

CHAPTER 13

Picturing the Politics of Resistance

Using Image Metadata and Historical Network Analysis to Map the East German Opposition Movement, 1975–1990

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Introduction: Networks of the East German Opposition

This chapter shows how network graphs and analysis can be used to shed light on the structure and dynamics of the geospatial social networks of segments of the East German opposition movement between 1975 and 1990. What new knowledge can we uncover about a well-studied historical phenomenon if we combine the use of non-traditional source material, in this case metadata from an image database catalogue, with a non-traditional historical methodology, namely, social network analysis? This chapter studies the network of East German dissidents as reflected in the photographic database on the East German Opposition, which archives photos from the 1970s until the fall of the Berlin Wall.

In this chapter, we examine graphs of East German dissident networks, as well as sub-networks filtered by date and by place. We then discuss the general

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principles of social network analysis and historical network analysis. Finally, we consider how network analysis could be further improved for historical purposes. The primary tool we use is Palladio, a suite of tools for the visualisation of historical networks developed in the Humanities + Design Lab at Stanford University. Unlike many tools for creating network graphs, Palladio was designed for humanists to visualise data without the need for a designer.¹ Palladio can be used to visualise historical datasets and discover patterns in the data that researchers may choose to analyse using network analysis or other means, including examining the original historical sources.

An Unconventional Source Material: Metadata of an Image Database

The photographic database maintained by the Robert Havemann Society in Berlin as part of its archive on the East German Opposition consists of approximately 60,000 digitised photos with a relatively rich metadata providing information, including the date the photo was taken, the photographer, a descriptive title, keywords, regional/geographical tags and information about the persons to whom the photo is related.² The sample used in this chapter consists of photos featuring selected prominent figures of the East German dissident scene with a connection to the city of Jena. These individuals included academics, artists and intellectuals of diverse socio-economic backgrounds, who were part of a range of movements, from youth movements to peace activism to environmental movements, during the period from 1975 to 1990. In most cases, the photos were taken to document opposition action and activities and used as illustrations in underground magazines, bulletins and leaflets. We should, however, keep in mind that since the German Democratic Republic (GDR) was a dictatorship, photographing these kinds of illegal actions was closely bound with the risk of becoming subject to counter-measures by the security authorities. From this perspective, the photos also document the courage of the people involved in oppositional activities.

In the history of the East German opposition, Jena and Berlin were the two most important regions when it came to the structure, means, motives and dynamics of the opposition groups in the GDR. In Jena, the discrepancy between democracy and dictatorship often led to open conflicts, making this city the primary region of political opposition in the GDR. Jena was also called the secret capital of the GDR opposition, reflecting the complex domestic conflict between the state apparatus, church and opposition in the GDR.³ The temporal focus of this chapter is the period between 1975 and 1990, a period heavily shaping the range of political action for the opposition and resistance groups. One key event was the Conference on Security and Cooperation in Europe (CSCE), held in Helsinki in August 1975, which caused the East German political leadership to become increasingly concerned with

the destabilising impact of the CSCE.⁴ As a consequence, the *Sozialistische Einheitspartei Deutschlands* (SED), the communist monopoly party of the GDR, took numerous repressive actions against dissidents and opposition groups, seeking to scatter the resistance and opposition by eliminating their leading personalities.⁵ To what extent can we see the repressive actions of the SED in the networked relations of Jena-linked figures of the opposition?

One of the main components of the Jena-based opposition movement was the Jena Peace Community (*Jenaer Friedensgemeinschaft*), established in March 1983 as one of the first major opposition communities outside the protective walls of the Evangelical church. The local Peace Community was a dissident platform of short duration, but of long-lasting impact. Its founders were disillusioned with the reluctant resistance of the Evangelical church against state repression and, hence, sought to establish a new, independent platform under the umbrella of the European Peace Movement. The community itself was short-lived, because by the spring of 1983, the security authorities had already decided to destroy the Jena Peace Community once and for all. But, because the security police did not achieve its main goal (a complete destruction of Jena's opposition), the community had a long-lasting impact, causing Jena to remain an unsettled city and one of the most important places for political opposition between 1983 and 1989.⁶ Members included Uwe Behr, Manfred Hildebrandt, Mario Dietsch, Edgar Hillmann, Michael Rost and Frank Rub, and non-church-members Roland Jahn and Petra Falkenberg. As we shall see, many of the members and allies of the Jena Peace Community remained active in the opposition movement in Jena for years after the crackdown.

The data culled from the database catalogue combine many of the elements of historical research which can be profitably analysed and give us an opportunity to study a network that is relatively circumscribed in both time and place. Further, the connections between individuals are consistent since they all represent co-occurrences in photos. Knowing the boundaries of the network and having an understanding of what the underlying data represent are fundamental to creating a data model and visualisations which contribute to a research problem rather than merely illustrating an archive. The individuals who appear most frequently in the data are known historical figures, many of whom were instrumental in the creation of the archive: Matthias Domaschk, Jürgen Fuchs, Roland Jahn, Robert Havemann, Katja Havemann, Bettina Wegner, Carlo Jordan, Gerd Poppe, Bärbel Bohley and Tom Sello.⁷

Many of these photos are of protests and actions by the opposition; other photos are casual portraits and group shots not obviously related to any political action. The photographers are recorded (where they are known) by the archivists; the photos were, for the most part, taken by members of the group and their acquaintances. We see one example of a group photo (Figure 13.1) taken at Ulrike and Gerd Poppe's home in Woltersdorf. In this photo, we see Robert Havemann, Ulrike Poppe and others who are gathered for a reading of



Figure 13.1: Reading at Ulrike and Gerd Poppe's property, photo by Gerd Poppe, courtesy of Robert-Havemann-Gesellschaft, 27 June 1981. Source: Robert-Havemann-Gesellschaft/Gerd Poppe/RHG_Fo_HAB_09781. All rights reserved.

the works of Gert Neumann on 27 June 1981, after the release of Havemann from police custody.

In this photo, we see the conviviality of the opponents of the regime who are drinking wine and enjoying one another's company despite the serious circumstances. This is a rather typical example from the photo collection documenting activities of East German opposition. At the same time, since photos like this successfully document social actions taken by individuals, they offer a reliable source to reconstruct historical social networks.

An Unconventional Method: Why Network Analysis?

Social network analysis has been used since at least the 1940s in the social sciences.⁸ Network analysis has only more recently been adopted within historical disciplines.⁹ Networks are a powerful analytical tool for understanding the structure of groups, especially at scale or when there are complex interrelations between large numbers of individuals. While the network is a 20th-century concept, social relations that could be described as networks have existed in all historical periods and in all societies.¹⁰ Whether we can profitably examine one particular social group through the lenses of network analysis is a reflection of how much we know about the internal structure of that group, the research question being asked and the completeness of the historical documentation

that could be used to reconstruct the network.¹¹ Historical network analysis (HNA) is deeply rooted in social network analysis (SNA), using the same basic structures and metrics. But HNA must engage with questions of historiography and the use of sources in a way that is different from sociological methods. In this chapter, we show how network graphs and analysis can be used to shed light on the structure and dynamics of the geospatial social networks of segments of the East German opposition movement between 1975 and 1990. This chapter's exploration of dissident networks serves as an example of how scholars can discover connections between individuals and sub-groups that might track the spread of dissident thought between people, as well as between geographical regions.

SNA allows us to study the meaning and importance of relationships in great detail and, thus, offers a promising tool to examine past communities in the aggregate:

With SNA, we are only interested in individuals as part of a much bigger whole. In fact, one advantage to the technique is that SNA helps us view an entire community and figure out which individuals we should be truly interested in and which ones were perhaps less significant. When we study past relationships systematically as SNA allows, the method will prevent us from misunderstanding the function of an individual's relationships or exaggerating the distinctiveness of those relations.¹²

In our eyes, the true power of HNA lies in its capability to untangle complex social interaction patterns by way of graphical visualisations, thus making those patterns easier to perceive and analyse. The limit of network analysis is in researchers reducing social relations to those patterns and potentially losing track of the ways in which the network abstracts from the source material. For this reason, HNA should be practised with a keen awareness of the source material and the cultural and historical context of the networks at hand.

Using Network Graphs to See the Big Picture

One of the difficulties in creating network graphs is to create legible diagrams which show the structure of the entire network. Many of the most famous network diagrams are both complex and vast. Such diagrams are often referred to derisively as 'hairball' graphs due to their illegibility.¹³ As we shall see, using a combination of complex graphs of the whole network and smaller, more precise graphs of network segments is an easy way to overcome this problem. Figure 13.2 shows the network as a whole. The cleaned-up and corrected database contains 841 records (photographs) with 171 unique person references. There are a total of 1,843 co-occurrences of these individuals in photographs documented in the database.

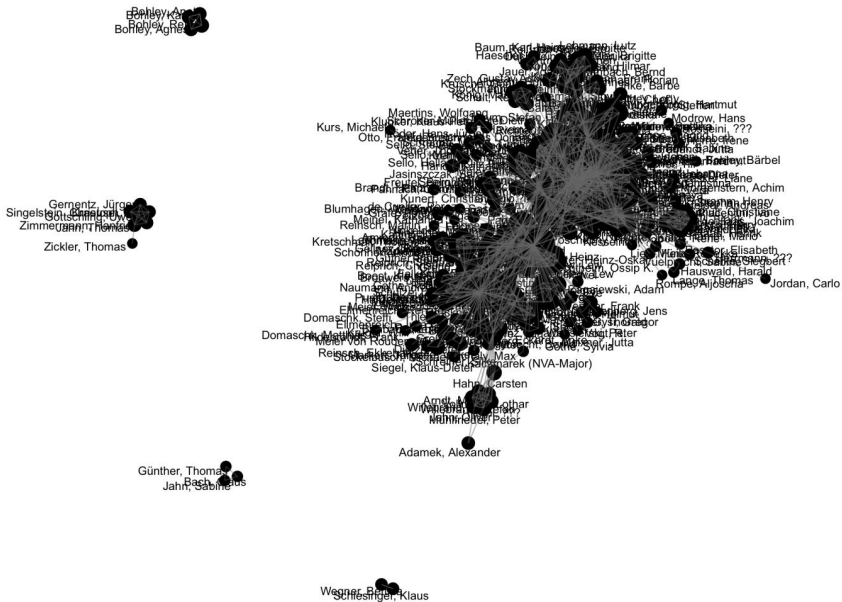


Figure 13.2: Network graph of GDR dissidents linked to Jena in photographs, 1975–1990. Source: Authors.

This network graph was created in one step in Palladio and was not modified, so it is relatively difficult to read, but it gives us a ‘quick and rough’ overall view of the network. There are many tools available for creating network diagrams which can make use of colour, refine the design and change the spacing and layout.¹⁴ A network is a set of nodes (in this case, people) linked by edges (in this case, photo co-occurrences); in this graph, the nodes are labelled with the name of the person and sized based on the number of photos that person appears in.

It is apparent in Figure 13.2 that the majority of people who appear in the photos appear together. Figure 13.2 evidences the existence of a core social network of densely connected people, in network terms, the giant component. Outside this core component there are four distinct yet very small social groups. These sub-networks emerge from photographs taken in apartments or in the outdoors, apparently just documenting daily events and activities and people involved in these. In fact, such photographs form a large part of the giant component as well, despite the repressive political circumstances in the late 1970s and the 1980s, which meant that taking photos documenting members of underground and dissident groups was a rather risky business.

One way to make network graphs more legible to humanities scholars is to combine graphs with other types of diagrams with which they may be more familiar.¹⁵ Palladio can be used to make maps, galleries and tables which can complement network graphs.¹⁶ In this case, we can use the same dataset to produce a map which shows the approximate number of photos taken at each

location. In order to obtain geographical data, we processed the keyword entries and collected all recognised geographical names and sub-regional information like street names or city districts which could be used to determine the city (for example, Berlin, Jena, Bad Frankenhausen). Almost three-quarters of the photographs included in our analysis could be connected with a geographical location. In the last step, we automatically geocoded these locations, finding latitude/longitude coordinates for all recognised locations for purposes of geo-spatial analysis. Figure 13.3 shows the locations of the photographs of individuals associated with Jena; the size of the circles represents the number of photos at that location. The green circles represent photos taken in East Germany and the red circles represent photos taken in West Berlin.

It is apparent in Figure 13.3 that Berlin and Jena are the most important regions and are strongly linked. We know from analysing the temporal distribution of these photographs that Jena remains the most important region until 1984, thus confirming previous studies stressing the importance of the Jena region for the East German dissident community. From 1985 onwards, Berlin gains in importance and becomes the most frequently referenced region in our data. This change is well in line with the overall course of events during the second half of the 1980s. A good example of how this change is connected to specific places are photographs referring to the *Umweltbibliothek* (Environment Library) in East Berlin. The library was founded in 1986 in the cellar rooms of the *Zionsgemeinde* and rapidly became one of the central communities of the East German dissident movement. What is not so clearly visible in the network graph (Figure 13.2) or the map (Figure 13.3) but evidenced by the dataset itself is that the core social network of East German opposition was rather small, revolving around certain key figures who were rather mobile. These central figures account for connections to some of the smaller towns. A good example of this phenomenon are the towns Fürstenwalde (Spree) and Grüneheide, both loosely connected to Robert Havemann (1910–1982), an intellectual and dissident sentenced to house arrest in 1976. A remarkable portion of photographs taken between 1975 and the early 1980s document Havemann's life under house arrest and the people visiting him.

Freezing Networks: Snapshots in Time and Local Networks

Just as giving researchers a view of the whole is important, it is helpful to visualise the network in specific places and at specific times. We can do that easily by filtering by place in Palladio and visualising only the nodes and edges associated with one place. Figure 13.4 shows the Jena-associated people who appear in photographs taken in West Berlin. West Berlin is a locus for individuals who were deported from East Germany but continued to be of interest to the East German government, such as Jürgen Fuchs and Roland Jahn. We can see that the network in West Berlin is much smaller, but still contains very important figures.

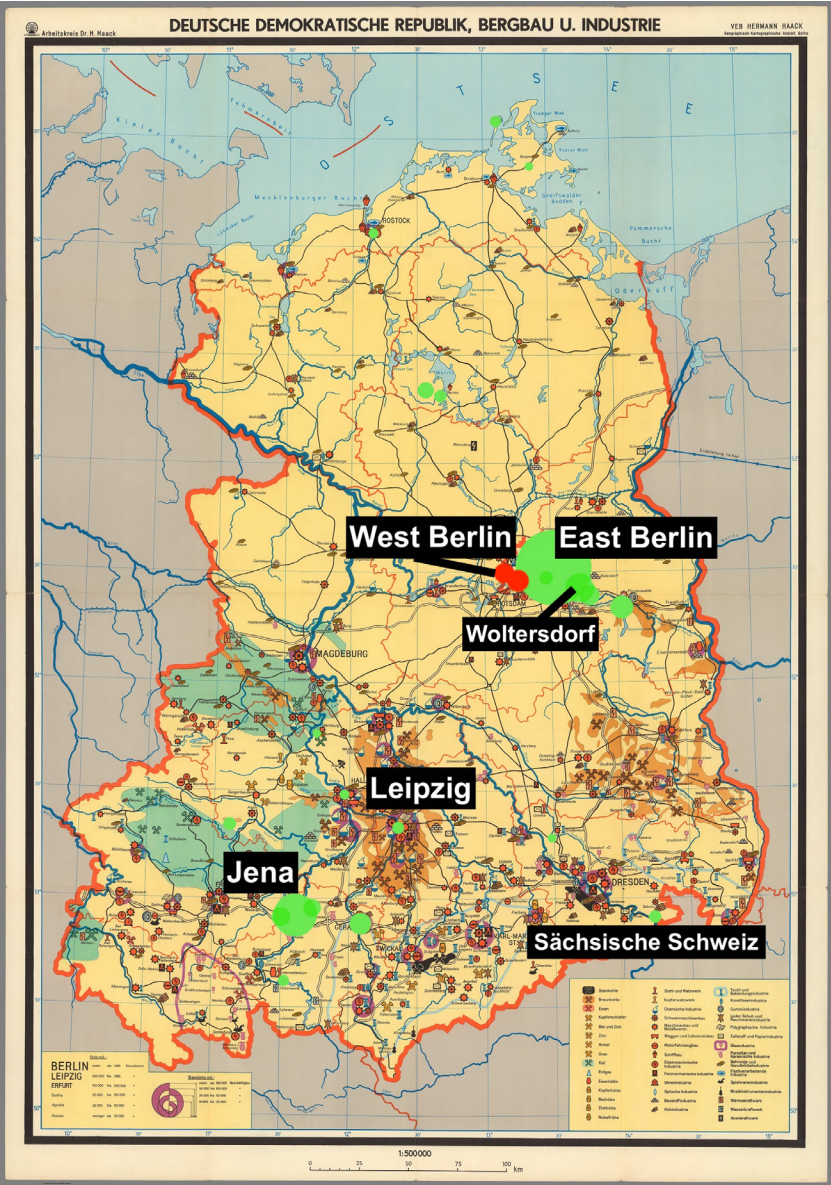


Figure 13.3: Map of photographs of GDR dissidents linked to Jena, 1975–1990, basemap. Courtesy of the David Rumsey Collection. Source: Authors; basemap Haack 1965.

Roland Jahn was an active member in the Jena dissident community, who engaged himself as a young university student in protest actions from the mid-1970s onwards. Jahn was ex-matriculated from the University of Jena in

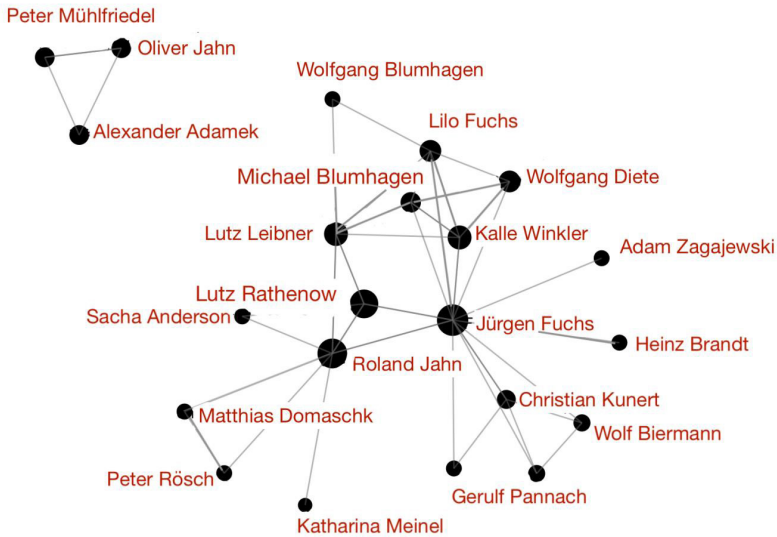


Figure 13.4: Network graph of GDR dissidents linked to Jena in photographs taken in West Berlin, 1975–1990. Source: Authors; data from the Robert-Havemann-Gesellschaft.

1977, arrested again in the early 1980s, and finally expelled to West Germany in May 1983. However, even after his expulsion, Jahn continued to support the East German opposition movement. Jürgen Fuchs, in turn, had already been expelled to West Germany in 1977, but he remained involved in the East German dissident community until 1990, especially via Lutz Rathenow, another strong figure in the network visualised in Figure 13.4.¹⁷ Figure 13.4 shows that the networks of Fuchs and Jahn were, indeed, interconnected and formed the core of the network in West Berlin. There are other sub-networks (for example, the sub-network without a clear hub) of which Lilo Fuchs, Wolfgang Diete and Lutz Leibner were members. Despite appearing in a similar number of photographs as Jahn, Fuchs connects more individuals and more disparate parts of the network.

Similarly, making network graphs of specific moments, or ‘snapshots,’ of the network at various times can be highly informative in understanding the evolution of the network and disentangling connections made in different periods.¹⁸ Whereas Figure 13.2 is a static network that displays all of the nodes and connections in the period from 1975 to 1990, Figure 13.5 shows only the nodes and edges present in 1981. Tom Sello, the construction worker from Großenhain, is central to one network here, despite his relative youth at 24 years of age.

The dataset was filtered to the year 1981 to produce Figure 13.5; the graph shows two clusters of dissidents and their associates who appear in photos together. The first cluster is centred on Tom Sello and six other people in Sächsische Schweiz. The second is a larger set of individuals in a tightly clustered network located in Woltersdorf and centred on the trio of Reinhard Weißhuhn,

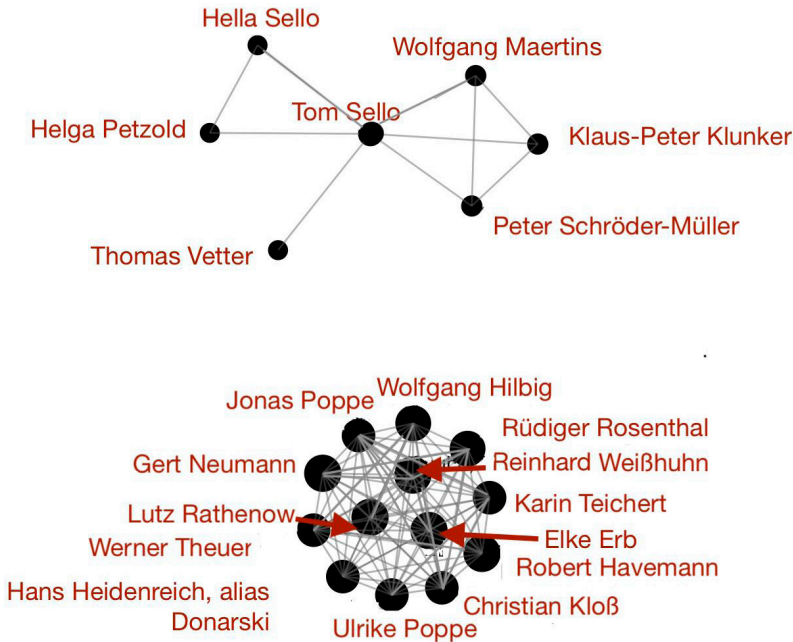


Figure 13.5: Network graph of GDR dissidents linked to Jena in photographs taken in 1981. Source: Authors; data from the Robert-Havemann-Gesellschaft.

Lutz Rathenow and Elke Erb. The high clustering shows that this group often appeared in many photos together. In fact, you may recognise this horizontal network of people with many connections to one another from the photo of the reading at Ulrike and Gerd Poppe's house on 27 June 1981 (Figure 13.1). This group appears in multiple photos together at the Poppe residence, which accounts for their high degree of association in the data. Unlike the photos of Tom Sello and his associates, these photos document a large and important gathering of leading figures from the movement in the same space.

Clarifying and Simplifying Network Graphs

Another way of cleaning up network graphs to make them more legible is to remove nodes that fall below a certain threshold in connection to the core of the network. In the case of Figure 13.2, we observed that the giant component comprised the majority of the nodes and edges, but was difficult to analyse due to its density. In order to focus on this giant component, which forms the core of the network, we removed the nodes which were not connected to the giant component and then graphed that network using Gephi. Figure 13.6 shows this network core.

By focusing only on the central component of the network, we can make out more of the network structure. For instance, we can see which nodes function

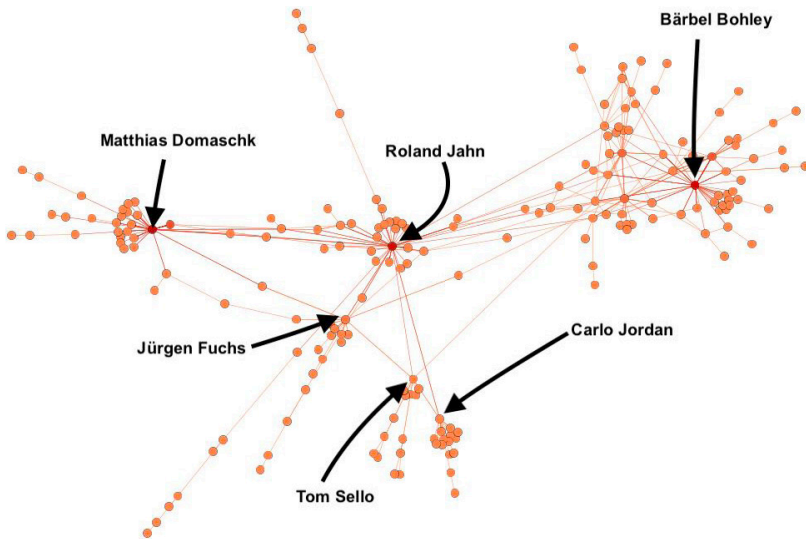


Figure 13.6: Network graph of GDR dissidents linked to Jena in photographs, 1975–1990. Source: Authors; data from the Robert-Havemann-Gesellschaft.

as hubs, having a number of connections that far exceeds the average number per node; we can also see which nodes function as connectors, tying together different sub-networks. Within this network, the centrality of Roland Jahn derives from the high number of individuals with whom he appears in photos, which makes him a hub; it is also significant that he connects the various communities, or cliques, we see in this graph. Other hubs include Bärbel Bohley, Matthias Domaschk and Carlo Jordan, all of whom appear in a large number of photos with other individuals. Many of the individuals who appear in photos with Domaschk and Jordan do not appear in photos with many (or any) others. Matthias Domaschk was active in Jena, including in the *Junge Gemeinde Jena-Stadtmitte*, but his contacts mostly only appeared in photos with him. Jordan was primarily active in the Berlin region, where he went on to become a leader in the green movement. Jürgen Fuchs and Tom Sello both have significant numbers of connections with otherwise isolated nodes, but they also have more connections to the broader network.

Comparing these observations to our lists of the presumed core members of the Jena group, especially Matthias Domaschk, Jürgen Fuchs, Bärbel Bohley and Tom Sello (see above), we can see the group was strongly connected through Roland Jahn, at least in terms of co-appearances in photographs. We can also readily observe that the women in the group, specifically Katja Havemann, Bettina Wegner and Petra Falkenberg, play less of a central role in tying together the network of photographic co-occurrences than do the major male figures. The relative absence of female figures from the core of the network makes the centrality of the artist Bärbel Bohley that much more striking,

especially in the latter years when she is highly central. Figures like Mattias Domaschk were photographed with others in the opposition movement who did not appear elsewhere in photos, much as we saw earlier with Tom Sello, suggesting that he was bringing many people into the movement or associating with non-opponents of the regime. On the other hand, Bärbel Bohley is part of a sub-network that has many more co-occurrences among its members and has no clear hub. Again, it is worth investigating whether this photographic pattern has any reflection in real-world relationships or if it is an artifact of the photographic record, as was the case with the clique centred on the Poppe residence in Woltersdorf. Jürgen Fuchs, Carlo Jordan and Tom Sello are each connected to their own small 'clique' of people together with whom they appear in photos, although these cliques are more cut off from other sub-networks, as well as being smaller. The most significant mystery remains why the sub-network containing Bärbel Bohley is more diffuse and 'leaderless' than the rest of the sub-networks. When we examine the photos in which she appears, we see that she appears in many photos with crowds and figures who are not otherwise in the database, including, for example, the Dalai Lama. It would appear that Bohley brought many new people into the movement and connected dissidents to a broader world of activists than earlier 'hubs'.

Conclusions

HNA can make use of the tools of SNA to understand the structure of social relationships, whether in smaller networks or at scale. While some of the tried and tested techniques, like large 'hairball' graphs, may be limited in their use value for historians, network graphs which reflect real research questions, such as the shape and size of a network in a particular year or in a particular place, can easily be created when one is familiar with how information has been captured and structured.¹⁹ These graphs are not mere illustrations of previously known relations, but a way of exploring segments of a large dataset to find new patterns and new questions: how, for example, the GDR opposition movement changed in relation to events like deportation to Berlin or the release of a member from detention. We have seen that the changes in the network following such events are not always predictable, such as when the movement held a very large and semi-public reading at Woltersdorf following Havemann's release or when Bärbel Bohley's very public events sometimes led to photographs depicting fewer documented members of the movement. For this reason, it is fundamental to consider what the graph is depicting (in this case appearances together in photos) and not to use the graphs in a naïve fashion to represent all real connections between individuals.

This chapter sought to exemplify how HNA could be used to explore and analyse personal and geospatial connections and ties behind a real historical phenomenon, the East German dissident movement. The networks reconstructed

and analysed in this chapter fit quite well with the historical facts about the East German opposition, although we need to note that we cannot estimate how much data is missing or whether a larger sample would have affected our results differently. Nor can we know to what extent patterns in the photographic co-occurrences reflect relationships outside of photographs. Network analysis is known to be quite sensitive to missing data,²⁰ but applying network analysis can reveal discrepancies, such as when a group gains members or loses them, or when the structure of a group changes from tighter to looser, as the Jena-linked dissidents often did when they were deported or arrested. Network analysis can also reveal when group members like Tom Sello or Bärbel Bohley introduce many new people to the network. Despite these pitfalls, we are hopeful that our chapter could convince its reader that HNA could help scholars to gain new insights into the way in which social networks reflect political pressures in sometimes unexpected ways (for example, by growing or becoming more public in response to crackdowns). Although not impossible, such insights can be difficult to gain through the traditional methods of historical research.

Notes

¹ Conroy 2019.

² Robert-Havemann-Gesellschaft e.V., Archiv der DDR-Opposition, Bildarchiv.

³ The security authorities' operation 'Counter-strike' is documented in BStU 2013.

⁴ See, e.g., Schroeder 1998: 233ff; Gieseke 2008.

⁵ Veen 2000: 27–29.

⁶ Neubert 1998: 488.

⁷ Matthias Domaschk was a young political activist, who died on 12 April 1981 in Gera in a pre-trial detention of the East German security service after 13 hours of continuous interrogations. Tom Sello, in turn, engaged himself in several dissident groups in the GDR, especially in the 1980s. He also wrote for several underground publications (*Samisdat*) and was repeatedly attacked by the security service. Bettina Wegner was an East German songwriter and lyricist. In 1983, she was threatened with prison and forced to leave the GDR for West Berlin. Gerd Poppe was a political activist who fought for human rights in the GDR. He was also actively engaged in the publication and dissemination of several illegal underground publications (*Samisdat*). Poppe was subject to the Stasi's intensive observation and repressive activities. Bärbel Bohley was an East German opposition activist and artist. She was one of the co-founders of the Initiative for Peace and Human Rights (1985) and of *Neues Forum* (1989). For a detailed description of the other people mentioned, see Elo 2018.

⁸ For a history of the development of SNA within the social sciences, see Prell 2012: 19–50.

- ⁹ On how HNA differs from SNA more generally, see Düring and von Keyserlingk 2015.
- ¹⁰ Lemercier 2015.
- ¹¹ Ibid.
- ¹² Morrissey 2015: 69–70.
- ¹³ Nocaj, Ortmann & Brandes 2015.
- ¹⁴ Some of the most commonly used are Gephi, Cytoscape and R.
- ¹⁵ Conroy et al. 2020.
- ¹⁶ Conroy 2019.
- ¹⁷ See further Elo 2018; Neubert 1998.
- ¹⁸ Conroy et al. 2020.
- ¹⁹ Drucker 2011.
- ²⁰ Wetherell 1998: 125.

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