

Exploring vindicated clandestine networks: the functioning of samizdat in soviet Lithuania

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Paper prepared for the 7th ECPR General Conference, Bordeaux, 4-7 September 2013

Abstract

The threat of terrorism greatly increased the interest of social scientists in clandestine or underground networks. Empirical data on the functioning and the structure of such networks, however, is lacking because of severe issues of data collection of hidden networks. The study of samizdat networks in soviet regime offers a unique opportunity to collect rich empirical data on the functioning of clandestine networks. The paper presents the comparative analysis of three samizdat networks in soviet Lithuania, including the most successful underground publication in the Soviet Union “The Chronicle of the Catholic Church of Lithuania” which was continuously published from 1972 until the breakdown of the regime in 1989. The purpose of the paper is to examine the effect of network characteristics on the performance and viability of samizdat publications.

Acknowledgement: The authors are grateful to the Lithuanian Research Council for the support for the project No. VP1-3.1-ŠMM-07-K-02-053.

Introduction

The threat of terrorism greatly increased the interest of social scientists in clandestine or underground networks. Starting from Simmel's seminal article (1906), the theorists claim that secret societies have a distinct social structure, and the structural properties of clandestine organisations functioning under risk are thought to be different from those of overt organisations (Erickson, 1981).

Clandestine organisations operating under risk (usually they are illegal organisations) differ from overt and legal organisations because they must conduct their activities in secret. Therefore, they are driven by the need to maximise concealment, and their optimal structure is the structure that could offer protection from revealing their activities and members (Baker and Falkner, 2003).

The most important challenge for secret organisations is the trade-off between security and efficiency. The main question, therefore, is what kind of structure would reconcile those two aims in a best way, i.e. maximizing concealment and efficiency at the same time. While Simmel (1906) argued that secret societies are always strongly centralised and hierarchical, later research demonstrated that the structure of clandestine organisations greatly vary (Erikson, 1981). What is the optimal structure of clandestine networks under what conditions, however, is not clear. Most theorists argue that secrecy can only be achieved in sparse and decentralised networks (see e.g. Krebs, 2002, Baker and Falkner, 2003, Crossley et al, 2012). Low density and decentralisation of the network, however, might diminish network performance as the network efficiency is related to the distance between all nodes in the network (see e.g. Latora and Marchiori, 2004).

Most investigation of this problem is based on theoretic modelling. The empirical evidence is still sparse despite the growing interest in the field, mainly because of methodological problems arising when dealing with hidden organisations. In felicitous words of Erickson (1981, 204) „the very secrecy that distinguishes them, obscures them.“ Most empirical research has been done using case studies (e.g. Krebs, 2001, 2002), and most of them suffer from insufficient and incomplete data.

This paper uses a unique opportunity to collect rich empirical data on the functioning of clandestine networks investigating the samizdat networks in soviet Lithuania. The system of underground publication, so called *samizdat*, was one of the most effective, even though one of the most persecuted means of oppositional activity in post-Stalinist Soviet Union. The networks of samizdat seem to share many important characteristics of contemporary clandestine networks; they

are, however, vindicated under current democratic regimes in post-soviet countries such as Lithuania, therefore, much less difficult to explore.

The paper presents the comparative analysis of several samizdat networks in soviet Lithuania, including the most successful underground publication in the Soviet Union, ‘The Chronicle of the Catholic Church of Lithuania’ which was continuously published from 1972 until the breakdown of the regime in 1989. The purpose of the paper is to examine the effect of network characteristics on the performance and viability of samizdat publications. The data for network analysis is collected by face-to face interviews with the members of the networks of the publishers as well as by using archival data and published memoirs.

In the first part of the paper, the phenomenon of samizdat in Soviet Union is shortly presented. In the second part, the general overview of Lithuanian samizdat publications is presented. Finally, in the third part, the characteristics of the networks selected for the analysis are explored and the incredible success of the “Chronicle” is explained in the light of theoretical debates on the structure of covert social networks operating under risk.

1. Samizdat phenomenon in the Soviet Union

The Soviet regime was ideocratic and founded on the Marxism and Leninism ideology which was declared the official ideology of the state. Therefore, pluralism of ideas threatened the monopoly of the Communist Party rule in the Soviet Union. Even after Stalin’s death, the main aim of the soviet policy remained the creation of a mass of uniform one-minded soviet people. That is why the regime persecuted not only political opposition (dissidents) but tried to exterminate officially not allowed styles of clothing, aesthetical point of views and ways of life. A clash between the regime and the people was inevitable.

One of the manifestations of this clash was the publication and circulation of samizdat. Samizdat (in Russian “self-published”) was amateur publications of various texts that could not reach printing in official soviet press because of censorship. As the access to copying machines was strictly controlled in Soviet Union, privately owned typewriters were the most often used means of samizdat publishing (Komaromi, 2004).

Samizdat publications could be onetime or multiplex, and its content could be not only political, but also poetry, fiction or arts (e.g. there was a samizdat magazine in Russia dedicated to the jazz music). Samizdat was produced, transmitted and red mainly by intelligentsia (but that was not the case of Lithuania, where dominant religious samizdat was red by ordinary devotional people).

The first USSR samizdat publication, as acknowledged by historians, was “Syntaxis” (1959-1960, three issues). It was a literary journal publishing poetry. As for samizdat, it had a rather large circulation – about 300 copies (Барбакадзе et al., 2005). Even though it was not a political journal, the soviet authorities stopped its publication.

Samizdat publications were passed from reader to reader mainly within trusted networks (Komaromi, 2004). There were intended punishments of prison and exile in the soviet law for reading and especially disseminating samizdat. Therefore, if a publication was anti-soviet or considered as risky to read, it was only given to trusted people, usually friends. Therefore, such ties between people created and strengthened trust networks.

Every samizdat reader was encouraged to multiply such a publication. One person at a stretch could do to 6-8 copies of a text by a typewriter using tissue paper or carbon paper. The number of copies depended on the thickness of paper, and the last copy usually was barely legible. Much more copies might be made by a copier but they were quite scarce and particularly supervised by the KGB. In some cases samizdat publications were sold to compensate expenses of multiplication, but in most cases it was passed at no cost (Burauskaitė, 2002).

Approximately two periods of soviet samizdat can be distinguished: till 1968 and after. The first period was dominated by poetry, fiction and essays that were mildly political and mostly not anti-soviet but only criticizing the regime with an intention to improve the soviet system. After the Prague spring, Soviet intelligentsia lost faith in soviet ideology. So the critique of the regimes’ policy and backgrounds, fundamentals of ideology and the *raison d’être* of the regime became more and more severe. Very important in that approach was samizdat periodical “The Chronicle of Current Events” (1968-1983). It monitored and published the cases of violation of human rights in all the USSR (from 1972 it had a constant heading “Events in Lithuania”). It proclaimed that it is lawful because it did not violate any Soviet laws; in contrary, it disclosed violations of Soviet laws. But soviet officials treated such an activity as anti-soviet and persecuted the publishers of “Chronicle” (Rubenstein, 1985).

Defense of human rights was one of the directions (and the main) of liberal soviet samizdat. The main goal of it was democratizing the USSR and leaving all social achievements of socialism (“socialism with human face”) or dismantling the Soviet Union if first goal was impossible to achieve.

Another trend of samizdat besides apolitical and human rights directions was nationalistic samizdat. There were differences of nationalistic samizdat published by Russians and by the representatives of other nationalities. Some Russian authors of this trend wanted to restore the monarchy in Russia, the others aimed to restore the Stalinist course or to dismantle the USSR as an

obstacle to develop Russia (Митрохин, 2003). Non-Russian authors emphasized restraints to cherish national culture and language (Russification was seen as one of the main threats to nation), constraints of religious life (as an important part of national culture and a supporter of national consciousness), persecution of nationalists, and falsification of nation's history. And even the defense of human rights was not a goal in itself of samizdat of non-Russian republics (as it was in Russia) but only a mean to struggle against the regime for nationalistic goals.

To be sure, there were different approaches of soviet officials to the samizdat of more political and less political nature. Authors, publishers and multipliers of nonpolitical or mildly political samizdat normally were not arrested. Political samizdat, however, was severely persecuted. The readers of it usually were not jailed but they could be observed and interrogated by the KGB. Or they could be incriminated of spreading such samizdat publications. Authors, publishers, multipliers and spreaders could be imprisoned by trial for slander about USSR and for an attempt to weaken the state.

The meaning of *political samizdat*, however, was not definite. The soviet system and society was quite politicized, therefore, almost all spheres of human activity could become interpreted as political. *Political* was such an interpretation of soviet authorities and officials when otherwise nonpolitical matters could be considered political because of its threat (real or imaginative) to the soviet state. For example, religious activity was considered as a threat to the official atheism and the creation of soviet man; therefore, it was political. Some cultural activities were interpreted as nationalistic and, therefore, as political (e.g. too high concern about cultural heritage, not to mention an interest in the non-Soviet past of a nation). Every public activity that was not initiated from above could be interpreted as anti-soviet or at least misguided or erroneous (and therefore repairable by various means of Soviet state including punitive measures) (Vaigauskas, 1992).

2. Samizdat in Lithuania: the general overview

The emergence of Lithuanian samizdat in late 1970s was stimulated by the Russian samizdat. Lithuanian dissidents and underground activist had close relations with "Syntaxis", "The Chronicle of Currents Affairs" and other publications (Vasiliauskaitė, 2006, 36-37). The conditions for samizdat publication in Lithuanian, however, were quite different. While in Russia some samizdat publications were produced openly with the real editor's name on the cover (Komaromi, 2012, 75), in Lithuania the publication of samizdat was strictly persecuted, therefore, all samizdat was published secretly. Most samizdat publications in Lithuania were nationalistic or religious, and mainly strongly anti-soviet.

While aperiodic, mainly religious samizdat in Lithuania appeared already during the Stalin's rule, the first Lithuanian samizdat periodical, "The Chronicle of the Catholic Church in Lithuania", was published in March 1972. Up to 1975, it was the only samizdat periodical in Lithuania. From 1975 to 1981 the number of samizdat publications was rapidly increasing: *Aušra* was launched in 1975, *Laisvės šauklis* in 1976, *Rūpintojėlis* in 1977, *Pastogė* and *Perspektyvos* in 1978, *Alma mater*, *Lietuvos ateitis*, *Vytis* in 1979. In 1979, no less than 13 periodicals were circulating in Lithuania (Ruzgas, 2010). Most of samizdat periodicals, however, were short-lived. Usually it took 2-3 years for the KGB to disclose the main editors and to terminate the publication.

The most long-lasting and the most widely read Lithuanian samizdat publication was "The Chronicle of the Catholic Church of Lithuania". It was founded in 1972 in a circle of like-minded priests and it was approved by the official leadership of the Catholic Church in Lithuania. It was named "The Chronicle of the Catholic Church of Lithuania" after "The Chronicle of Current Events" published in Moscow, as the Russian publication served as a model for the Lithuanian periodical (Narkutė, 2002).

The main goal of "The Chronicle of the Catholic Church of Lithuania" was to disclose the violations of human rights in Soviet Lithuania. Therefore, the publishers adopted dry factual style of communication of "The Chronicle of Current Affairs" which proved to be very effective for communicating the news to the West (Komaromi, 2012). "The Chronicle of the Catholic Church of Lithuania" published only carefully selected facts where specific information such as names, places, numbers were indicated. While the Lithuanian Chronicle mostly focused on the persecution of Catholics, it published also documents of secular content¹. For example, it publicized a letter signed by 26 Lithuanian scientists against the building of the Ignalina power station (Ruzgas, 2010).

The other periodic samizdat publications in Lithuania were mainly publishing articles of political, historical or religious content. There were not a lot of fiction, poetry and nonpolitical essays published in Lithuanian samizdat. As opposed to Russia, Lithuanian writers were reluctant to participate in samizdat because of more repressive response of Lithuanian authorities to such activities and more liberal cultural policy in soviet Lithuania. This explains the lower intellectual level and the more parochial scope of Lithuanian samizdat.

While the catholic samizdat was dominating in Lithuania, there were periodicals of nationalist and liberal orientation. Catholic publications usually had larger circulation as they were disseminated through parishes, illegal monasteries and catholic underground movement. Nationalist

¹ All the issues of the Chronicle are available online in Lithuanian and in English at <<http://www.lkbkronika.lt/>>

periodicals were mostly read in the circles of dissidents and nationally oriented underground activists; and liberal press was read in some circles of intellectuals.

Most of samizdat publications were multiplied by typewriters, therefore, their printing was small, usually from 4 to 20 copies only (Vasiliauskaitė, 124-125). One copy, however, could reach as many as hundred readers and even more, as it was transmitter from hand to hands. The circulation of “The Chronicle of the Catholic Church of Lithuania” was much bigger. In the beginning, about 200-300 copies of one issue were produced by the main team of the publishers using rotary press and ERA copying machines. Later, however, the circulation was reduced to 100-150 (Ruzgas, 2010) as the Chronicle was multiplied independently by readers using typewriters. Moreover, using the networks of Russian dissidents, the Chronicle (as well as some other samizdat publications) was transmitted to the West and reached the Lithuanian audience through several Western radio stations (Narkutė, 2002, 169).

Surprisingly enough, the underground networks of different political and ideological orientations were quite interconnected. The publishers of samizdat periodicals used to share the necessary equipment (e.g. typewriters), connections with the West and with Russian dissidents, etc. Ideological antagonism did not prevent members of opponent samizdat publications from cooperation. In the words of publishers themselves, hostility towards the soviet regime was far more important than ideological differences (Žilinskas, 2007).

Erikson claims that ideological cleavages are most likely to lead to disconnected networks of secret societies, because bridging ties are likely to be weak and weak ties are not likely to be used for recruitment to secret organisations (Erikson, 1981, 196). The structure of the Lithuanian samizdat does not support this claim. As can be seen from Fig. 1, main publishers of 12 most important samizdat periodicals in Lithuania constitute one underground network rather than a set of isolated networks. The closest cooperation was between the three catholic publications – “The Chronicle of the Catholic Church of Lithuania”, *Aušra* and *Rūpintojėlis*. In fact, *Aušra* could be seen as a branch of the Chronicle because both periodicals were published almost by the same people, and the content of *Aušra* was largely made from materials that did not fit to the Chronicle because of its purely factual style (Tamkevičius 2013, Boruta 2013).

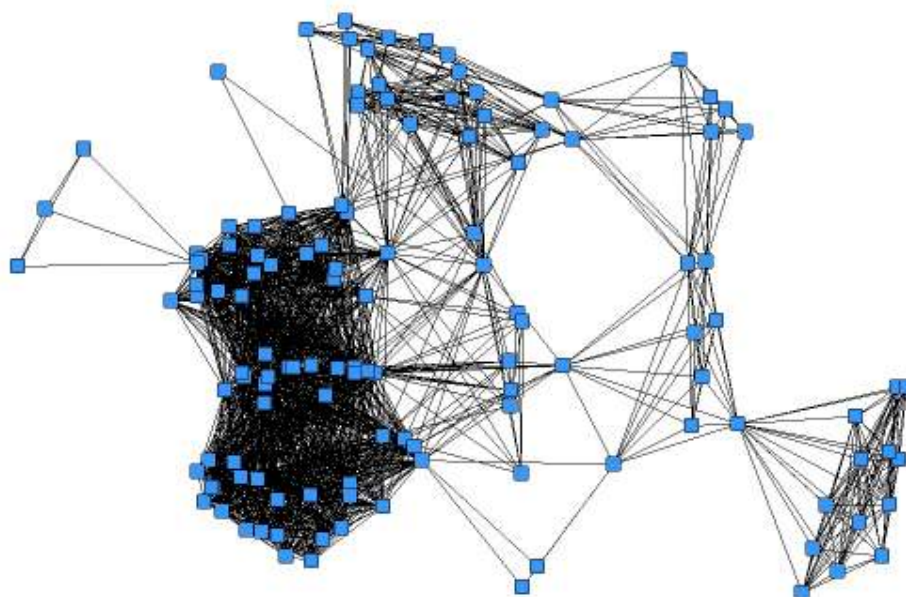


Fig. 1. The network of the most prominent Lithuanian samizdat publications in 1972-1989 (The Chronicle, Aušra, Rūpintojėlis, Laisvės šauklis, Vytis, Perspektyvos, Alma Mater, Varpas, Lietuvos ateitis, Katakombos, Viltis, and Pastogė)

Note: Nodes represent the persons directly involved in the publishing process of the selected publications.

Despite the cooperation and mutual help, the fate of different samizdat publications was very different. The Chronicle and Aušra survived until the end of the soviet rule and published 81 and 60 issues respectively. While founding editor of the Chronicle Rev. Sigitas Tamkevičius was arrested and imprisoned in 1983, the publishing of the Chronicle was successfully continued by the rest of the publishing team up to 1989 without changing the format and regularity of the periodical.

The next most efficient samizdat publication was Rūpintojėlis with 26 issues. Even though Rūpintojėlis was based on the same pre-existing networks of Catholic underground, it was much less viable. Its publishing was interrupted after 4 years of functioning (from 1977 to 1980) when the KGB disclosed the chief editor; and it was resumed only in 1986 by the same founding editor. The most successful non-religious publication “Perspektyvos” survived only four years (from 1978 to 1981) and published 22 issues. The other periodicals published from 2 to 8 issues and were much less influential.

3. Explaining the performance of samizdat periodicals

As can be seen from the overview of the samizdat in Lithuania, “The Chronicle of the Catholic Church of Lithuania” was exceptionally successful in terms of its scope and viability. First, it was the most efficient samizdat periodical in Lithuania, publishing 81 issue. Second, it was the most enduring samizdat periodical not only in soviet Lithuania but also in the whole Soviet Union. Its endurance is explained both by its extraordinary level of conspiracy and by a viability of its team. It took more than 10 years for the KGB to disclose the chief editor Tamkevičius, and the arrest of the editor has not terminated its publication. Finally, it was the most read and the most well-known samizdat periodical in and outside Lithuania.

What was the secret of the success of the Chronicle? How was it able to solve the trade-off between the efficiency and security? Are there any structural properties of the network of the Chronicle which differentiate it from other less successful samizdat periodicals in Lithuania?

To analyse the impact of network characteristics on the success of the periodicals three publications were selected for the comparative analysis: the Chronicle, Rūpintojėlis and Perspektyvos. Perspektyvos was chosen as the most successful non-religious journal. Rūpintojėlis was taken as the most prominent religious journal, published independently from the publishers of the Chronicle.

Data and measures

To explore the structural properties of the samizdat networks, we use social network analysis techniques which proved to be very useful for the analysis of secret organizations and illegal activities (see e.g. Sparrow, 1991). We constructed adjacency matrices for the cooperation links of the main actors for every periodical; moreover, separate matrices were produced for the main distinct periods of a publication (e.g. before and after the imprisonment of a chief editor). The main source of the relationship data were face-to-face interviews with the publishers of the selected samizdat periodicals. In addition, published memoirs and archival data were used when available.

The preliminary lists of the main publishers were made by reviewing the literature and archival material. Later, however, the list was adjusted on the basis of information received from the interviews. Only the key persons directly participating in the publication process were included: the editors, the regular authors of texts (only the authors deliberately providing their materials for

the samizdat periodical), persons providing significant technical support, strategic advisors, make-up editors, typists and disseminators appointed by the editors (only people typing and/or disseminating publications with the privity of the editors were included as there were many people producing copies of the publications on their private initiative). We identified 13 actors in the network of *Perspektyvos*, 23 actors in the network of *Rūpintojėlis* (only 18 actors were active in 1977 – 1980 period used for the analysis in this paper), and 20 actors in the network of the *Chronicle* (only 17 of them were active in the 1975-1983 period used for the analysis in this paper).

Although collecting data on formerly illegal networks that are now vindicated is much easier than mapping the networks of criminal or terrorist networks, we could not avoid methodological problems of data collection. In general, the participants of samizdat were willing to cooperate and to disclose the relationships. We approached all selected actors who were alive, except Birutė Briliūtė, the publisher of the *Chronicle*, who is currently living abroad. However, since more than 20 years have passed from their last activities in the samizdat publishing, we should be cautious about their memory. In every case the information provided by an actor was examined using alternative sources.

The biggest problem, however, was missing data on the relationships of the actors who are not alive. To rehabilitate the links for the pairs of actors that are dead or unapproachable, we used memoirs and other sources of data, if available. If no other sources were available, we asked other actors of the same periodical to estimate the probability of the link between missing actors. The network dataset of the *Chronicle* is the most complete as 17 of 21 actors were interviewed including both editors-in-chief Sigitas Tamkevičius and Jonas Boruta. The reconstruction of the network of *Rūpintojėlis* was the most problematic as the main editor Ada Urbonaitė (1921 – 2009) is not alive. However, she left her memoirs and a lot of archival data, including the list of the collaborators of *Rūpintojėlis* (Stakišaitis et al., 2010). Moreover, she compiled and published the collection of all issues of *Rūpintojėlis* (Urbonaitė, 2000).

We recorded the direct ties in the “task network” (Krebs, 2001) of the publications as well as the personal ties among the actors before the involvement in the samizdat activities. Only the “task-network” data, i.e. the data on the direct cooperation in the activities of samizdat publication of the selected periodical, are used for the analysis in this paper. The intensity of relationship between the main publishers was coded as well, but we use dichotomized data for current analysis. All data were made symmetrical.

Rūpintojėlis' network

“Rūpintojėlis” (“Sorrowing Christ”) was launched in 1977 on the initiative of sister Ada Urbonaitė. The content of Rūpintojėlis was mainly religious. It published homilies, interpretations of the Holy Scripture, the documents of the Catholic Church, philosophical essays, religious poetry, and historical articles. Occasionally, however, it published some political material, e.g. it publicized the secret Molotov – Ribbentrop Pact of 1939.

Seven persons were invited to the initial meeting, organized by Urbonaitė: teacher of history Kazimieras Šapalas, priest Juozas Indriūnas, priest Lionginas Kunevičius (he was the chief editor of Aušra, but the initiators of Rūpintojėlis were not aware of that), prominent underground activist doctor Povilas Butkevičius, student of medicine Donatas Stakišaitis and Ada Urbonaitė herself. During the meeting the decision to start publishing samizdat periodical was taken. Šapalas became the editor-in-chief of the magazine and Urbonaitė was the main publisher. All other participants of the meeting became collaborators of the periodical, except Butkevičius who was not supporting the idea of starting a new publication (Stakišaitis, 2010).

Most of the work was done by Ada Urbonaitė herself, Šapalas and Stakišaitis. While Šapalas was only editing and writing some articles, Urbonaitė had many different functions: she was typing (as she had her own typewriter which she used for underground publishing of books) and distributing the copies, contacting the authors, collecting other material, organizing the binding, etc. After some years Šapalas left Rūpintojėlis and launched his own samizdat publication “Tiesos kelias” of more political character. After that Urbonaitė became the main editor as well as the main publisher.

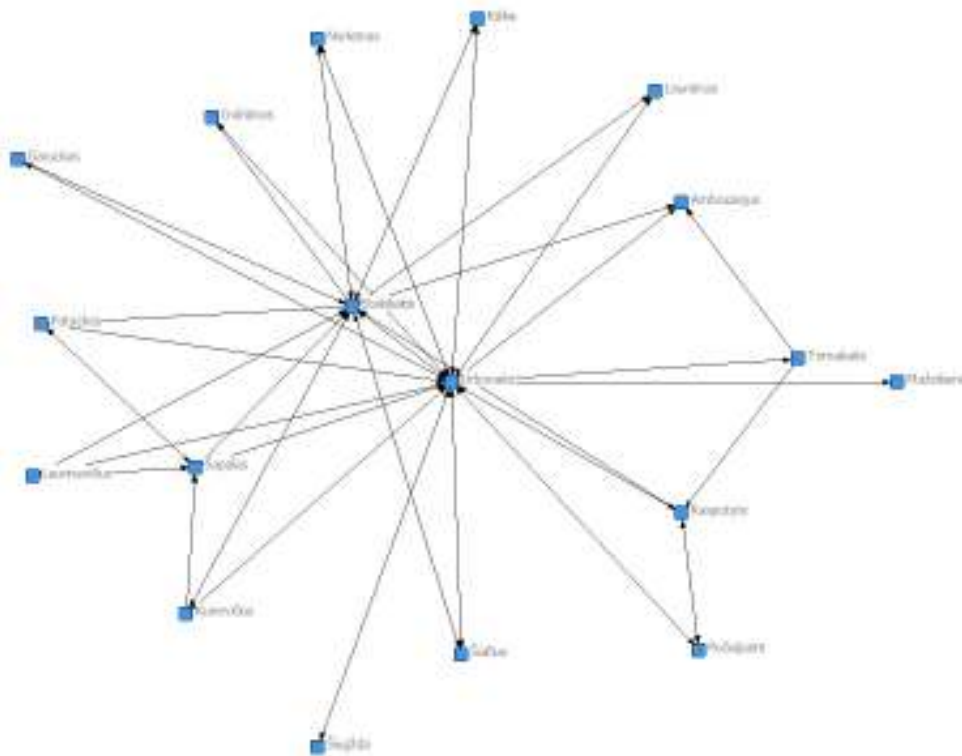


Fig. 2. The network of Rūpintojēlis in 1977-1980

As can be seen from Fig. 2, the network of Rūpintojēlis resembles a star network with Ada Urbonaitė in the center. Most of the actors participating in the publishing process of Rūpintojēlis reported that they used to communicate directly with Ada Urbonaitė. Stakišaitis was the second most central actor, as he was usually sent by Ada as a courier with different tasks, e.g. to contact the authors, to take them a new issue, to bring a new issue to multiply using copying machines.

Being a nun, Ada Urbonaitė was prepared for being arrested and did not use much conspiracy. Most people contributing to the Rūpintojēlis were aware that Ada Urbonaitė is the main publisher (Stakišaitis, 2013). Therefore, it is not surprising that the KGB uncovered the editor after several years. During her interrogation in 1980, she acknowledged being the editor and the publisher of Rūpintojēlis. Surprisingly, however, she was not imprisoned; but after the search she was under a constant surveillance.

After the search and interrogation in 1980, Urbonaitė was left virtually alone as her collaborators did not want to take risk to continue publishing Rūpintojēlis. The fact that she was not arrested made many collaborators suspicious. Nevertheless, Ada continued working alone, publishing one issue a year. The scope and the content of the publication, however, had substantially changed. Finally, Ada stopped publishing Rūpintojēlis in 1983. The publishing was resumed in 1986, when the political regime in Soviet Union was liberalized.

The network of Perspektyvos

“Perspektyvos” was one of the most intellectual samizdat journals in Lithuania. It published philosophical and political articles criticizing the foundations and the functioning of the soviet system. These articles mainly reflected the ideology of eurocommunism, which was close to the western socialdemocratic ideas. Besides eurocommunitistic articles, there were papers of other ideological orientation because “Perspektyvos” proclaimed openness to all ideologies and aimed to stimulate discussions between different ideological camps. Perspektyvos had fairly large audience among intelligentsia and cultural elite of Lithuania. By very approximate estimations it had more than a hundred readers.

The initiative to publish the journal came from geologist Vytautas Skuodis, the professor of Vilnius University, as a response to poor intellectual level and ideological narrowness of Lithuanian samizdat. He himself was involved in the multiplication and dissemination of Aušra and the Chronicle, but he wished about a different publication. He shared the idea with former political prisoner Albertas Zvicevičius who had a network of underground activists. Zvicevičius involved other collaborators such as Stasys Stunguryš, who was one of the publishers of another samizdat journal “Laisvės šauklis”, and others (Klumbys 2002).

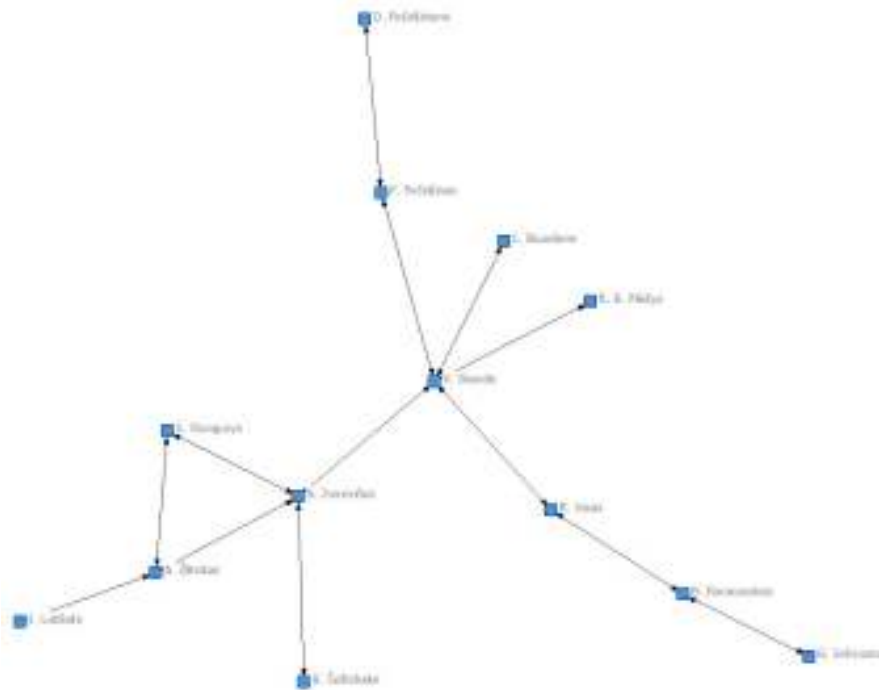


Fig. 3. The network of Perspektyvos in 1978-1980

As can be seen from Fig. 3, the structure of the network of *Perspektyvos* is radically different from that of *Rūpintojėlis*. Skuodis was the main editor of *Perspektyvos* and Zvicevičius was his closest advisor and collaborator. Apart from Zvicevičius, Skuodis had direct contacts only with Pečeliūnas, Mikšys and Jasas and his wife Skuodienė. In contrast to *Rūpintojėlis*, most of the people involved in publication (e.g. the authors of the articles) of *Perspektyvos* were not aware of who is editing the journal (Klumbys, 2002).

The deliberate precaution measures of the editor, however, did not save him from the persecutions of the KGB. Vytautas Skuodis was detected in 1979 when he together with Povilas Pečeliūnas was attempting to make an amateur coping machine (Klumbys, 2002). After Skuodis was arrested, four issues of *Perspektyvos* already prepared for publication by Skuodis were published by Zvicevičius, Žilinskas and others. After that, however, the publishing of the journal was stopped mainly because of the lack of articles. When Skuodis was arrested, the network between the editors, disseminators and the authors had disintegrated; therefore, the new editors were unable to maintain the constant flow of publishing material.

The network of the Chronicle

The idea of the launching “The Chronicle of the Catholic Church in Lithuania” was born in secret meetings of active anti-soviet priests, including prominent dissidents Juozas Zdebskis and Alfonsas Svarinskas. The responsibility of implementing the idea, however, was assumed by Sigitas Tamkevičius alone as he was young and not fallen yet under the supervision of the KGB (Tamkevičius 2013).

In the beginning, the structure of the Chronicle network resembled that of *Rūpintojėlis*. The initial network consisted of only 7 persons, implementing different tasks: philologist Kazimieras Ambrasas was responsible for language editing, experienced underground activist Petras Plumpa was doing the copies of the Chronicle by self-made copying machine, several nuns were typing the first issues. Tamkevičius himself was allocating the tasks, collecting the material, putting up the issues, and he was the main intermediary between the collaborators. It soon appeared that this kind of structure was inefficient and not safe.

In 1983, several collaborators of the Chronicle were arrested and the survival of the Chronicle was in danger. Tamkevičius was forced to look for new collaborators. He decided to expand the network and delegate more tasks to different people. The new editorial team was based on the network of underground monasteries, especially on the Congregation of the Sisters of Eucharist Jesus which was devoted to the resistance against the communist regime.

As can be seen from Fig. 4, the network of the Chronicle at that time has much higher density than the networks of Rūpintojėlis and Perspektyvos. While Tamkevičius was the central actor in the network, many other actors had direct links with each other and could implement the tasks without Tamkevičius intermediation. There was a clear division of jobs in the network: some people were collecting material for the Chronicle, several nuns were working on the language editing, typing of the first copies and making photocopies for transmitting the Chronicle to the West. Several people were responsible for distributing the copies to the parishes in all parts of Lithuania. Tamkevičius himself was selecting the material, writing a lead article, bringing the issues for the bishops' approval as well as bringing the Chronicle to Russian dissidents in Moscow (Tamkevičius 2013).

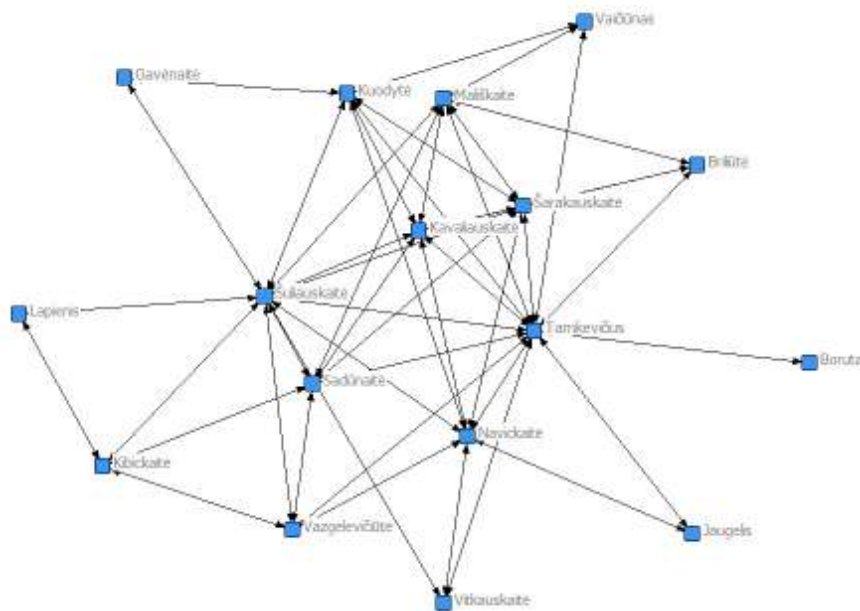


Fig. 4. The network of the Chronicle in 1975 – 1983

While Sigitas Tamkevičius was the most central person in the network, only several people were aware that he is the main editor of the Chronicle. Even the closed collaborators could only guess what the functions of the others were. There was a general rule in the network of the Chronicle not to ask about the functions and responsibilities of collaborators because not knowing the facts was the best safeguard against possible betrayal in case of interrogation. The understanding of risks, the high level of trust and, probably, the discipline of the Church in the

network ensured that all tasks were implemented without asking for the reasons and/or for the sources of instructions. This kind of working practices led to very high efficiency of the network and high level of security.

Since Tamkevičius was very active in many activities of Catholic underground, he was closely supervised by the KGB. Finally, he was arrested in 1983, without definite proves that he is the main editor of the Chronicle. The importance of the Chronicle was so high that the rest of the publishers were determined to continue the work. It was, however, quite difficult to do it as Tamkevičius was the only person who knew the functions of the others. The closest collaborators of Tamkevičius sisters Mališkaitė, Šarakauskaitė, Kavaliauskaitė and Briliūtė, who knew each other, met in one place to discuss the situation and to clarify who was responsible for what tasks (Mališkaitė 2013). They themselves published the first issue after the arrest of Tamkevičius. Later, they contacted priest Jonas Boruta to serve as the editor-in-chief of the Chronicle. Jonas Boruta remained the editor-in-chief until 1989, while the sisters did most of the work, successfully concealing the editor from the KGB as well as from the activists of the underground.

Structural characteristics of the networks

Visual inspection of the networks of three Lithuanian samizdat publications revealed remarkable differences in their structure. Rūpintojėlis resembles a “star” network; Perspektyvos looks similar to the “hub-and-spoke” network while the Chronicle is not far from the “complete” network (for examples of classical communication networks see e.g. Baker and Falkner, 2003, 849). What network characteristics are the most important for explaining the performance of the clandestine networks of samizdat?

The theory of secret societies suggests that centralisation and density are crucial characteristics determining the security of the network. It is often claimed that in order to survive under the risk clandestine networks should be sparse and decentralized (Krebs, 2002, Baker and Falkner 2003). Centralisation² is detrimental to the security of a network because it makes a network more vulnerable or less robust when one or more key actors are removed. Betweenness centralisation is considered to be most relevant network characteristic in this respect, while it was provided to be not always an optimal measure (see Borgatti, 2006).

Density characteristic is related to the “visibility” of the network: the more there are active links, the easier is to detect a network. Network density reflects a number of ties as a proportion of

² Network centralisation measures the extent a network is dominated by one node. It demonstrates how much a network resembles a star, i.e. a maximally centralized network (see e.g. Borgatti, 2013).

all possible ties in the network (see e.g. Faust and Wasserman, 1994, Borgatti, 2013). This measure, however is not always useful in comparative analysis as the number of potential ties increases with the number of nodes in the networks, therefore, larger networks tend to have smaller density. For this reason average degree (i.e. average number of ties) is often used instead of density measure (Scott, 2000).

Efficiency of the network is considered to be related to the average length of paths between all nodes of the network (see e.g., Latora and Marchiori, 2004). It is not evident, however, what type of network structure increases most the efficiency, as the average path length can be reduced by increasing network centralization or by increasing its density. Experimental research demonstrated that in small network simple tasks are performed better in centralized (e.g. star type) networks, while more complex tasks are performed more efficiently in decentralized (but dense) networks, e.g. in “complete” networks (Shaw, 1964).

Table 1. Network characteristics of Rūpintojėlis, Perspektyvos and the Chronicle

	Rūpintojėlis	Perspektyvos	The Chronicle
Network size (number of participants)	18	13	17
Average path length (standard deviation)	1,8 (0,4)	2,8 (1,2)	1,7 (0,6)
Density	0,23	0,17	0,35
Average degree	3,89	2	5,6
Degree centralisation	86,7	29,5	52
Closeness centralisation	91,6	44,5	53,8
Betweenness centralisation	60,4	67,7	27,9

Table 1 presents the most important network characteristics of the three selected publications. As can be seen from the table, Rūpintojėlis and the Chronicle has almost the same average path length, while the average path-length of Perspektyvos is much higher. As long as the flow of information in the network is not interrupted, these differences do not seem to have a big impact on the performance of a journal: the performance of Rūpintojėlis and Perspektyvos is almost the same, if measured in numbers of issues published until the detention of the main editor

(Perspektyvos published 17 issues, while Rūpintojėlis only 15). However, it is probable that high average path length would be more detrimental to the Chronicle because of much higher scope and complexity of its activities.

While the average path length of the Chronicle and Rūpintojėlis is almost the same, they differ in density and centralization: the network of the Chronicle is much denser, and Rūpintojėlis is much more centralized on all three centralization measures. Closeness centralization³ of Rūpintojėlis is especially high as Ada Urbonaitė was able to reach almost every node in one step. Betweenness centralization⁴ of Rūpintojėlis is smaller because Stakišaitis in most cases provides an alternative path from one node to another.

The most interesting differences can be seen when comparing the different centrality measures of Perspektyvos and the Chronicle. The network of the Chronicle has higher degree centrality than Perspektyvos, but the betweenness centrality is much smaller. Perspektyvos, on the contrary, has very low degree centralization but the highest level of betweenness centrality. Looking to the graphical representation of the network it is easy to see why this is the case: Skuodis lies on the path between most nodes while the number of his ties is relatively small.

The differences in betweenness centralization of the three networks demonstrate the importance of this measure for the robustness of a network, i.e. its ability to survive if one or several nodes are removed (for the importance of the notion of robustness and its possible measurements see Baldi et al. 2001). Removing Skuodis from the Perspektyvos network breaks the network into 5 components. Removing Urbonaitė does not have such a detrimental effect for Rūpintojėlis because Stakišaitis has connections to most of the actors except Šiugžda and Mažeikienė. However, removing both Urbonaitė and Stakišaitis totally disintegrates the network. In contrast, removing Tamkevičius from the network of the Chronicle only disconnects Boruta from the network (in fact, it took some time for the editorial board to restore operational links with Boruta even though the sisters publishing Chronicle after the arrest of Tamkevičius were familiar to him) and does not cause the collapse of the network.

The differences in betweenness centrality seem to explain the ability of the Chronicle to survive after the detention of the editor-in-chief. The differences in degree centrality between the networks of those two periodicals do not seem to be important: while Skuodis was minimizing his contacts, he was still disclosed by the KGB. Tamkevičius, in contrast, had many contacts with other

³ Closeness centralization reflects the difference between closeness centrality of the most central node and other nodes. Closeness centrality calculates distances from an actor to all other actors and reflects the efficiency of communication relations of an actor (Freeman, 1979).

⁴ Betweenness centralization reflects the difference between betweenness centrality of the most central node and other nodes. Betweenness centrality measures the geodesic paths (shortest paths) between all pairs of actors and calculates how often an actor lies on a path between two nonadjacent actors (Freeman, 1979).

actors of the network not only on business of the Chronicle but also on other catholic activities. The frequency of those contacts might have misguided his trackers and concealed his actual activities in samizdat publication.

Conclusions

The paper addressed the issue of the trade-off between efficiency and security in secret organisations by analysing the extraordinary success story of the most long-lasting samizdat publication in the Soviet Union. Using network analysis, we analysed the structural properties of the networks of three samizdat publications in soviet Lithuania seeking to explain the differences of their performance.

The authors analysing clandestine organisations claim that the structure of secret network is driven by the need to assure security. Baker and Falkner (2003, 856) conclude that for networks with low-information processing needs it results in the decentralized structure, while for networks with high-information requirements the security needs drive to centralized structure because face-to-face interaction is unavoidable for making complex decision in secret.

Our research findings contravene these claims. First, the preliminary findings of the exploration into the samizdat in Soviet Lithuania revealed that personal security does not have to be the dominating motivation in case of secret ideological networks. As the case of Rūpintojėlis samizdat publication illustrates, illegal networks might operate in the same manner as open networks, i.e. to have a dense and centralized structure. The ‘star’ structure is possible for short-term clandestine activities of sufficiently low complexity, in cases where risks are moderate (religious samizdat was regarded as less dangerous to the soviet regime than political publications) and the central actors are prone to risk. The costs of such structure, however, are high, as central actors of the network are exposed to danger and the whole network is vulnerable.

Second, our research results demonstrate that complex tasks drive the structure of a clandestine network towards decentralisation alongside high density. Extraordinary performance of “The Chronicle of the Catholic Church in Lithuania” was in fact achieved only by decentralizing the network. High density does not necessarily lead to vulnerability of a network. The case of the Chronicle proves that dense network with moderately high degree centrality might perform well under high risks if the actors use conspiracy tactics, and, possibly, if they are embedded in the broader network of less clandestine activities.

Finally, we demonstrate that betweenness centralisation has critical impact on the viability of the clandestine networks. High betweenness centralisation is detrimental to a secret organisation. If betweenness centralisation is high, the network is not able to survive if the central actor(s) are removed. Therefore, if actors in a secret network are prone to risk, the optimal structure of the network would be high density, low degree centralisation, high closeness centralisation and as low as possible betweenness centralisation.

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