

***SOCIAL NETWORK ANALYSIS IN THE STUDY OF THE
WORKS OF JOSEPHUS. THE CASE STUDY OF GALILEE
DURING THE FIRST JEWISH REVOLT***

***SOCIAL NETWORK ANALYSIS DZIEŁ JÓZEFA FLAWIUSZA.
STUDIUM PRZYPADKU DLA GALILEI W CZASIE
PIREWSZEGO POWSTANIA ŻYDOWSKIEGO***

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ABSTRACT: This article shows the significance of the Social Network Analysis method in the study of Judea in the first century AD. The author presents the method and then shows its application on the example of the role of individual cities of Galilee. The situation concerns the time of the Jewish uprising in Galilee over a period of several months (autumn 66 - July 67 AD). After analyzing the situation in Galilee based on the works of Joseph Flavius, a graph was generated using the Ucinet computer program. The use of SNA in the study of the importance of individual cities in Galilee drew attention to the town of Gamla, which Joseph Flavius considered the most important fortress in this area. In addition, the graph showing the visits of individual insurgents to the cities of Galilee showed that Sepphoris was visited by both supporters and opponents of Joseph Flavius. Despite the fact that the inhabitants supported the Romans, they did not give up any rebel who visited them. The study confirmed the usefulness of the SNA method in undertaking subsequent analyzes of the works of Joseph Flavius.

KEYWORDS: The First Jewish Uprising, Joseph Flavius, Social Network Analysis, cities in Galilee during the first Jewish uprising

The aim of this article is to introduce a network analysis to the research of the history of Judaica in the first century AD. *Social Network Analysis* (hereinafter = SNA) is a method borrowed from social sciences, used to analyse and describe interpersonal relations. The history of Judea is known to a large extent thanks to the works

of Josephus, who extensively described the Roman province in the first century AD. The works of the Jewish historian mention little known Jews about whom we have no, biographical details. However, in these cases, Josephus often gave information about who these people were in relations with. In such situations, a network analysis may be useful, which can be an effective tool to correlate all Jews listed by Josephus. Applying this method in the analyses of the works of the Jewish historian may contribute to a better recognition of the political situation in Judea from the perspective of individuals.

After presenting the method of network analysis and discussing examples of its current use, in the following article, the author attempts to present the use of SNA for research on Judea in the first century AD. The analysis is made taking into account the situation in the cities of Galilee in 66–67. These areas were not chosen accidentally. Josephus was there during the First Jewish Revolt. At that time, he met many people that operated in different political relations. He described everything in *The Jewish War* (Joseph. *BJ*) and in *The Life* (Joseph. *Vita*).

SOCIAL NETWORK ANALYSIS

The Social Network Analysis bases on creating graphs illustrating interpersonal relationships. Information about relations between individuals is taken from the analysis of the chosen sources from a given period of time (in the following article these are the works of Josephus). Currently, advanced computer programs¹, which allow to create many types of networks are used to generate the appropriate graphs. On their basis, we may interpret the connections between individual people: the city in which they were staying, another person, and maybe a specific event. In addition, the researcher may analyse the properties of the network, i.e., the number of connections and their reciprocal relations, the orientation, transitivity of connections, the density of connections and their centrality, the strength of connections, bridges, mediation and equivalence (Turner, Maryanski, 2004, p. 607–613). Thanks to it, we may observe who or what was important in a given community.

Network analysis has developed its own language that helps researchers to describe created charts. The basic concept is the graph, i.e., the resulting chart (Tsvetov, Kouznetsov, 2011, p. 19–37). There are actors on it, i.e., points presenting the examined persons. Between the actors there are connections, i.e., lines describing the intimacy between the persons concerned².

The method was created in the mid-1960s, when Harrison White was lecturing at Harvard University (Terrell, 2013, p. 19). Its sources can be traced back earlier, because SNA was probably created from three research branches: sociometry, anthro-

¹ As e.g., some of them: EgoWeb 2.0, NetMiner, UCINet, Pajek, GUESS, ORA, Cytoscape, Gephi, NodeXL, Social Network Visualizer, Meerkat, muxViz.

² More about used concepts in network analysis see: Pryke, 2012, p. 84–94.

polology of the organization and graph (Wasserman, Faust, 1994, p. 10–17). John Scott presents the history of the modern network analysis discussing the development of the previously mentioned areas. The first group of researchers dealt with the structure of the group and the flow of information. It operated in the United States in the 1930s. The second group was gathered around Harvard and focused on informal communication and social systems at workplaces. The third group worked at the University of Manchester and dealt with the analysis of conflict and contradiction, mainly in relation to African tribal societies (Scott, 2000, p. 7). SNA was initially used only by sociologists, and over time, it appeared in other related disciplines. Currently, it is used in: anthropology, biology, demography, communication studies, economics, geography, history, information technology, organizational studies, political science, social psychology, development research, sociolinguistics.

It is assumed that a modern SNA has at least four basic features:

1. Social network analysis is motivated by a structural intuition based on the ties linking social actors,
2. It is grounded in systematic empirical data,
3. It draws heavily on graphic imagery, and
4. It relies on the use of mathematical and/or computational models (Freeman, 2004, p. 3).

Stanley Wasserman and Katherine Faust have listed several topics that are investigated by the network analysts (Wasserman, Faust, 1994, p. 5–6):

- occupational mobility,
- the impact of urbanization on individual well-being,
- the world political and economic system,
- community, elite decision making,
- social assistance,
- community,
- group problem solving,
- diffusion and adoption of innovation,
- corporate interlocking,
- belief systems,
- cognition or social perception,
- markets,
- sociology of science,
- exchange and power,
- consensus and social influence,
- coalition formation.

These categories were created over 20 years ago in network analysis. Since then, the SNA method has been used in many other cases, e.g., in the research on interpersonal relationships on social networks.

The wide spectrum of applications of network analysis resulted in widening the usage of SNA in other scientific disciplines, and thus the developing the method itself. Currently, there are many publications which clarify the applications and

explain how to use the method. Also, the *Encyclopedia of Social Network Analysis and Mining-Springer* collects important information about this method (Alhajj, Rokne, 2018).

APPLICATION OF SNA IN THE HISTORICAL RESEARCH

The above method has many applications in historical research. Most of all, the majority of the mentioned categories are simply transferred to the research of communities living at a specific time. Historical sources contain a lot of necessary information that allows us to create various types of graphs to determine the relationships operating in a given group of people.

Furthermore, this method is useful in determining the origin of single sources by analysing the individuals/persons that were mentioned there. In such a way, it is used by researchers studying the ancient Middle East. They link individuals mentioned on the cuneiform tablets with other people from the previously known tablets, and then determine from which archive the source comes (Waerzeggers, 2014, p. 207–233).

THE USE OF SNA IN THE RESEARCH OF JUDEA IN THE FIRST CENTURY AD

The SNA method seems to be useful also in the research of Judea in the first century AD. Josephus characterized the situation in this province, but he did not always concentrate on the detailed descriptions of the individual Jews. In many cases, he only provides information about who the individuals were in the relationship or where they were staying. The network analysis gives us the opportunity to look at these reports using computer generated graphs. This method will certainly help in the research on the Jewish parties and their mutual relations. The dependencies between individuals may be presented using the graphs. It will also be possible to learn about the relationships between the Jewish parties to which the Jews belonged. In addition, it will be possible to gain a better knowledge of individual Jewish activists and their views on the basis of the information about the belonging of individual Jews to specific Jewish parties or their close relations with the representatives of these groups.

In the first century AD there were many rebellions against the Romans in Judea. They had the character of great uprisings (Joseph. *BJ* 2–7)³. There were also many smaller protests against the Roman rule (Joseph. *AJ* 19, 354–366; 20, 105–108. 111–117; Joseph. *BJ* 2, 224–231). The graph visualization of interpersonal relations in the society before the First Jewish Revolt may show that among Jews there were people who took part in the subsequent rebellions of Judeans. Thus, it would mean

³ More about the First Jewish Revolt see: Berlin, Overman, 2004; Bloom, 2010; Popovic, 2011; Mason, 2016.

that among the inhabitants of the Roman province there were persons who implicitly provoked others to fight against the Romans.

In addition to interpersonal relationships, network analysis can be useful in determining the significance of specific places over a given period of time. In the first century AD there were many points in Judea which were important for the population not only for religious but also strategic reasons. The historical narrative of Josephus may omit some cities or, on the contrary, overestimate the values of others. The visualization of the statistics presenting this problem may help noticing inconsistencies in the descriptions made by the Jewish historian.

Using the SNA has many advantages in researching Judea in the first century AD, however, this method has not been used so far. We must remember about the risk in the case of research on Judea in the first century AD. Historians, in their research, study the works of Josephus as the examples of historical narrative, and not just a list of specific facts⁴.

An example of using the SNA in the study of important urban centers in Galilee in 66–67 AD is presented below. This is only a part of the research that still needs to be carried out over the situation in Judea in the first century AD. The author chose a period of several months⁵ taking into account the due to military activities carried out in the Galilee region during this period⁶.

THE EXAMPLE OF USING SOCIAL NETWORK ANALYSIS METHOD IN DETERMINING IMPORTANT PLACES IN GALILEE DURING THE FIRST JEWISH REVOLT

In order to successfully fight the Romans during the First Jewish Revolt, the area of Judea was divided among individual commanders. Josephus mentions the following leaders and the areas in which they operated (Joseph. *BJ* 2, 563–568):

- Yosep, son of Gorion⁷ and high priest Ananus – Jerusalem;
- One of the chief priests Jesus, son of Sapphas and Eleazar, son of the high priest Neus – Idumea;

⁴ Much of the information provided by Josephus is debatable. Nevertheless, they are accepted as reliable in the SNA test. This allows to generate a graph that visualizes the data but does not present the possible errors in the description of the Jewish historian. More about the method of contradiction in the research on the works of Josephus see: Mason, 2009, p. 114–116.

⁵ Armed forces were carried out in Galilee after the defeat of Cestius Gallus in the autumn of 66 to July 1, 67 (see: Mason, 2016, s. 302). However, it should be noted that an additional campaign was held in these areas at the end of the summer of 67.

⁶ The situation in Galilee in the years 66–67 after Christ was described by Josephus in *The Life* and in *The Jewish War*.

⁷ Yoseph, the son of Gorion, quickly disappears from the narrative of Josephus. In his place appears Jesus, the son of Gamaliel, hence the supposition that he was the commander in Jerusalem see: Mason, 2008, fn. 3368, p. 382.

- Yosep, son of Simon – Jericho;
- Manasses – Perea;
- Ioannes the Essaeus – Thamna, Lydda, Yoppa, Ammaus;
- Ioannes, son of Ananias – district of Gophnite and Acrabettene;
- Yosep, son of Matthias (later called Josephus) – Galilee⁸.

Due to the Josephus' commanding in Galilee, this region was described in detail by him. The Jewish historian described the situation in these areas from the beginning of the First Jewish Revolt (Joseph. *BJ* 2, 569) until the fall of the last town – Gischala (Joseph. *BJ* 4, 120)⁹. In his narrative, he focused, among others, on individual Jewish insurgents who, while fighting with the Romans, simultaneously opposed his command in this area¹⁰. That is why Galileans changed their places of residence, seeking coalitions and support for the residents of the most important fortresses in this area. Josephus did likewise, trying to convince individual cities to support his actions.

Below, the Graph I presents, the cities and villages in Galilee¹¹, which were visited by the insurgents listed by Josephus in the years 66–67, i.e., during the war in this area. It is worth noting that the stay of a given person in the city was not tantamount to contacts with other Jews who visited this city – the diagram simplifies interpersonal relations. Jews visited subsequent places at intervals, which is why they could never meet in person. The graph shows the connection of individual people with the cities of Galilee and the frequency of their stays during the First Jewish Revolt.

As shown in the graph above, most of the cities were visited by Josephus¹². This fact is not surprising, because he commanded a rebel army in these areas. The Jewish historian did not visit only two villages and Gamla that were visited by other rebels. One of these places is a village where the Jerusalem delegation stationed for a while (Ionathes, Ananias, Iozar, Simon)¹³ and Iesus and Simon, brother of Ioannes¹⁴, and in the second there were its representatives (Ionathes and Ananias), returning to Jerusalem¹⁵. So it is not surprising that Josephus did not come to them, since the villagers supported his opponents.

⁸ This division has been questioned many times, because Josephus does not go alone to Galilee as described in *Vita* (Joseph. *Vita* 17; 28). The SNA method is designed to check the repeatability of the locality in the texts of Josephus and people assigned to them.

⁹ On the activities of Jewish insurgents in Galilee, see: Bloom, 2010, p. 92–113.

¹⁰ Many Jews disagreed with the command of Josephus in Galilee. The revolts of Justus from Tiberias (see Joseph. *Vita* 87–89) and John of Gischala (see: Joseph. *Vita* 122–125) were particularly important.

¹¹ About the topography in Galilee in the first century AD see: Vonder Bruegge, 2016.

¹² In the matter of the activities of Josephus in Galilee see: Cohen, 2002, pp. 181–231.

¹³ On the establishment of the Jerusalem delegation see: Joseph. *Vita* 196–197. About their stay in Ksaloth see: Joseph. *Vita* 227.

¹⁴ On the subject of joining Simon and Jesus to the Jerusalem delegation see: Joseph. *Vita* 200–201.

¹⁵ Ionathes and Ananias were in the village of Dabaritta returning to Jerusalem (see: Joseph. *Vita* 317–318).

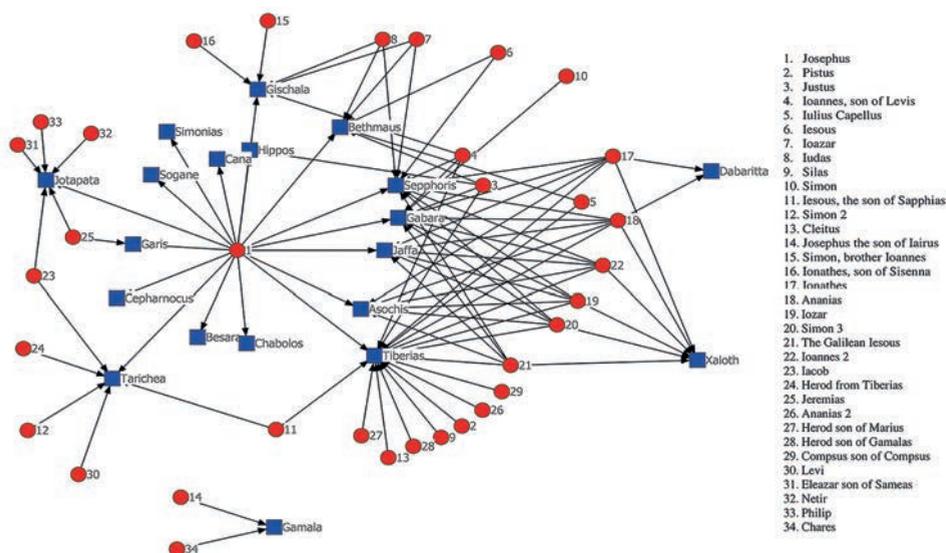


Fig. 1. The cities of Galilee in 66–67. Red actors are people. Blue actors are cities. Graph was generated in *Ucinet* (Borgatti, Everett, Freeman, 2002)

The information that the commander of the Galileans did not visit Gamla is more shocking. The Jewish historian mentioned the significance of this fortress several times in the struggle against the Romans¹⁶. Among the initial activities of Josephus in Galilee was strengthening of several fortresses, including Gamla (Joseph. *BJ* 2, 574)¹⁷. Despite this support for the fortress, it was not used by him while hiding from the Jewish rebels who tried to kill him. The commander of Galilee did not even come to check the situation in Gamla during military operations. It is worth considering what was the cause of such acts.

Certainly, apart from the support of the community, the distance between specific cities was a significant factor for Josephus. The key activities in Galilee took place near Tiberias. It was easier for Josephus to go to Tarichea than to Gamla. The first of the cities was about 8 km from Tiberias. The second was about 50 km away. It can be assumed that Josephus, in situations of insubordination of the Jews, chose the nearest town, in order to be able to get shelter from his opponents. The distance from the center of Galilee to Gamla explains why the commander of Galileans did not visit this

¹⁶ Josephus emphasized that Gamla was the most important fortress in Galilee see: Joseph. *BJ* 2, 568. Geographical significance of this place is also presented by James J. Bloom see Bloom, 2010, p. 97.

¹⁷ Josephus supported Gamla, despite the fact that at the beginning the city belonged to Agrippa, who was loyal to the Romans (see: Joseph. *BJ* 2, 247). It was only the rebellion of Joseph, son of the midwife, that changed the mood in the city (see: Joseph. *Vita* 185). About archeological excavations in Gamla, see: Weiss, 2016, p. 166–170.

fortress during the Jewish disputes over the authority in this area. Moving away from the center of the insurgent actions could result in the loss of leadership in Galilee, and perhaps even the death of Josephus, who could be killed by his opponents during a long journey.

It is more difficult to answer the question why Josephus did not come to Gamla during the entire period of the first Jewish war. In the end, its inhabitants were hospitable to him from the moment they objected to Agrippa. Josephus was supposed to reciprocate this sympathy because he supported the residents in strengthening the walls of the fortress (Joseph. *Vita* 186). Nevertheless, the commander of Galilee did not come – as he recalled – to the most important fortress in the region, even to check its condition. Uriel Rappaport suspects that Gamla did not belong territorially to Josephus's authority at all (Rappaport, 1994, p. 100–101). It is possible that the commander of Galilee did not visit this fortress because it was not his duty. Josephus, son Iairus, was then leading the city (Joseph. *Vita* 185) and Chares¹⁸. In spite of everything Gamla was conquered by the Romans as the last stronghold in Galilee¹⁹, after Josephus lost to defending Jotapata.

Archaeological excavations in Gamla are worth attention. From the Hellenistic period remained only the isolated sections of walls, perhaps remains of the Seleucid fortress. Later Gamla expanded significantly, especially in the time of Alexander Jannaeus. Two phases (from the Hasmonean and early Roman periods) of the whole complex were uncovered at the site. The settlement was destroyed and abandoned in the fall of 67 AD (Weiss, 2016, p. 166). The results of the archaeological excavations in Gamla indicate that at the site there was a modest building endeavor that was confined to the eastern end of the site, opposite to the saddle and the access roads leading to it. Josephus attributed the construction of the wall there to himself (Joseph. *BJ* 2, 574), but the fortress was not fortified by the wall (Weiss, 2016, p. 167). Nevertheless, based on the archaeological discoveries from Gamla and the SNA method, we should question the accuracy of Josephus' statements about the situation in Galilee.

The second interesting conclusion which can be drawn from the graph above, is the frequency of Sepphoris' haunts²⁰. According to Josephus, it was one of the key cities in Galilee (Joseph. *Vita* 346)²¹, alongside Tiberias. As it is presented on the graph, the city was visited by eleven insurgents. However, the Jewish historian, from the beginning of his narrative, indicated that Sepphoris supported Romans

¹⁸ Josephus presents two Chares. One was supposed to be the relative of Philip and he was killed when Josephus the son of Iairus, took over the town (Joseph. *Vita* 186, see: Mason, 2001, fn. 780, p. 92). The second Chares was on the side of the residents of Gamla and he died during the siege of the city by the Romans (Joseph. *BJ* 4, 68).

¹⁹ About the siege of Gamla see: Atkinson, 2007, p. 358–365.

²⁰ More about Sepphoris see: Meyers, 2004, p. 110–120. On the activities of Josephus in Sepphoris see: Bloom, 2010, p. 96–97.

²¹ On the meaning of Tiberias and Sepphoris in Galilee see: Z. Weiss, 2007, p. 385–409.

(Joseph. *Vita* 30–31)²². Despite it, its inhabitants hosted the commander of the Galileans (Joseph. *Vita* 104–111), and the Jerusalem's delegation (Joseph. *Vita* 232). Josephus emphasized that they did it without enthusiasm, and that at the first opportunity they gave up without a fight to the Roman army (Joseph. *Vita* 394–398). It is noticeable that the city of Sepphoris acted depending on the situation and supported those people from whom it could gain as much as possible. Despite their positive attitude towards Romans, the city residents did not betray any of the insurgents who visited them.

CONCLUSION

The presented example of the use of network analysis shows that this method may be useful in researching Judea in the first century AD. In the sources connected to this period – such as the works of Josephus – there are information which might be considered helpful in creating graphs. On their basis, the relations between people, parties or cities in the Roman province can be analysed. The main issue in the study of relations in Judea in the first century AD comes from the situations when a Jewish historian intentionally slandered people concerned. Nevertheless, it is worth using the SNA method because it is a promising alternative to other research methods, especially since there are often no sources to compare the works of Josephus. Therefore, any effective method of researching Judea in the first century AD is desirable in the study of this province.

The use of the SNA in the study of the importance of individual cities in Galilee drew attention to Gamla, which was considered by Josephus to be the most important fortress in this area. Nevertheless, the commander of Galileans did not visit it, but he left it to Joseph, son of midwife and Chares. This was probably caused by the distance that he had to overcome and the fear of losing his leadership in Galilee. It is more difficult to explain why the commander of the Galileans did not check the most important, as he believed, fortress in the area. In addition, the graph showing the visits of individual insurgents in the cities of Galilee demonstrated that Sepphoris was visited by both followers and opponents of Josephus. Despite the fact that the inhabitants supported Romans, they did not disclose any rebel that visited them. These issues have already been noticed and examined by other researchers. It confirms the usefulness of the SNA method, because it allows us to discover the dependencies in the works of Josephus in an innovative way. If the study with a small number of facts brings the intended effect, we may conclude that it might be similar in case of the larger database.

²² The support of the Romans by Sepphoris could result from the good commercial relations between the inhabitants and Romans, see: Adan-Bayewitz, Perlman, 1990, p. 153–172.

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Streszczenie

Głównym celem artykułu jest wprowadzenie *Social Network Analysis* do badań nad dziełami Józefa Flawiusza. Metoda ta może być szczególnie przydatna, ponieważ często brakuje źródeł, z którymi można zestawić prace żydowskiego historyka. W związku z powyższym każda kolejna efektywna metoda badań nad Judeą w I w. po Chr. jest pożądana w badaniach nad tą prowincją.

W pierwszej części artykułu autor omawia metodę analizy sieciowej, przytaczając najnowszą literaturę opisującą tę problematykę. Następnie podjęta zostaje próba przybliżenia innych badań, w których metoda ta została zastosowana z pozytywnym skutkiem.

W drugiej części artykułu skorzystano z niej w badaniu znaczenia miast w Galilei w latach 66–67 po Chr., kiedy na tych terenach miał przebywać Józef Flawiusz. Autor na podstawie *Wojny żydowskiej* i *Autobiografii* Józefa Flawiusza wygenerował graf, który wykazuje powiązania poszczególnych osób z miastami w Galilei oraz częstotliwość ich pobytów w nich podczas pierwszego powstania żydowskiego.

Zastosowanie SNA w badaniu znaczenia poszczególnych miast w Galilei zwróciło uwagę na Gamalę, która była uważana przez Józefa za najważniejszą twierdzę w tym rejonie. Mimo to dowódca Galilejczyków nie odwiedził jej, lecz pozostawił to Józefowi, synowi akuszerki i Charesowi. Takie postępowanie prawdopodobnie wynikało z odległości, którą musiałyby pokonać, oraz strachu przed utratą przywództwa w Galilei. Trudniej wyjaśnić, dlaczego dowódca Galilejczyków nie skontrolował najważniejszej, jak uważał, twierdzy w rejonie, którą sam wzmocnił. Należy jednak podkreślić, że przedstawione przez Józefa opisy Gamali, nie zostały potwierdzone przez badania archeologiczne. Ponadto graf przedstawiający wizyty poszczególnych powstańców w miastach Ga-

lilei wykazał, że Sefforis było odwiedzane zarówno przez zwolenników, jak i przeciwników Józefa Flawiusza. Mimo że mieszkańcy popierali Rzymian, nie wydali żadnego buntownika, który ich odwiedził. Kwestie te zostały już zauważone i zbadane przez innych uczonych, co potwierdza użyteczność metody SNA, ponieważ umożliwia ona odkrycie zależności w dziełach Józefa Flawiusza w innowacyjny sposób. Jeśli badanie przy małej liczbie faktów przyniosło zamierzony skutek, można wnioskować, że podobnie będzie przy większej bazie danych.