions where they supported their opponents and opposed their allies, and it became difficult to distinguish friend from foe. This pattern is indicated by the signature element of failure, the stalemate triad, replicated in Figure M4: support and conflict relations overlap, creating high levels of 'structural ambiguity' in a network.

By contrast, the Senegalese consortium developed a congruence structure with hierarchical tendencies: a relatively large group of uninvolved NGOs (Block 1) from rural areas, which had nothing to lose but could potentially gain from the consortium, next to well-connected international Dakar-based NGOs (as patrons, in Block 6) with the Senegalese client NGOs in the other blocks (except Block 4, the Sahel-based social entrepreneurs). As a result, the umbrella organisation basically mirrored the already existing structure, which explains why the consortium ended up having little impact, at least initially.

4. World Social Forum events: hyper-networks

We demonstrate the usefulness of two-mode networks by looking at NGO participation in self-organised events during the World Social Forum (WSF) held in Mumbai, India, in January 2004. The central Indian organising committee organised most forum events (panels, conferences, and so on), while 35 events were organised independently, addressing a wide range of issues from trade and water to AIDS and peace (see Table M3). One hundred and sixty-one organisations were involved in these independent events, and ten participated in two or more. This overlap creates a two-mode network of events and organisations.

Table M1: Blockmodel matrices of NADA

Table M1(a): Conflict image matrix: NADA

	Blk 1	Blk 2	Blk 3	Blk 4	Blk 5	Blk 6
Blk 1	–	–	–	–	–	–
Blk 2	–	–	–	–	–	–
Blk 3	1	1	–	1	1	1
Blk 4	1	–	–	–	–	–
Blk 5	1	–	1	1	–	–
Blk 6	1	–	1	–	–	–

Table M1(b): Support image matrix: NADA

	Blk 1	Blk 2	Blk 3	Blk 4	Blk 5	Blk 6
Blk 1	–	–	–	–	–	–
Blk 2	–	–	–	1	1	1
Blk 3	–	–	1	–	–	–
Blk 4	1	1	1	1	1	1
Blk 5	–	–	–	–	1	1
Blk 6	–	1	1	1	1	1

Table M2: Blockmodel matrices of SADA

Table M2(a): Conflict image matrix: SADA

	Blk 1	Blk 2	Blk 3	Blk 4	Blk 5	Blk 6
Blk 1	–	–	–	–	–	–
Blk 2	–	–	–	–	–	–
Blk 3	–	–	–	–	–	–
Blk 4	1	1	1	1	1	1
Blk 5	–	–	–	–	–	–
Blk 6	1	–	1	–	–	–

Table M2(b): Support image matrix: SADA

	Blk 1	Blk 2	Blk 3	Blk 4	Blk 5	Blk 6
Blk 1	–	–	–	–	–	–
Blk 2	1	1	1	1	1	1
Blk 3	1	1	1	1	1	1
Blk 4	1	1	1	1	1	1
Blk 5	1	1	1	1	1	1
Blk 6	–	1	–	1	1	1

How to read blockmodel image matrices

The presence of a '1' in a matrix cell indicates the existence of the particular type of link between the involved blocks. For example, in Table M2(a) block 4 organisations perceive their relationship with block 1 organisations as conflictual. This is shown in the '1' that appears in the cell at the intersection between block 4 (row) and block 1 (column). This conflictual sentiment is not reciprocated, since in the intersection between block 1 (row) and block 4 (column) in Table M2(a) there is no '1'.

Figure M4: Stalemate relations

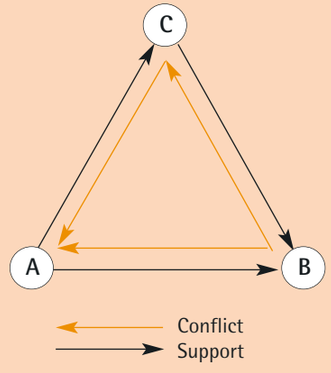


Table M3: Topics and issues of self-organised events, Mumbai World Social Forum, 2004

Issue	Abbreviation	Count
Trade	Trade	5
Accountability	Account	1
Discrimination	Discrim	4
HIV/AIDS	AIDS	1
Peace	Peace	4
Children's Rights	Child	1
Globalisation	Glob	3
Governance	Govern	1
Activism	Activism	2
NGO Networks	Networks	1
Democracy	Democ	2
Sex Workers	Sex	1
Development	Develop	2
Socialism	Socialism	1
Human Rights	HR	2
Water	Water	1
Indigenous People	Indig	2
Women	Women	1
Grand Total		**35**

Note: For a full list, see www.wsfindia.org/event2004/selforg.php

From the two-mode network we generated two one-mode networks: a network of organisations in which co-participation in an event translates into an inter-organisational tie; and a network of events in which common participants link events to each other. We see this analysis as an illustration of the 'structured space for debate' and deliberation in global civil society. Such an analysis can lead to the identification of coalitions that cross between standard 'disciplinary' boundaries, and can show how issues are perceived and connected in an emerging global public sphere. It can also reveal which issues are more and which ones less central in such discourse, and reveal the dynamics of how issues connect.

We conducted a closeness–centrality analysis[4] of the events, to distinguish central from marginal issues and to reveal the link structure between issues, using two network analysis programmes: *UCINET 6* (Borgatti, Everett and Freeman, 2002) and *Visone* (Brandes and Wagner, 2003). Because of the sparseness of the network, the conclusion here can be taken only as a demonstration of the potential this mode of analysis has to offer.

As can be seen in Figure M5, overlapping NGO participation connected only a few events; the resulting network is rather fragmented, consisting of three smaller networks. Interestingly, these networks vary considerably in terms of the issues they link, and no obvious pattern seems to emerge, except for the relative salience of 'trade' as an issue in the network. The make-up of the three small networks gives rise to two possible conclusions. One is that no strong differentiation of interconnected issues currently exists in global civil society discourse, a finding that can be indicative of its early phase of development, as complex systems tend to become more differentiated over time. A second possible conclusion can be drawn from the fragmented nature of the network: global civil society discourse is comprised of many disconnected smaller networks, which may have little communication with one another even though they may share similar interests, and remain fragmented even when they are present in the same place and at the same time, as was the case in Mumbai.

4 *Closeness centrality may be defined as the total distance in terms of network links of a given node from all other nodes.*

Figure M5: Closeness-centrality graph of World Social Forum events

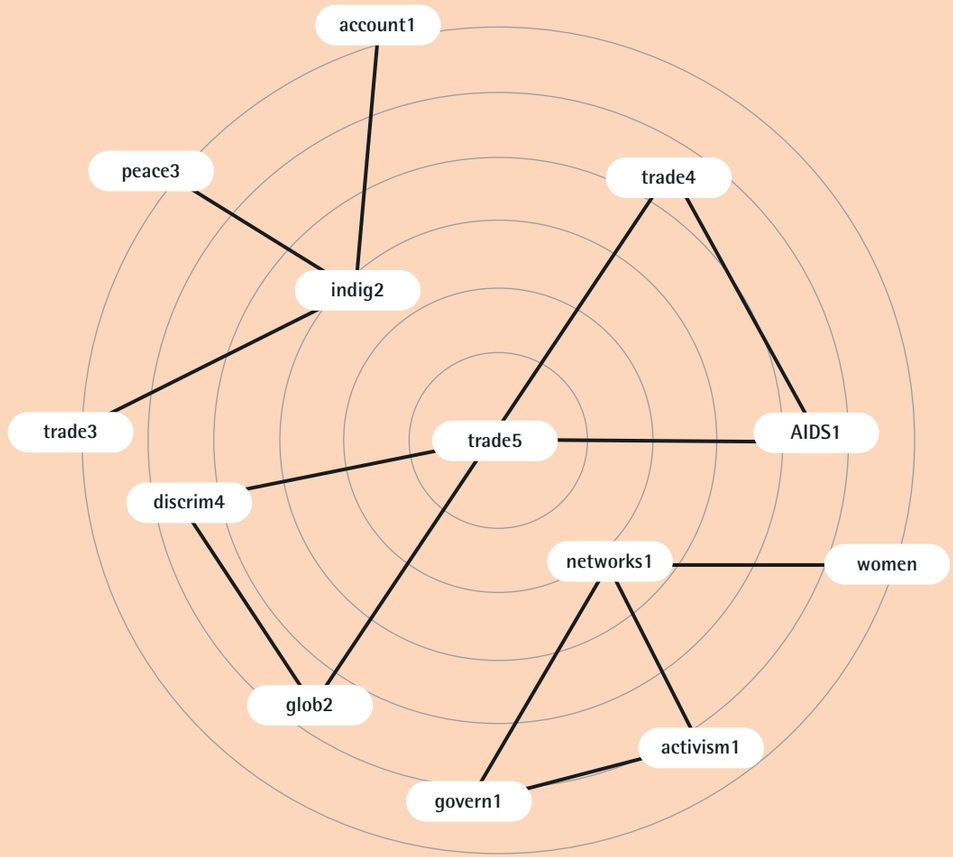


Figure M6: Betweenness centrality of participant organisations in World Social Forum events

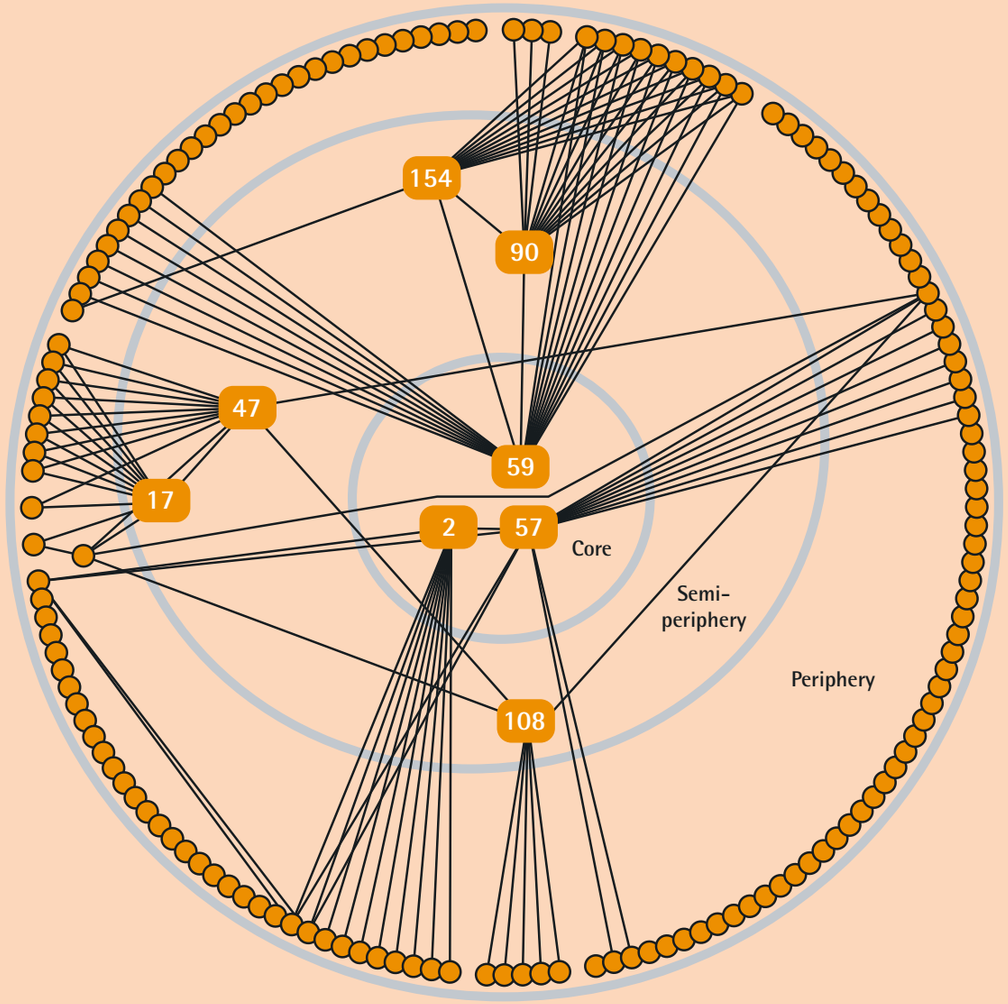


Table M4: Central organisations in World Social Forum events (betweenness centrality)

INNER CIRCLE

2 ActionAid
www.actionaid.org.uk — UK, global level
'ActionAid is a unique partnership of people who are fighting for a better world – a world without poverty. As one of the UK's largest development agencies, we work in more than 40 countries in Africa, Asia, Latin America and the Caribbean, listening to, learning from and working in partnership with over nine million of the world's poorest people.'

57 Focus on the Global South
www.focusweb.org — Thailand, global level
' . . . aims to consciously and consistently articulate, link and develop greater coherence between local community-based and national, regional and global paradigms of change. Focus on the Global South strives to create a distinct and cogent link between development at the grassroots and the "macro" levels.'

59 Friends of the Earth
www.foe.org — Netherlands/US, global level
'Friends of the Earth defends the environment and champions a healthy and just world.'

INTERMEDIATE CIRCLE

47 Development Alternatives with Women for a New Era (DAWN)
www.dawn.org.fj — Fiji, global level
'DAWN is a network of women scholars and activists from the economic South who engage in feminist research and analysis of the global environment and are committed to working for economic justice, gender justice and democracy. DAWN works globally and regionally in Africa, Asia, the Caribbean, Latin America and the Pacific on the themes of the Political Economy of Globalisation; Political Restructuring and Social Transformation; Sustainable Livelihoods; and Sexual and Reproductive Health and Rights, in partnership with other global NGOs and networks.'

17 Articulación Feminista Marcosur
www.mujeresdelsur.org.uy — Uruguay, global level
Feminist organisation interested in promotion of democracy

90 Liberal Association for Movement of People (LAMP)
www.cafonline.org/cafindia/india/ngopage.cfm?charitynumber=LAMP%201%20WB1 — India, national level
'LAMP is a national-level voluntary organisation working for the sustainable development of the socio-economically backward, culturally oppressed, politically underprivileged and disadvantaged group of people of both rural and urban India; issues focussed are street children, sustainable development and income-generation programmes.'

108 National Network of Autonomous Women's Groups (NNAWG) — India, national level
Feminist organisation promoting women's rights and women organising in India

154 Vasudhaiva Kutumbakam (The Earth is a Family)
www.demokratiafoorumi.fi/vk-brochure.html — India/Finland, global level
'Vasudhaiva Kutumbakam, a coalition for Comprehensive Democracy, is about furthering, strengthening and deepening "democracy" simultaneously in economic, social, political, cultural, gender and ecological dimensions of life, from local to global levels.'

Numbers refer to node numbering in figure M6

An analysis of interorganisational links can proceed from the two-mode network of events and NGOs. A one-mode network of organisational links was extracted from the two-mode network, in which participation in the same event was interpreted as disclosing a tie between two organisations. Again, the resulting network was sparse, indicating that global civil society is not very interconnected. An analysis of 'betweenness centrality' reveals, in addition, the structure of the organisational network that emanates from participation patterns in WSF events. This structure indicates that global civil society is bifurcated between a small core of well-connected organisations and a vast multitude of organisations that are very much isolated from their counterparts (see Figure M6). Interestingly, not all of the organisations in the core are interconnected. The result is a network that is fragmented into two main components.

Betweenness centrality can be loosely explained as brokerage: it measures the extent to which a node's presence facilitates connectivity in the network. Hence, the higher the betweenness centrality of a node, the higher its contribution to the network's overall connectivity. Betweenness centrality is particularly important in diffusion and collaboration contexts. In the context of global civil society, an NGO's importance increases if it enables communication between other NGOs. It then allows communication and innovation to flow from one region of the network to another, and it can serve as a broker that enables making connections and establishing coalitions between otherwise disjointed NGOs.

From Figure M6, participating organisations can be arranged in three groups based on their relative betweenness: the inner circle that consists of three organisations, an intermediate circle that includes five more organisations, and the remaining organisations on the outskirts. The split of global civil society into core and periphery has already been observed by Anheier and Katz (2003); in that analysis of the geospatial patterns of global civil society, we pointed out that international NGOs are distributed unevenly between developed and developing countries. It would be interesting to test that conclusion here. For this purpose, we looked at the individual organisations in the inner and intermediate circles in order to characterise them more specifically.

Table M4 lists the identities of the organisations in the inner and intermediate circles. It is apparent that organisations in the well-connected parts of the network operate mostly at the global level. The two national organisations are both Indian, which can be attributed to the 'home advantage'. Moreover, organisations in the inner circle tend to be generalists that define their goals widely and have a mix of objectives; they are also more likely to be from developed nations than organisations in the semi-periphery. The fact that Southern NGOs are relatively absent from the inner circle is indeed indicative of global civil society networks more widely, and suggests the presence of underlying hierarchies and dominance relations. The relative importance of local organisations hints at the potential contribution that locating events such as the World Social Forum in developing countries can have on the integration of southern NGOs in the global networks of civil society.

Conclusion

This chapter can do little more than illustrate the potential of network analysis for understanding global civil society. For what range of purposes do we think network analysis could be useful? In closing, we suggest the following substantive areas for further exploration:

- the signature characteristics of personal and organisational egocentric networks and how they facilitate action and goal-attainment in global civil society contexts
- the patterns of communication flows, mobilisation processes, and the diffusion of ideas and innovations through global connectedness; the patterns and dynamics of global civil society as a space of flows, as suggested by Castells (1996)
- the macro-structure of global civil society in terms of Held et al's (1999) conceptions of extensity, intensity and velocity – where are centres, peripheral and semi-peripheral regions located, and how do different structural positions relate to each other?
- the relationship between the macro-structure of global civil society, the global economy, and the global geopolitical system
- the constitution of global public spheres through hyper-network structures and patterns of inclusion and exclusion.

Of course, there may be other areas as well that are worth exploring. While there certainly are data and technical and analytic challenges involved, the potential that such analyses have for enhancing our understanding of global civil society is formidable. We hope to have shown the potential network analysis has for overcoming the legacy of methodological nationalism, and for allowing us to undertake a systematic study of global connectedness.

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