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LEARNED SOCIETIES IN FINLAND 2018

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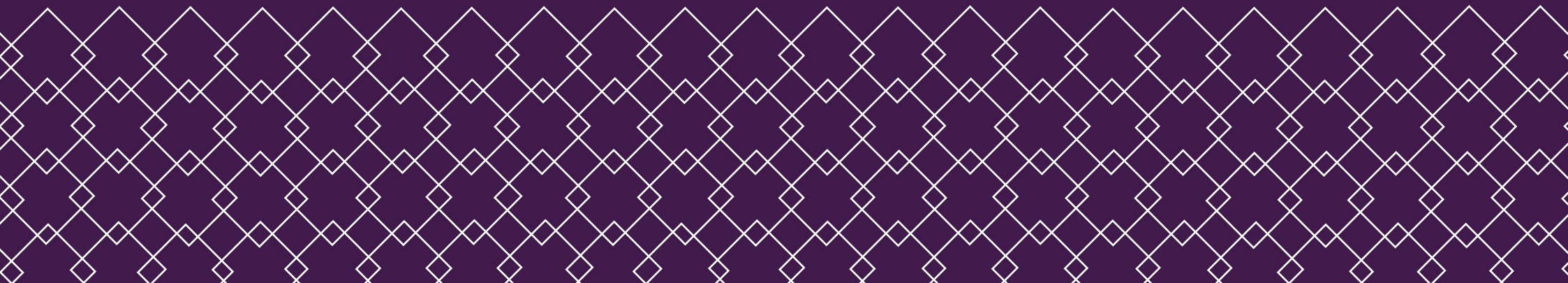

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CONTENTS

ABSTRACT

Learned societies are important actors in the scientific community along with other organisations, such as universities and research institutes. However, only fragmented research exists on their current forms of operation. The operating environment of learned societies is in change with the objective to move towards open scientific publishing. The aim of this study was to collect information on learned societies operating in Finland, and their organisation and activities. The research was conducted in cooperation of the Federation of Finnish Learned Societies (TSV) and Tampere University.

In 2018, TSV had a membership of 278 societies and four academies. The exact number of learned societies in Finland is unknown, as not all learned societies are members of the Federation. This study examined the role of learned societies as academic publishers in Finland. Two Finnish publication databases were used in the analysis (the Publication Forum's publication register and the VIRTA publication information service). TSV's member societies published 54% of Finnish publication channels and 56% of the Finnish peer-reviewed publications produced by Finnish universities in 2011–2017. The corresponding share of other learned societies was 16%.

The activities of TSV's member societies were studied more broadly with a survey questionnaire and interviews. TSV's member societies (282) were sent an online survey, which gained 115 responses (a response rate of 41%). In addition, seven respondents that represented different learned societies were interviewed. The majority of the questionnaire respondents stated that the main objective of the society they represented was to promote a specific academic discipline and field of research. The most common sources of income for the societies were membership fees and publishing subsidy from TSV. Volunteer work plays a major role in the activities of learned societies, as an average of 70% of work was done without remuneration. The most common benefits for the members of the learned societies were the opportunity to participate in the society's events, a newsletter and a discount/exemption from participation fees for events or journal subscription fees. More than 60% of the respondents were concerned about a decline in their society's membership.

Typical activities of the societies were the organisation of seminars and other academic events, societal influencing and publishing. Approximately 70% of the societies' publications were in Finnish. About a quarter of the societies stated that they supported research in some way (e.g. by funding research). 90% of the respondent societies maintained contact with other Finnish societies and 74% with foreign or international societies. Other typical cooperation partners included universities, other higher education institutions and research institutes.

More than 40% of the societies plan to launch new activities in the future. Many activities, like publishing and organising seminars, will remain core functions. The societies see that, in the future, it is important to invest more in support for young researchers, digital communication, interdisciplinarity, cooperation and international activities. Based on this study, it can be concluded that learned societies play an important role in the Finnish scientific community both as publishers and actors in society. Therefore, it is important to resolve the issues of open publishing to avoid jeopardising the financial capability of learned societies.

1. INTRODUCTION

If no learned societies existed in Finland, we would have very little national scientific publishing and conference and seminar activities, for example. Indeed, the role of learned societies as national promoters of science is indisputable. In spite of this, little research has been done on the activities of learned societies. This report aims to fill this gap in research and bring forward the importance of learned societies in Finland.

Learned societies unite scholars and science enthusiasts interested in the same subjects across organisational and geographical boundaries. Supporting scientific research and disseminating research results to the scientific community and the general public are considered to be the key activities of learned societies. (Heikkilä, 2002; Hopkins, 2011.) For example, learned societies publish scientific journals, organise conferences and take part in societal influencing (Hewitt, Dingwall, & Turkmendag, 2017). In Finland, learned societies are key academic publishers, for they publish the majority of national scientific journals (Koikkalainen, 2018).

Digitalisation and the shift to open access publishing pose challenges to the operation of learned societies. The activities of many societies are funded by membership fees and the sale of publications. Although the publications of learned societies are supported by state subsidies in Finland, the situation is problematic for many societies. If journals can be read for free in the future, learned societies have to rethink the financing of their activities and what else they have to offer to their members (see Bennett, 2013). Therefore, the financing of open access publishing has to be solved so that the societies can continue publishing in Finland also in the future (see, for example, Koikkalainen, 2018).

The changes described above have raised discussion in learned societies about their identity and purpose. The Federation of Finnish Learned Societies (TSV) supports learned societies as they move into digital and open access publishing, and strives to strengthen the societies' identity in the changing operating environment. (Tieteellisten seurain valtuuskunta, 2018c; Tieteellisten seurain valtuuskunnan strategia 2019–2023.) TSV is the cooperative body of learned societies in Finland.

In 2018–2019, TSV and Tampere University carried out a study aimed at collecting information on learned societies operating in Finland, and their organisation and activities. This report is a compilation of the results of the study. The main research questions of the study were the following:

- How do learned societies organise their activities?
- What are the main functions of learned societies?
- What is the role of learned societies in the field of scientific publishing?
- How do learned societies implement open science? What kinds of plans and views do societies have regarding open science?
- How do learned societies implement societal influencing and science communication?
- What future opportunities and threats can be seen in the activities of learned societies?
- What role does the Federation of Finnish Learned Societies play in the activities of learned societies? Why are the societies members of the Federation?

The report begins with an overview of the literature on learned societies (chapter 2). Next, Chapter 3 discusses learned societies in Finland. Section 3.4 examines the role of learned societies in national scientific publishing in Finland utilising two Finnish databases: the Publication Forum (in Finnish often referred to as JUFO) and the VIRTA publication information service.

TSV's 282 member societies were sent a survey, which was supplemented by interviews. With the questionnaire and interview survey, the societies' structural background and activities were studied in a scientific and societal context. These findings are presented in Chapter 4. Finally, the results of the study are discussed and conclusions presented in Chapter 5.

The project was carried out by University Lecturer Elina Late and Research Assistant Laura Korkeamäki from Tampere University, and Executive Director Lea Ryynänen-Karjalainen, Head of Planning Janne Pölönen and Head of Publications Sami Syrjämäki from TSV. Laura Korkeamäki and Elina Late were responsible for producing and analysing the research material as well as writing the first draft of manuscript. All team members have participated in brainstorming and planning the research, interpreting the results and finalising the manuscript.

2. LITERATURE REVIEW

What is a learned society?

The history of learned societies begins with the interest in learning and sharing knowledge that arouse during the Renaissance. Academies, whose activities

focused on culture, for example, and whose activities were funded by private donations, were established in the 15th century. One of the first academies that focused on science was Accademia dei Lincei in Rome (1603). The focus of science, however, moved from the Italian Peninsula to other parts of Europe. For example, the Royal Society of London was founded in 1660, and the Parisian Académie des sciences in 1666. During the Enlightenment, scientific academies and societies were established all over Europe. (Lilja, 2012, 52–53; McClellan, 1985, 42–48; 2003, 371-373.)

Today, it is thought that the central role of learned societies is the promotion of scientific research and the exchange and dissemination of information (e.g. Hopkins, 2011). The members of learned societies are, for example, researchers, other academics and science enthusiasts. Learned societies are responsible for a number of functions that are important to the scientific community and which cannot be handled by formal organisations alone. For example, according to Hopkins (2011, 260–261), learned societies offer a common meeting point for researchers working in different organisations and geographical areas. Similarly, learned societies have been described as research networks (McCarthy & Rands, 2013, 270) and as informal forums of the scientific community, whose activities are not tied to politics or the policies of universities and research institutes (Korppi-Tommola, 2006, 79). Learned societies are non-profit organisations (Brown, 2016, 297; Hopkins, 2011, 259).

Types of learned societies

There are different types of learned societies, which is why they are difficult to define simply. Figure 1 shows different features of learned societies. General society refers to a learned society that has activities in all academic fields, whereas a central society has activities in several disciplines (Tieteellisten seurojen asemaa selvittävän työryhmän mietintö, 1977, 1). Learned societies can also be specialised in one discipline (Tieteellisten seurojen asemaa selvittävän työryhmän mietintö, 1977, 1) or one area of study (Brown, 2016, 297). Geographically, societies can be local, regional or national (Heikkilä, 2002). Societies can also be international, and they may have national divisions in different countries (Brown, 2016, 297-298).

Figure 1. Features of learned societies

A learned society can be, for example...		
a general society, central society or specialised society (Tieteellisten seurojen asemaa selvittävän työryhmän mietintö, 1977, 1)	international, national, regional or local (Brown, 2016, 297-298; Heikkilä, 2002)	large or small in terms of membership and budget (Hewitt et al., 2017)

In terms of wealth, there may be great differences between different learned societies. In the UK, for example, the income of the largest societies in the social sciences was millions of pounds, whereas the smaller societies had an income of a few thousand pounds. The wealthiest societies had the opportunity to hire professional workers, while the smaller societies resorted to volunteer work. Learned societies are also very different in terms of the size of their membership. (Hewitt et al., 2017.) The members of the societies may be individuals or organisations.

In English-language literature, a *learned society* (Hopkins, 2011) can also be referred to as a *learned association* (Bennett, 2013), *scholarly association* (Willinsky, 2005) or *scientific association* (Delicado et al., 2014). Occasionally, the term *professional society* is also found (TBI Communications, 2014). Indeed, some research on learned societies takes into account both learned societies and professional associations (Delicado et al., 2014; TBI Communications, 2014). It has been suggested that the difference between a professional association and a learned

society is that the former drives the interests of a profession and its members. However, professional associations can also have activities aimed at promoting a discipline and disseminating research. In this case, they can also be considered as learned societies. (See literature review Hopkins, 2011, 261–262.) According to Hopkins (2011, 259), one of the defining features of learned societies is that they do not exist only for their members but serve the scientific community more broadly.

Delicado et al. (2014) divided Portuguese learned societies into three groups according to the focus of their activities (Figure 2). The first group was learned societies whose activities focused on advancing a specific scientific discipline (scientific societies). The members of these societies were mainly researchers and other professionals in science and technology. (Delicado et al., 2014, 445–446.)

The second group consisted of societies that sought to represent and promote the professional interest of their members (professional associations of scientists) (Figure 2). These societies focused on a specific discipline or professional group, for example, and trade unions were included in the category (academic trade unions). Most of the members were not researchers, but other professionals in science and technology. (Delicado et al., 2014, 445–446.)

The third group consisted of societies that focused on the dissemination of scientific knowledge and whose main objective was to increase public understanding of science (science dissemination associations) (Figure 2). These included, for example, astronomical societies and environmental organisations. These types of societies had a substantial amount of science enthusiasts as their members. (Delicado et al., 2014, 445-446.) According to Delicado et al. (2014, 445), it was not always possible to draw a clear line between the different categories, as one society could have activities related to the advancing of a discipline and the promotion of its members' professional interests, for instance.

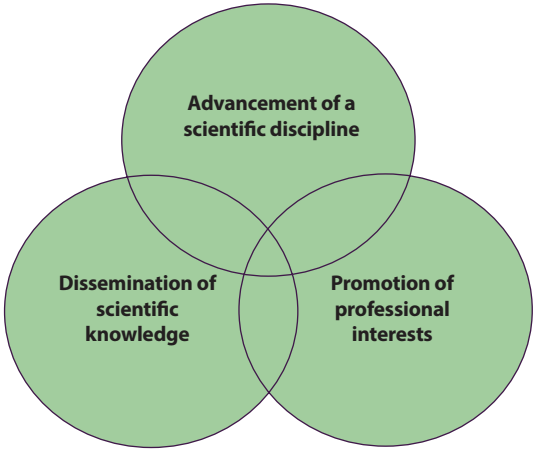

Figure 2. Different emphases in the activities of Portuguese learned societies (adapted from Delicado et al., 2014)

Studies of learned societies

Research on learned societies is scattered. Several studies conducted in the 2000s and 2010s have focused on a restricted group, for example learned societies in the humanities and social sciences (e.g. ACLS, 2017; Bennett, 2013; Benyon, 2009; Benyon & David, 2008; Hewitt et al., 2017; Waltham, 2010). Also, case studies have been conducted on individual societies, such as the Regional Studies Association (Hopkins, 2011) and the Royal Society of New Zealand (McCarthy & Rands, 2013).

Publishers and umbrella organisations have addressed various surveys to learned societies (ACLS, 2017; Frass, 2015; Musante & Potter, 2012; TBI Communications, 2014; Wiley membership survey, 2015).

Learned societies have also been studied from the point of view of equality. Potvin, Burdfield-Steel, Potvin and Heap (2018) studied the realisation of gender equality on the boards of zoological societies around the world. Two Finnish societies were included in the research data – the Finnish Mammalogical Society and the Herpetological Society of Finland.

There is little research into the activities of learned societies in a particular country. In 2010–2012, a nationwide survey was conducted in Portugal to examine the roles of learned societies (Delicado et al., 2014). In the UK, learned societies have been studied from an economic point of view, with a particular focus on the publishing activities of learned societies. The discussion intensified with the report of the Finch Working Group, which assessed the conditions for the UK's scientific community (incl. learned societies) to move to open publishing (Finch, 2012). The discussion continued in Johnson and Fosci's (2015) research and in the series of reports commissioned by the Universities UK Open Access Coordination Group

(*Monitoring the transition to open access,* 2015; *Monitoring the transition to open access,* 2017). Examples of older research are Singleton's (1981) study of UK's learned societies and their publishing activities, and Schimank's (1988, as cited in Delicado et al., 2014) survey for German learned societies.

Publishing activities of learned societies

Publication of scientific journals has traditionally been an important part of the activities of learned societies. Before scientific journals became a common channel of scholarly communication, research results were shared by personal correspondence. The history of scientific journals is thought to begin in 1665 with the foundation of two journals: *Philosophical Transactions* of the Royal Society in London and the French *Journal des Scavans*. In the 18th century, the race to publish research results led to a situation where more and more research results were published as scientific articles instead of monographs. As a result, the number of scientific journal increased. The advancement of science and the specialisation of academic disciplines at the turn of the 18th and 19th centuries led to the creation of new learned societies and specialised scientific journals. The publishing of scientific journals continued to change in the 20th century. Journals became more and more specialised within disciplines. In addition, the role of commercial publishers as publishers of scientific journals strengthened after the Second World War. (Meadows, 1974, 66–87.)

In the digital age, the role of commercial actors has further strengthened (Larivière, Haustein, & Mongeon, 2015). Larivière et al. (2015, 9–10) discuss how the transition to the digital age has been reflected in the publishing activities of learned societies. In their view, learned societies in the humanities and social sciences in particular needed commercial partners in the transition to digital publishing because they are often small and highly specialised. By contrast, learned societies in the natural sciences and medicine have better resources to publish journals themselves already because they are relatively large. In addition, research subjects in these fields are often internationally more attractive, thus reaching a larger audience. (Larivière et al., 2015, 9–10.)

Despite the strengthening of commercial publishers, learned societies continue to play an important role as publishers of scientific articles. An analysis by Elsevier of the Thomson-Reuters Journal Citation database revealed that 64% of the articles were published by commercial publishers (incl. publishing on behalf of learned societies), 30% by learned societies, 4% by university publishers and 2% by other publishers. (Ware & Mabe, 2012, 33.)

Members of learned societies value the journals that the societies publish. Wiley's questionnaire survey examined the views of learned society members and non-members on learned societies (Wiley membership survey, 2015). The questionnaire was answered by 13 929 respondents. According to the respondents, the most attractive activity offered by learned societies was a peer-reviewed scientific journal (27%). The next most attractive activity was the opportunities offered by learned societies for training, such as conferences and seminars (26%). (Wiley membership survey, 2015, 3–4.)

Publishing is an important source of income for learned societies. For example, in the UK, 279 societies form nearly 600 learned societies publish conference and journal publications. With regard to these societies, the revenue from publishing was estimated to be around 318 million pounds, which is 26% of the total revenue of the societies. It is noteworthy that the majority (63%) of the 279 learned societies mentioned above published only one peer-reviewed journal. This is particularly common with learned societies in the humanities and social sciences. (*Monitoring the transition to open access*, 2015, 65–66.) Similarly, more than 60% of the member societies in the humanities and social sciences in the American Council of Learned Societies published only one scientific journal (ACLS, 2017).

Plan S initiative promotes open access publishing of scientific research (cOAlition S, 2019). For example, several European research funders have committed to a timetable where publications funded by them will be open access from 2021. For some time, learned societies have been worried about the financial sustainability of their activities as the scientific community is moving to open access publishing. In the UK, the financial issues of learned societies were raised for discussion particularly with the report of the Finch Working Group. The report suggested that the UK's scientific community should move to open access publishing. At the same time, it was noted that the transition is problematic for learned societies, as their economy is dependent on publishing. In addition, learned societies were

not considered to have the same resources to create new business models as large commercial publishers. (Finch, 2012.)

TBI Communications (2014) conducted a survey of the attitude of learned societies towards open publishing. 33 learned societies from different parts of the world responded to the survey. Learned societies were concerned about the loss of publishing revenue, financing of open access fees, competition with large open access publishers and deterioration in the quality and variety of publications. Furthermore, learned societies were worried about the bad image that could catch from predatory open access publishers. On the other hand, as positive sides of open access publishing, the respondents listed, for example, improved access to information, expansion of readership and opportunity to compete with well-known publications. (TBI Communications, 2014, 11–14.)

On an international scale, journals of learned societies are often published by large commercial publishers (ACLS, 2017; *Monitoring the transition to open access,* 2015, 67). The report on open publishing in the UK suggested that this might protect learned societies from the immediate economic impacts of the transition to open access publishing. Some societies may have relied on external publishers to avoid solving the issues of open publishing alone. (*Monitoring the transition to open access,* 2017, 50.) In Finland, the situation is different, as most Finnish scientific publications are published by learned societies. For Finland to be able to move to open publishing completely, it is first necessary to determine how the publication of national scientific journals is funded. (Koikkalainen, 2018.) In the UK, open publishing has made learned societies consider diversifying their sources of income and expanding their membership base (*Monitoring the transition to open access*, 2017, 50).

In their report, Ilva and Lilja (2014) discuss the publishing activities of Finnish learned societies and their financial opportunities to move to open access publishing. The report suggested that the transition to open access does not necessarily lead to a decline in the memberships of learned societies. For example, of the 15 Finnish societies that had moved to open publishing, the memberships of six societies had risen. (Ilva & Lilja, 2014, 39.)

In the UK, Hewitt et al. (2017) conducted a study of the activities of learned societies in the social sciences. In the study, the activities of the societies were divided into three groups: provision of public benefit, promotion of the discipline and services to members. (Table 2.) The latter was not dealt with separately because activities related to the topic were difficult to distinguish from other activities.

Other activities of learned societies

Delicado et al. (2014) conducted a nationwide study of learned societies in Portugal. In the study, learned societies were perceived to have internal and external roles (Table 1). The internal roles were related to, for example, research activities, supporting young researchers and organising conferences. By the external roles, the study referred to communication between science and society, such as representation of professional interests or societal influencing.

Table 1. Portuguese study of the roles of learned societies (Delicado et al., 2014)

Internal roles	External roles
Production of science (e.g. research projects) **Advancing a scientific discipline** (e.g. training, conferences, publishing) **Allocation of scientific capital** (e.g. awards and prizes, grants, publishing of researchers' articles) **Community-building** (e.g. organising conferences) **Internationalisation of national science** (e.g. supporting conference attendance, inviting visiting lecturers)	**Representation of professional interests** (e.g. protection of workers' rights, advising members) **Lobby and policy advice** (e.g. statements) **Amassing social support for science** (e.g. public lectures, web pages)

Table 2. Study conducted in the UK of the activities of learned societies in the social sciences (Hewitt et al., 2017)

Provision of public benefit	Promotion of the discipline	Services to members
Influencing policy and practice International outreach Accreditation and continuing professional development Schools outreach and education Media engagement Public engagement	Conferences Publications Networks, events, knowledge exchange Higher education policy and practice Early career support Project and research funding Prizes and awards	(not dealt with separately in the study)

Research activity

Research is often not considered to be a key function of learned societies. For example, in Portugal, learned societies felt that conducting research was primarily the task of universities and research institutes (Delicado et al., 2014, 448–449). However, some Portuguese learned societies had research activities. For example, an ornithological society involved citizens in collecting bird observations. The society received funding for its research from the EU's LIFE programme. The society felt that other bird research (e.g. the study of bird behaviour) belonged to universities. (Delicado et al., 2014, 448–449.)

Political and societal influencing

Learned societies are involved in political and societal influencing. For example, Royal Society, the umbrella organization of learned societies in New Zealand, organises discussion panels and makes presentations to Members of Parliament on current affairs (McCarthy & Rands, 2013). In Portugal, the lack of cooperation between learned societies reduces their opportunities to influence. However, individual learned societies strive to be active in societal influencing. Partially, the influencing was done through informal routes, for example through personal contacts (Delicado et al., 2014). Learned societies took part in political influencing also in the UK, for example by issuing statements and by submitting responses to governmental consultations. Especially larger learned societies felt that influencing policy was an important part of their activities. (Hewitt et al., 2017.)

Promoting good scientific conduct

Learned societies play an important role in enforcing research ethics and promoting good scientific conduct. The scientific community must be open to new research trends and impartial in approving funding or evaluating publications. In this way, learned societies take research forward. (Korppi-Tommola, 2006, 88.) Some learned societies have a general code of ethics and guidelines regarding publishing and research data (Iverson, Frankel & Siang, 2003).

International cooperation

Learned societies are also active in international cooperation. The Royal Society of New Zealand grants support for international conference trips and manages member seats in international scientific communities, and thus ensures that the science of New Zealand gains international visibility (McCarthy & Rands, 2013). In Portugal, 84% of learned societies had some type of connections with international or foreign scientific organisations. The forms of cooperation included inviting foreign lecturers to own conferences and organising joint events with the learned societies of neighbouring countries. In addition, learned societies supported the participation of their members in international conferences. Through extensive international cooperation, it was possible to affect issues touching the whole discipline. (Delicado et al., 2014, 455–456.) In the UK, some of the societies provided information of the UK's research, culture and values abroad. The aim was, for example, to promote a positive country image and to attract talented students and researchers to the country. (Hewitt et al., 2017)

Conferences and other events

Organising conferences and events are typical activities for many learned societies. According to Delicado et al. (2014), the organisation of conferences was considered to have many purposes. Conferences created a sense of community and an opportunity to meet colleagues face-to-face. In addition, they offered a possibility to exchange tacit and unofficial information. Conferences brought experts from different positions inside a discipline to the same place and supported interinstitutional cooperation. Conferences were also seen to support member acquisition. (Delicado et al., 2014.) In the UK, some conferences organised by learned societies were the discipline's leading events in Europe and worldwide. Local activities were also important. Many societies organised local events and thus supported networking. In addition to this, the societies supported the operation of special interest groups (SIG) that advance a specific area of knowledge. (Hewitt et al., 2017.)

Supporting research and researchers

Learned societies support the professional development of researchers. In Portugal, for example, learned societies supported new graduates. The societies organised training and created different networks through which they informed about work and internship opportunities. The purpose of conferences was also to enable young researchers to present their work. (Delicado et al., 2014.) The UK's learned societies also supported young researchers in their early career. Their career development was supported by offering networking opportunities electronically or at conferences. Some learned societies provided material for professional development on their web pages. In the UK, the activities of some societies also included giving recognition of a specific area of expertise in the form of accreditation. (Hewitt et al., 2017.)

Learned societies provide various incentives, such as prizes and grants. In Portugal, learned societies funded new research projects, rewarded for completed studies and other achievements, and granted support to conference trips and internships. The societies also organised awards galas, which were considered to increase the visibility of the learned societies. In the UK, the use of incentives was also common. For example, the UK's learned societies awarded the posters and research papers of young researchers. Additionally, young researchers were supported by travel grants, scholarships and conference fee discounts. (Hewitt et al., 2017.)

Cooperation with schools

Occasionally, learned societies cooperated with schools. The Portuguese societies functioned as links between academia and schools. For example, the representatives of learned societies gave presentations at schools on research topics, academic fields and study opportunities. The societies also organised different demonstrations from time to time. The Neurosciences Society, for instance, organised Brain Awareness Week, during which researchers gave lectures at schools. In addition, pupils were invited to visit the researchers' workplaces and scientific events. Some societies also organised science competitions for pupils. (Delicado et al., 2014, 451.) In the UK, some learned societies produced material packages that the members of the societies could use when giving speeches at schools or public events. School cooperation was considered important in order to provide pupils with information on educational opportunities in the society's field of science. (Hewitt et al., 2017.)

Science communication

Science communication is an important part of the activities of learned societies. Learned societies communicate on topical studies to the general public through different media. Learned societies could act as neutral communicators of research projects that involved researchers from different organisations. As part their communication, learned societies also responded to media enquiries. (Hewitt et al., 2017.)

Literature on learned societies also discusses public engagement. This means communication that is interactive. (Saikkonen & Väliverronen, 2013, 416). In 2007–2008, a UK-based study investigated the role of learned societies in the social sciences in communicating information and public engagement. The study found that the societies were very different in terms of their knowledge, know-how and experience of public engagement. It was considered that the societies needed more support for this activity. (Benyon, 2009; Benyon & David, 2008.) Braha (2017) suggested that learned societies write about academic research comprehensibly considering the public, train students and researchers to communicate with the general public, and allow researchers, media and the general public to meet. In addition, learned societies could reward researchers for public participation, allowing researchers to gain recognition in other ways than publishing scientific articles. Learned societies could also produce ready-made material that the researchers could use in science communication events. (Braha, 2017.)

3. LEARNED SOCIETIES IN FINLAND

This chapter discusses the history of learned societies in Finland (section 3.1). In addition, it provides information on the Federation of Finnish Learned Societies (section 3.2) and its member societies (section 3.3). Section 3.4 discusses the role of learned societies as publishers.

Historical background

Information about Finnish learned societies can be found, for example, in Heikkilä's (2002) literature review. In her doctoral dissertation, Lilja (2012) studied the international exchange of publications of Finnish learned societies before the Second World War. The history of the Federation of Finnish Learned Societies and the Federation's member societies, on the other hand, are dealt with in *Suomen tieteelliset seurat 1999* (Finnish learned Societies 1999).

In Finland, the oldest learned societies that are still in operation are Societas pro Fauna et Flora Fennica (1821), the Finnish Literature Society (1831) and Finska Läkaresällskapet (1835), a medical society for Swedish-speaking doctors. In the beginning, the activities of learned societies were limited to having meetings, collecting research collections and communicating about the production of science. University scholars also became interested in establishing a learned society, and so was the Finnish Society of Sciences and Letters founded in 1838. The publishing activity of Finnish learned societies began in the 1840s. Learned societies became more common in Finland in the late 1800s and early 1900s. The increase in number was largely due to the development of science and higher education as well as the specialisation of disciplines. Societies that operated within universities became independent. In addition, the political struggle about official languages led to the foundation of duplicate societies for Finnish- and Swedish-speaking societies. (Tieteellisten seurojen asemaa selvittävän työryhmän mietintö, 1977, 2–7.)

Learned societies in Finland have played an important role in creating a Finnish national identity. For example, the Finnish Literature Society (SKS) focused on developing the status of the Finnish Language for its first decade of operation. (Heikkilä, 2002, 573.) Even today, preserving the Finnish cultural heritage is a central function of SKS (SKS, 2019).

The activities of learned societies were surveyed in 1977 when the Ministry of Education set up a working group to study the issue. The results of the study were published in a report called *Tieteellisten seurojen asema ja tehtävät* (The Role and Functions of Learned Societies) (Tieteellisten seurojen asemaa selvittävän työryhmän mietintö, 1977). Table 3 summarises the functions of Finnish societies that were found in the study.

Table 3. Functions of Finnish learned societies according to study conducted in 1977 (Tieteellisten seurojen asemaa selvittävän työryhmän mietintö, 1977, 21–45)

Scientific publishing In the report of the working group that studied the role and functions of learned societies (1977), learned societies were considered as important scientific publishers in Finland. Learned societies published printed series, periodicals (domestic and foreign) and doctoral dissertations. Due to the decrease in the budget allocated to publishing, some learned societies decided to combine their publication series.
International cooperation Many learned societies were members of international central scientific organisations (multilateral cooperation). The societies also cooperated bilaterally, which usually meant the exchange of publications. International cooperation was supported by the government.
Research activities Some learned societies maintained research institutes, such as a geophysical observatory (the Finnish Academy of Science and Letters), a folklore archive and a literature archive (the Finnish Literature Society). Some learned societies also participated in international research programs. In addition, some societies organised research trips, carried out research projects and collected research material.
Other activities Learned societies maintained museums and libraries, organised field trips and awarded grants. The societies also had activities concerning science and educational policy. Additionally, the societies organised postgraduate and supplementary education, and they collected information on folklore and languages related to Finnish, for example.

duty of TSV is to support the cooperation and activities of its member societies, develop scientific publishing and information exchange, organise the international exchange of scientific literature and increase the awareness and use of research findings in society. In addition, TSV hosts three expert bodies: Finnish National Board on Research Integrity, the Committee for Public Information and the Publication Forum.

Member services
TSV uses state subsidies received from the Ministry of Education and Culture to support the activities of its member societies. TSV has several services for the member societies (Tieteellisten seurain valtuuskunta, 2017):

- **Journal.fi:** Open-source publishing platform for the editing process of scholarly journals and their open access publishing
- **Peer-review label:** An identifier for peer-reviewed journals, which learned societies and publishers can apply for
- **Publication Forum:** A rating and classification system for research output
- **Bookstore Tiedekirja:** Bookstore and webstore for scholarly publications
- **Publication repository:** Storage of publications, Bookstore Tiedekirja's webshop delivery, deliveries of the Exchange Centre for Scientific Literature, deliveries of other publications of learned societies
- **The Exchange Centre for Scientific Literature:** Manages the international exchange of publications and thus supports the visibility and sales of the publications of learned societies.
- **Production services for publishing:** Member societies are helped with all issues related to the production of publications. TSV manages the tendering of printing and layout design services and provides training in the use of publishing programs.
- **Allocation of state subsidies for publishing, international activities and conferences**
- **Online services:** Website hosting, design and implementation service, getting started guidance
- **House of Sciences and Letters:** Venue for events such as meetings, seminars and training
- **Journal Tieteessä tapahtuu (Science Now):** A general science journal, a forum for topical and popular science articles
- **The Science Forum:** A science festival that covers all disciplines and is open to all visitors. Organised every two years.
- **Events and training:** TSV organises events and training courses, many of which deal with for example academic publishing and science communication.
- **Medal for years of service:** Medals for years of service given to employees in the scientific community by employers. The golden medal is awarded for 30 years of service and silver medal for 20 years of service. The medal was founded by TSV and Universities Finland (UNIFI).

Criteria for membership
In 2018, TSV had a membership of 278 learned societies and four academies (Tieteellisten seurain valtuuskunta, 2018a). A learned society has to meet certain criteria before it can be accepted as a member of TSV. For justified reasons, a society can be accepted as a member even if it does not meet all the criteria. Firstly, the learned society must have been in operation for at least five years. Secondly, there has to be a sufficient number of researchers in the management and as members of the society. Thirdly, the society must have other scientific activities. Fourthly, the society must have non-scientific activities such as training or cooperation with other actors in the scientific community. Fifthly, the society's discipline must not be represented in the Federation, or the society's activities must be sufficiently different from the activities of the other members within the same discipline. Sixthly, the society's members have to be individuals (for justified reasons, institutional members are accepted). Finally, the society should have nationwide reach, but for a justified reason, a regional society can be accepted. (Tieteellisten seurain valtuuskunta, 2018b.)

Member societies of TSV

The development of membership 1899–2018
In 1899, nine learned societies founded TSV: the Finnish Society of Sciences and Letters, Finska Läkaresällskapet, Societas pro Fauna et Flora Fennica, the Finnish Literature Society, the Finno-Ugrian Society, the Finnish Historical Society, the Geographical Society of Finland, the Finnish Antiquarian Society, the Society of Swedish Literature in Finland (*Suomen tieteelliset seurat* 1999).

In the following years, only a few societies were accepted as members of TSV. These were the Finnish Academy of Science and Letters (1908), the Finnish Medical Society Duodecim (1929), the Biological Society of Finland, Vanamo (1932), the Finnish Dental Society (1959) and the Finnish Chemical Society (1963) (*Suomen tieteelliset seurat* 1999).

In the 1970s, learned societies outside TSV founded their own joint organisation,

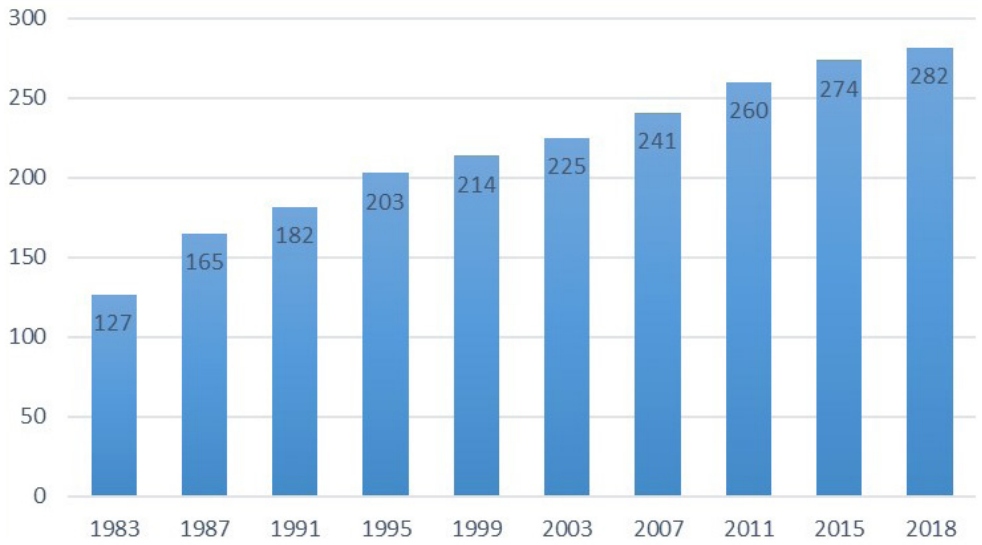

Figure 3. The number of TSV's member societies in 1983–2018 (Sources: information for the years 1983–1999 from the book Suomen tieteelliset seurat 1999 [Learned societies in Finland 1999], information for the years 2003–2018 from TSV's reports of activities)

Tieteellisten seurojen neuvosto (Council of Learned Societies). TSV and the Council of Learned Societies were united in 1982, and the new umbrella organisation was named TSV. In practice, the member societies of the Council of Learned Societies became members of TSV, so the membership of TSV increased considerably at this point. (Suomen tieteelliset seurat 1999.)

Figure 3 shows the number of TSV's member societies in 1983–2018, i.e. after the merger of TSV and the Council of Learned Societies. In 1983, TSV had a membership of 127 societies (*Suomen tieteelliset seurat* 1999), whereas in 2018 there were 282 member societies, which is more than twice as many as in 1983.

On the names of member societies

In 2018, TSV had a membership of 278 societies and four academies (Tieteellisten seurain valtuuskunta, 2018a). Most of the members were called societies or associations (Table 4). Examples include the Society for Cultural Studies in Finland and the European Law Association in Finland. The members also include foundations and institutes. Some member societies operate as divisions of international organisations in Finland (e.g. ICOMOS Finland), while some learned societies have been named in other ways (e.g. BirdLife Finland, Prologos, Skepsis).

TSV's members also included four academies of sciences. Two of these, the Finnish Society of Sciences and Letters and the Finnish Academy of Science and Letters, are general societies, whose activities concern all disciplines. The other two academies, the Swedish Academy of Engineering Sciences in Finland and the Finnish Academy of Technology, focus on technical sciences, as their names suggest. (See also Heikkilä, 2002, 564–567.)

Table 4. Member societies of 2018 grouped according to their Finnish name

Member society	278
seura (society)	152
yhdistys (association)	75
säätiö/instituutti (foundation or institute)	10
liitto (union)	9
Suomen osasto (Finnish division)	5
tutkijat (researchers)	3
other name*	24
Academy of sciences	4

* The society has some other name (e.g. Skepsis), or the society does not have a Finnish name (societas, samfundet, sällskapet, föreningen, society).

Age of member societies

Figure 4 shows the member societies of 2018 according to their years of foundation. Half of the societies were founded before the year 1967 and half in 1967 or after. The oldest member society is Societas pro Fauna et Flora Fennica (founded in 1821) and the youngest the Society for Cultural Policy Research in Finland (founded in 2012). (Tieteellisten seurain valtuuskunta, 2018a).

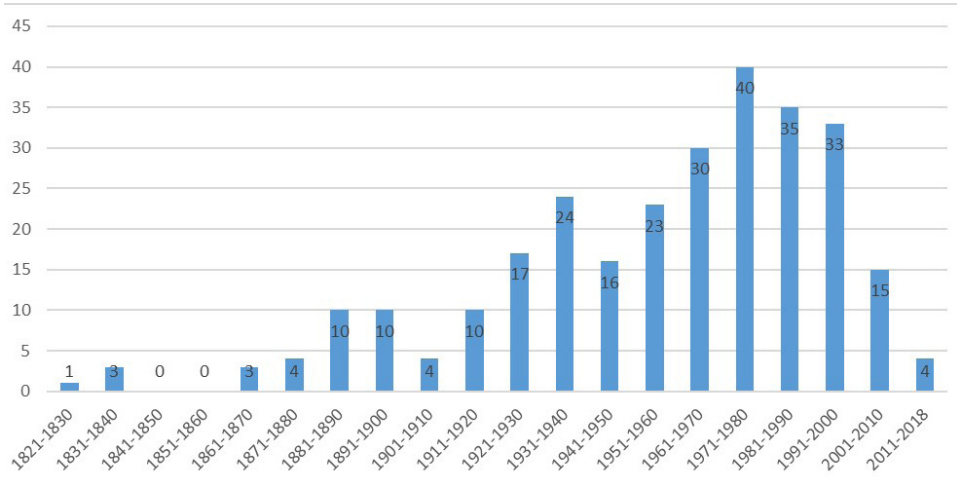

Figure 4. TSV's member societies in 2018 (n=282) according to their years of foundation

Rates of individual memberships in member societies

The numbers of individual members in TSV's member societies are based on the information that the societies provided to TSV. Many of the member societies have small individual memberships. In 2018, the middle values (median) of the societies' individual memberships were 230 and 231. The rates of memberships vary greatly between the societies. In 2018, the smallest society in terms of individual memberships had 20 members and the largest society 65,000 members. Some of the member societies, such as foundations and institutes, do not have members at all. In addition, a society may have institutional members only.

In 2013, the total number of individual members in the learned societies was approximately 277,000. In 2018, the corresponding figure was approximately 261,000. In the light of this information, it would appear that the number of individual members in the learned societies has fallen in five years. However, these figures should be interpreted with caution. Some of the member societies may have reported their membership as an approximate value, and the information may not be up to date for all of the societies. In addition, one society reported that it had 10,000 members at the beginning of the review period. By 2018, this society had given up reporting its individual members because its membership consisted of institutions only. This change alone explains the decrease in the total number of individual members in the learned societies by 10,000.

It is wise to scrutinise the changes in learned society memberships also at the level of individual societies. From 2013 to 2018, the number of individual members in some of the societies has risen and in some fallen. In some of the societies, the number of individual members has remained the same. Vehkalahti (2014) suggested that, on average, older societies have larger memberships than younger ones. Vehkalahti reasoned that older societies have had more time to grow their memberships, and, on the other hand, new societies are specialised in smaller branches of science and are, therefore, smaller.

Role of learned societies as publishers

Learned societies do not generate profits, and their annual budgets are typically modest. This leads to the conclusion that the publishing activity of societies is very cost-efficient. This section discusses the role of learned societies as publishers. The results presented are based on the information retrieved from the Publication Forum's publication channel register and the VIRTA publication information service.

The Publication Forum (JUFO) is a rating and classification system to support the quality assessment of scholarly publications (Publication Forum, 2017). For this study, the following information of Finnish peer-reviewed publications was retrieved from the JUFO database in autumn 2018: the list of names and titles of scholarly journals, book series and book publishers, and the JUFO classification levels for publication quality. In the JUFO classification, basic peer-reviewed channels are categorized as level 1, leading-level channels constitute level 2 and highest-level channels constitute level 3 (Publication Forum, 2017). Publishers were categorised into six classes: TSV member societies, other learned societies, universities/university presses, other research organisations, commercial publishers, and others (e.g. libraries, museums).

Collected data was enriched with publication data collected from the VIRTA publication information service. The VIRTA publication information service collects publication information from universities, research institutes and university hospitals in Finland. The service is provided by the Ministry of Education and Culture.

(VIRTA-julkaisutietopalvelu, 2018). For the purpose of this study, the following information of the Finnish peer-reviewed publications of Finnish universities for the years 2011–2017 were collected from the VIRTA service for each scholarly journal/book series and book publishers: the number of publications in different disciplines and the number of published journal articles, conference articles and book publications. In addition, the number of open access publications was retrieved for the years 2016–2017. Before the year 2016, OA data collection has been unreliable.

Of the 282 member societies of TSV, 143 publish at least one peer-reviewed journal or book series. 32 societies are book publishers. In total, learned societies publish 216 Finnish publication channels. Some of the societies publish more than one channel.

Finnish publication channels

Finnish learned societies play an important role in scientific publishing. TSV's member societies published 53.7% (n=216) of all Finnish publication channels (Table 5). The contribution of other learned societies was 16.2% (n=65). The role of commercial publishers was small with a 5.5% (n=19) share.

Table 5. Finnish publication channels (n=402) by type of publisher (Source: the Publication Forum database)

Publisher	N	%
TSV's member society	216	53.7
Other learned society	65	16.2
University, university press	56	13.9
Other research organisation	24	6.0
Commercial publisher	22	5.5
Other	19	4.7
Total	402	100

The publication channels presented in Table 5 are subdivided into types of publication channels in Table 6. Learned societies as well as universities and other research organisations publish journals and series in particular (Table 6). Commercial publishers publish slightly more books than journals or series.

Table 6. Finnish publication channels (n=402) by type of publisher and publication channel (Source: the Publication Forum database)

Publisher	Type of publication channel	
	Book publisher	Journal/series
TSV's member society	30 (13.9%)	186 (86.1%)
Other learned society	0	65 (100%)
University, university press	6 (10.7%)	50 (89.3%)
Other research organisation	4 (16.7%)	20 (83.3%)
Commercial publisher	13 (59.1%)	9 (40.9%)
Other	2 (10.5%)	17 (89.5%)
Total	55 (13.7%)	347 (86.3%)

JUFO classification levels

Most of the publication channels of TSV's member societies and other learned societies are rated at JUFO level 1 (Table 7). However, TSV's member societies also publish a considerable number of the Finnish publishing channels classified at JUFO levels 2–3 compared to other publishers.

Table 7. Publication channels (n=402) by type of publisher and levels of JUFO classification (Source: the Publication Forum database)

Publisher	JUFO 1	JUFO 2–3
TSV's member society	180 (83.3%)	36 (16.7%)
Other learned society	63 (96.9%)	2 (3.1%)
University, university press	56 (100%)	0
Other research organisation	23 (95.8%)	1 (4.2%)
Commercial publisher	20 (90.9%)	2 (9.1%)
Other	19 (100%)	0
Total	361 (89.8%)	41 (10.2%)

Finnish publications produced by universities 2011–2017

The numbers of scientific journal articles, conference publications and book publications that were published in Finland by researchers working in Finnish universities were collected from the VIRTA database. Most of the Finnish publications produced by universities in 2011–2017 were published by learned societies (Figure 5). TSV's member societies published 56% of the publications and other learned societies 16%. Commercial publishers published 13% of the publications.

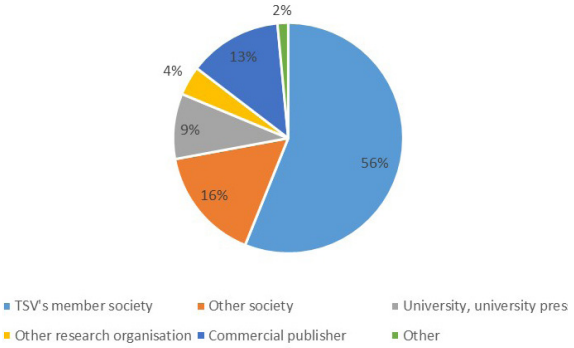

Figure 5. Finnish publications (n=17724) produced by universities in 2011–2017 by type of publisher (Source: VIRTA)

Most of the publications produced by universities and published by TSV's member societies and other learned societies were journal articles (Figure 6). Of the publications that were published by TSV's member societies, 66% were journal articles, 32% book publications and only 1% conference articles. Publications by commercial publishers, on the other hand, were mostly books.

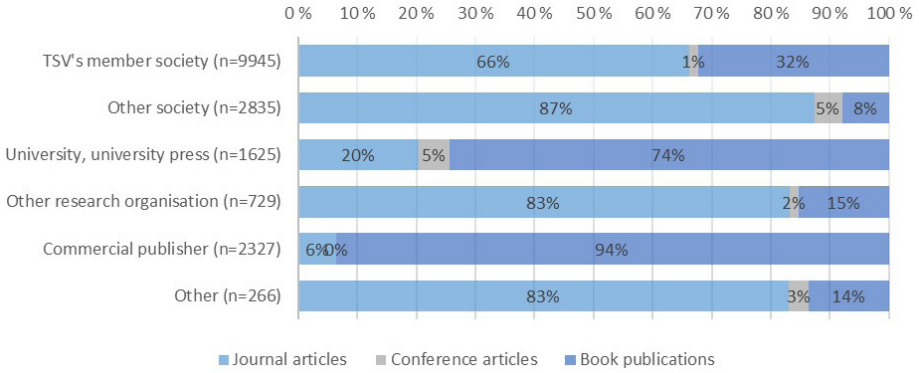

Figure 6. Finnish publications (n=17724) produced by universities in 2011–2017 by type of publisher and publication (Source: VIRTA)

Differences between disciplines

Most of the publications of Finnish universities in Finland concerned the humanities and social sciences (Figure 7). Their combined share of all publications was 75% (n=13309). In the social sciences and humanities, the largest publication channels are the book series Studia Biographica and KKO:n ratkaisut kommentein (Supreme Court decisions with comments). Both publications are addressed to both the scientific community and general/professional audience. Medicine and health sciences accounted for 16% of the publications. In the field of medicine and health sciences, Duodecim and Suomen lääkärilehti (the Finnish medical journal) cover the majority (60%) of publications. Only 6% of the publications were from the field of natural sciences, 1% from the field of technical sciences and 1% from the field of agricultural and forest sciences.

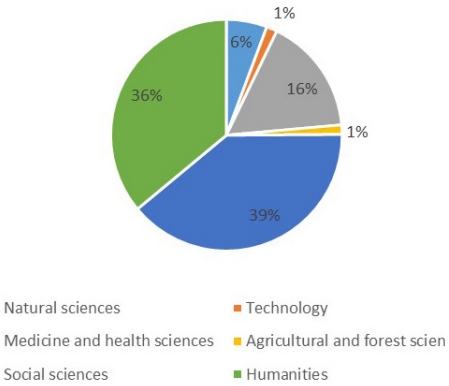

Figure 7. Finnish publications (n=17724) produced by universities in 2011–2017 by discipline (Source: VIRTA)

Most of the publications of TSV's member societies were from the humanities and social sciences (Figure 8). Other learned societies published especially in the fields of medicine and health sciences (e.g. the Finnish medical journal). Commercial publishers mainly (75%) publish social-science publications. Boreal environment research and Annales zoologici Fennici cover most of the publications in the natural sciences by other research organisations.

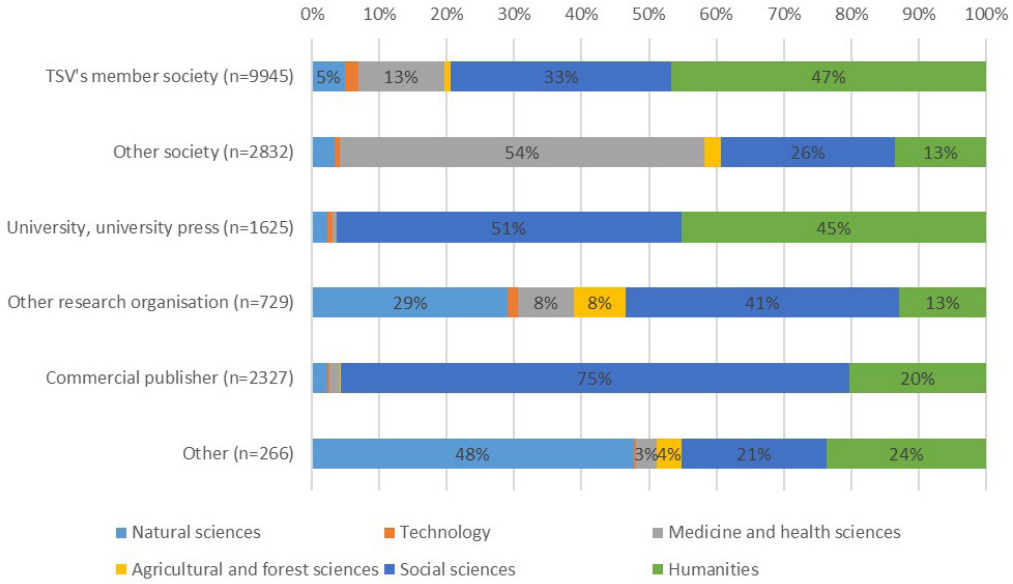

Figure 8. Finnish publications (n=17724) produced by universities in 2011–2017 by discipline and type of publisher (Source: VIRTA)

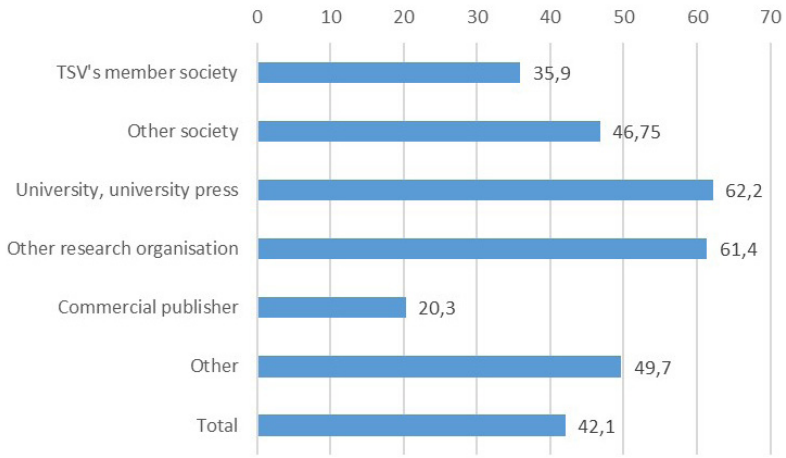

Figure 9. The share of open access publications (%) of all Finnish publications (n=4969) in 2016–2017 by type of publisher (Source: VIRTA)

Share of open access publications in 2016–2017

35.9% of the publications of TSV's member societies were open access (gold, bronze, hybrid, green) in 2016–2017 (Figure 9). The corresponding share of other learned societies was 46.75%. The share of open access publications of learned societies was slightly lower than that of universities, university presses and other research organisations. However, learned societies produced more open access publications than commercial publishers. Of all publications (n=4969), 42.1% were open access.

4. QUESTIONNAIRE AND INTERVIEW SURVEY

Because little information was available on the activities of Finnish learned societies, research material was collected with the help of an online survey and interviews. The collecting of the questionnaire and interview survey data is explained in the next section. After this, the sections with survey results explain the organisation and activities of learned societies.

Data collection

Questionnaire

During the project, research material was collected through a questionnaire from learned societies operating in Finland. The questionnaire (Appendix 1) contained a total of 55 questions that were divided into 12 sections by subject. Although the number of questions was large, the questionnaire was designed to be reasonably quick to complete (10–15 minutes). Most of the questions were multiple-choice questions, although the respondents were free to write comments on their answers at several points. Some of the questions were formed using the questionnaire of Delicado et al. (2011) as a model. The questionnaire was available in both Finnish and Swedish.

The questionnaire was implemented with the e-form software used by Tampere University, and the material was collected on the university's server. The e-questionnaire was piloted in January 2019. The pilot questionnaire was sent to the contact persons of a few learned societies. The pilot survey gained four responses, according to which minor changes were made to the questionnaire. The actual questionnaire was open from February 25 to March 19, 2019. A link to the questionnaire was sent to a mailing list held by TSV, where the contact address of each member society (282) was found. In addition, the link was shared on TSV's Facebook and Twitter accounts and TSV's website. The survey was also promoted at various events.

All in all, 120 persons responded to the survey (117 in Finnish, 3 in Swedish). 115 responses were taken to the final analysis. Five responses were discarded from the analysis because the respondent's society was left unknown in these cases. In the material, each society is represented by one respondent. Thus, the response rate is 41% (N=115). However, the number of respondents varies by question because it was possible for the respondents to skip questions. Two of the respondents represent academies and the rest 113 TSV's member societies. The research material has been analysed using distributions and averages.

Because there is little information available on learned societies, evaluating the representativeness of the material is difficult. The representativeness can only be assessed by comparing the memberships of the societies that responded to the survey to the memberships of all TSV's member societies. The membership of each society was taken from TSV's annual report for the year 2018. In 2018, the average number of members in TSV's member societies was 862, while the average for the respondent societies was 1329. The median membership of all societies was 230 and of the respondent societies 261. Based on this information, it can be concluded that societies with larger memberships are slightly over-represented in this study, which might affect the results. It should also be noted that all learned societies in Finland are not members of TSV. Therefore, it is possible that there are a number of different kinds of societies outside the data collection. Since the exact number of learned societies that operate in Finland is unknown, it is impossible to assess the true representativeness of the material.

Interview

From the survey respondents, seven learned societies were selected to be interviewed. The selection criteria were that (i) the societies have different budgets, (ii) there are societies from different disciplines and (iii) some of the societies have their own publishing activities and some do not. From each society, one person who knew the society's activities well, such as the society's secretary, executive director or chairman, was interviewed. Therefore, seven people were interviewed for this study. The interviewed societies' main fields of study are presented in Table 8.

Table 8. The interviewed societies (n=7) represented one or several fields of study

Disciplinary group	
Natural sciences	(2 societies)
Biological and environmental sciences	(1 society)
Technology	(1 society)
Medicine and health sciences	(1 society)
Social sciences	(2 societies)
Humanities	(3 societies)

Source: Questionnaire and interview

The purpose of the interviews was to supplement and deepen the information gained in the questionnaire survey (see Plano Clark & Ivankova, 2016). For the interviews, a semi-structured interview frame (Appendix 2) was created. The frame contained six parts: (i) background information of the society and interviewee, (ii) activities of the society, (iii) views on TSV membership, (iv) changes in the society's activities, (v) views of the society as an organisation and (vi) the future of learned societies. The researcher prepared for the interviews, for example, by familiarising herself with the material on the societies' websites and going through the questionnaire responses. When necessary, individualised questions were added to the interview frame.

The interviewees were contacted via email, and the interviews were conducted in March–April 2019. The face-to-face interviews were carried out in a place chosen by the interviewee, such as a café, university campus or the society's premises. The interviewees were requested to provide a voluntary written consent for participation in the interview. The researcher recorded the interview and took notes on paper during the interview.

The interviews were mainly transcribed from word to word. Repetitions of words, fillers, unfinished words or short sounds were not transcribed. Also, short sections that were not related to the subject of the study were left out. The interviewee's emotional reactions (e.g. laughter) were also marked in the transcription. This basic-level transcription is justified because the study focused on the content of the interviews (see Processing Qualitative Data Files, 2017). One interview lasted between 37 min and 1 h 21 min. There was a total of 6 h and 28 min of recorded interview material and about 62 pages of transcriptions. The analysis was done by coding the interview material and grouping the codes into larger categories (see Roulston, 2010). The codes were partly driven from the material – for example words used by the interviewee. However, some of the main categories of the analysis (e.g. publishing) followed the sections of the questionnaire (Appendix 1). The ATLAS.ti 8.0 program was used to support the analysis.

Features of learned societies

Fields of study

In the survey, the respondents chose from seven main fields of study which fields their society represents. One alternative was all areas of study. Of all fields, the social sciences and humanities are most strongly represented (Table 9). However, the results show that all fields of study are at least partly represented in learned societies. The agricultural and forest sciences have the lowest representation, as only five respondents said that their society represents these disciplines.

Table 9. Fields of study represented by the societies. The respondents were asked to choose 1–3 most significant fields.

Field of study	n	% (N=115)
Natural sciences	21	18.2
Biological and environmental sciences	16	13.9
Technology	10	8.7
Medicine and health sciences	17	14.8
Agricultural and forest sciences	5	4.3
Social sciences	44	38.3
Humanities	55	47.8
The society represents all fields	6	5.2

Source: Questionnaire

Objectives and functions

The questionnaire respondents were also asked about their societies' main objectives. The majority of the respondents (84.3%) stated that their society's objective is to promote a specific field of science or research (Table 10). About a quarter of the respondents (24.8%) reported that the objective of the society they represent is to promote the development of a particular professional field or profession. Almost a fifth of the respondents (18.3%) reported that their society promotes all science. Only 10 respondents (9.2%) reported that their society promotes the activities of a particular amateur group. In addition, the objectives mentioned in open responses were internationalisation, popularisation of science, promotion of education and development activities, protection of cultural heritage and protection of animal species and nature. The majority of the respondents (92.2%) reported that their society operates nationally in Finland. Most of the societies (78.0%) also have international activities.

Table 10. Main objectives of the societies. The respondent was able to choose several alternatives.

Objectives	n	% (N=115)
Promotion of all science and research	20	17.4
Promotion of a specific field of science or research	97	84.3
Promotion of a specific professional field or profession	27	23.5
Promotion of the activities of a specific amateur group	10	8.7
Other objective	18	15.7

Source: Questionnaire

When asked about the main objectives of the societies in more detail, the respondents most commonly mentioned promotion of research in their field in general (n=40, 34.8%) and publishing (n=38, 33.9%). Other objectives mentioned were science communication, (n=10, 8.7 %), organising seminars and conferences (n=8, 7.0 %) and promotion of cooperation (n=8, 7.0 %). Secondary or less frequently mentioned objectives include organising training, representing the discipline, granting research funding and influencing science policy.

In the interviews, the representatives of the societies were asked to define a learned society. The responses highlighted voluntariness, which manifested itself in people's willingness to participate in their society's activities – often without monetary compensation.

Learned Societies are characterised by

- Voluntariness of Activities
- Common Purpose
- Diversity of People
- Agility
- Diversity of Activities

Source: Interviews

The interviewees also mentioned that the societies bring together people who share same interests. Learned societies have a common purpose.

> [A learned society] is formed voluntarily. It has no statutory tasks, but it's for enthusiastic people, precisely, notice people, so here, the society is made up of people. If there's no people there, then there's no society. […] it's this voluntary team of people enthusiastic about something […] [P1]

Learned societies unite different people from different organisations and backgrounds. One can meet new people and hear different views in societies.

> What's also good about these societies is that there's different people from different backgrounds, because that way you hear new opinions which can lead to finding and inventing something new. […] then you're not in your own bubble […] [P2]

The management and activities of learned societies were considered to be agile – that is, learned societies are able to act quickly.

> […] we are, in the end, if comparing to universities and such, a rather small and agile actor. It's easy to get involved in something kind of quickly, if it's justified. [P7]

Many interviewees also defined the society they represented by how it differs from other learned societies. For example, societies were defined as rather large, wealthy or institutionalised compared to a "typical" learned society. Some societies were also thought to differ from other societies because, for example, the society publishes popular content or the society's target audience is not the scientific community but the general public. One interviewee described their society as a hybrid player that is a combination of a learned society, a small journal publisher and a media house. These answers reflect the diversity of learned societies.

Finances and workers

Nearly two thirds (60.4%) of the societies have divided their activities into divisions, departments and teams. The survey also included questions about the finances of the societies. The results showed that the budgets of the societies vary significantly. The average budget was about 464,000 euros, with the smallest budget at 250 euros and the largest at 20 million euros. However, the average of the budgets does not give an accurate picture of reality, as the most typical (mode) budget size for the societies was 30,000 euros. Approximately 40% of the societies operate with a budget of less than 10,000 euros and about a quarter with a budget of less than 5,000 euros. Eight societies that responded to the survey have a budget of over one million euros.

Most respondents (68.4%) reported that there were no significant changes in the budget over the last five years. A growth in the budget (16.7% of respondents) was explained, for example, by increased membership and increased activities (e.g. conferences). A budget decrease (12.3%) was explained by the shift to open publishing and a decrease in membership. However, it was also pointed out that the societies' budgets vary from year to year, depending on the activities organised each year.

The most important sources of income for the societies (see Table 11) were membership fees and the publishing subsidy from TSV. Other common sources of income were capital income and grants. In the open answers, general state subsidies and conference income are also mentioned as key sources of income.

Table 11. The main sources of income of the societies

Source of income	n	%
Membership fees	95	83.3
Publishing subsidy from TSV	47	41.2
Grants	25	21.9
Capital income	24	21.1
Book sales	18	15.8
Other publishing subsidy	4	3.5
Journal subscription fees	17	14.9
Income from training	15	13.2
Project funding	11	9.6
Support contributions by organisations and individuals	11	9.6
Sponsorship income	6	5.3
Other source of income	25	21.9

Source: Questionnaire

In 2018, the average number of person-years employed by the societies was 3.5. Again, the average does not tell the whole truth, as nearly 60% of the societies operate without paid employees. About a fifth of the societies employed 0.1–1 person-years (Table 12). The biggest society measured by person-years employed 87 person-years in 2018. In most of the societies (81.3%), there have been no significant changes as regards person-years in the last five years. However, 13% of the respondents reported that the number of person-years increased in their society. The open answers revealed that employees in the societies often work part time and that the societies employ temporary workers for various projects.

Table 12. Person-years employed by the societies

Person-years (n=111)	n	%
0	67	60.4
0.1 - 1	24	21.6
1.1 - 5	11	9.9
5.1 - 10	4	3.6
Over 10	5	4.5

Source: Questionnaire

Most of the societies (67.2 %) paid working time compensation (e.g. meeting and lecture fees) in 2018. On average, the societies paid compensation to approximately 16 people in 2018. Also in this case, there is a great deal of variation between the societies, as at its highest, compensation was paid to approximately 350 people. More than 40% of the societies paid working time compensation to 1–5 persons (Table 13). However, most of the work in the societies is done without salary or other monetary compensation. The share of unpaid work varied between 0% and 100% depending on the society.

Table 13. Compensation paid by the societies

Compensation to persons (n= 112)	n	%
0	35	31.3
1–5	47	42.0
6–10	9	8.0
Over 10	21	18.8
Total	112	100.0

Source: Questionnaire

Members and membership

The membership of the societies consists mainly of individual members (Table 14). Nearly 40% of the societies have both individual and institutional members. Four respondent societies who did not have any members were either foundations or institutes.

Table 14. Memberships of the societies

Society membership consists of	n	%
Individuals	65	57.0
Both individuals and institutions	45	39.5
Society has no members	4	3.5
Total	114	100.0

Source: Questionnaire

The average annual membership fee of the societies in 2018 was 35 euros (median 28.5 euros). However, the cost of the annual membership varied between 0 and 280 euros. Most of the societies (66%) have not made any significant changes in membership fees over the past five years. However, nearly a third of the societies reported an increase in their membership fee. The open answers showed that several societies give discounts to non-working members. On the other hand, membership fees for institutional members are much higher than those for individual members. Some societies have felt the pressure to lower membership fees after making their journal an open access publication.

Member benefits

The most common benefits for the members of the learned societies were the opportunity to participate in the society's events and a newsletter (Table 15). Several societies offer their members a discount or exemption from participation fees for events or journal subscription fees. In some cases, members can apply for grants awarded by their society. In the open answers of the questionnaire, respondents also often mentioned discounts from their society's other publications, such as books, as member benefits.

Table 15. Member benefits offered by the societies

Member benefit	**n**	**%**
Opportunity to participate in the society's events	80	70.8
Newsletter	78	69.0
Discount/exemption from participation fees for the society's events	67	59.3
Discount/exemption from journal subscription fees	52	46.0
Opportunity to apply for grants	26	23.0
Discount/exemption from participation fees for events organised by the society's cooperation partners	21	18.6
Support for job search (e.g. guidelines, job postings)	6	5.3
The society does not offer any member benefits	6	5.3
Insurance	3	2.7
Promotion of professional interests	3	2.7
Do not know	2	1.8
Workspace opportunity	1	0.9
Other	22	19.5

Source: Questionnaire

Some of the interviewees reported that their societies want to support young academics in their early career. One of the societies wanted to allocate grants for postdoc researchers because the society felt that it can be difficult for young researchers to advance their academic career right after their thesis defence. Young researchers are supported by grants and by acknowledging academic work (e.g. best doctoral thesis award), for example.

> […] so that young people get this feeling that, okay, look, you can have a career, it can happen. That continue doing what you're doing, you can find you way there. I've also been advised this way. And when you feel that […] this won't work, someone says that it will. That have patience, things change. Just do what you've always done with that intensity. This is what we want to say to our members, especially the young ones. [P1]

Thus, society membership was also considered to offer immaterial benefits in the form of community support and networking opportunities.

> But one thing that hasn't changed is the networking. So an important function of the society is that you get to meet and know people, that young people get to know older people, and many jobs can be found through it and other such things. [P6]

Member acquisition

Over 60% of the questionnaire respondents reported that their society is concerned about decreasing membership. Indeed, most of the societies (64.1%) are active in member acquisition. Members are acquired, for example, through social media and marketing in various events, organisations and educational institutions. In the open answers of the survey questionnaire, it was pointed out that member acquisition especially targets the younger generation, such as students of the discipline. Active members and board members also play an important role in member acquisition in many societies.

> We have all over Finland, in all those units or universities or research institutes, where there's […] research and researchers in the field […]. So that we have those local members there who do this member acquisition and it's, and largely through it we have gained our members, through the info that is passed there […] we have made these posters that are hung on the walls in the units, and in this way actively. [P1]

It has to be taken into consideration that active member acquisition requires resources. The resources affect how much and in what way member acquisition is done.

> […] active member acquisition costs you in one way or the other, if not otherwise, then in some person's working hours, which also must be given a price. So then it has to be weighed to see if this is of any benefit. [P4]

The interviews revealed that the academies of sciences have no difficulty in gaining members. This is because the academies invite their members, and membership in the academies is considered an honour. However, just as other societies, the academies may find it challenging to activate their members to join activities. Active members are needed to run the society's activities and promote the society's common goals. The societies also need members for example to maintain their websites. In addition, the societies may have a shortage of digital and social media experts, for example.

> […] I think that now one challenge is that how to get younger people involved so that they would really get involved in the activities […] and sacrificed their own time for it. So that exactly this social media and digi aspect would be developed. [P2]

One interviewee stressed that sometimes the rationalisation of work may be necessary instead of having new active members: "We can't endlessly get more [people], so rationalising the work is also a sort of permanent dream." [P3]

Changes in society affect the activities of learned societies. The interviewees shared the experience that people do not have time for volunteer work and society activities in the same way as before. This applies not only to members but also, for example, to writers and performers participating in the societies' events. It was estimated that one of the reasons for this is the tighter requirements and faster pace of working life.

> Well the biggest challenge is to get everything done. […] current researchers have so much stricter requirements for the speed of graduation, the pace of publication and other things than before. [P3]

Some of the interviewees mentioned that joining a learned society in one's own discipline used to be self-evident, but this is no longer the case. One interviewee also reasoned that as disciplines become more and more specialised, the general society of one's own discipline might not be as attractive as before. Indeed, learned societies have to re-examine their role and activities regularly and consider what to offer to their members.

> Maybe the role of learned societies has changed right there, that we should somehow maybe meet the members' more exact needs. [...] before it was kind of so self-evident, that if you study or graduate […], then you join us. [P5]

Publishing

Most of the respondent societies (85.2%) had publishing activity. Peer-reviewed journals and monographs are the most common forms of publication. More than half of the respondents (55.7%) reported that they had published at least one peer-reviewed journal in 2018. The number of peer-reviewed journals published by the societies varied between 0 and 24 titles in 2018, with the average at 1.7. The total number of peer-reviewed journals published by the respondent societies was 148.

18 respondents (15.7%) reported that their society publishes at least one other journal. The number of other published journals ranged from 0 to 6. Nearly a third of the respondents reported that their society had published volumes of at least one book series in 2018. 15% of the respondent societies published at least one monograph. The number of published monographs varies between 0 and 45 copies per year.

The societies' main publication language is Finnish (Figure 10). On average, 70% of the publications of the societies that participated in the survey are published

in Finnish. Approximately 22% of the publications are published in English and approximately 6% in Swedish. There are differences between the societies as regards the shares of different languages. Some societies publish only in the national languages of Finland (34 societies), whereas some publish in English only (five societies). However, most of the societies use several languages in their publications.

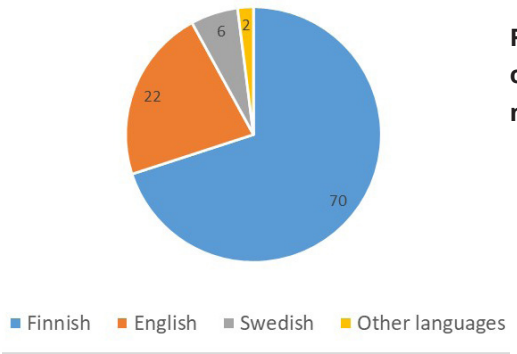

Figure 10. Languages of the publications of the societies, n=93, Source: Questionnaire

According to the interviews, maintaining the Finnish language as a language of science is an important goal for the learned societies. One remedy is Finnish-language publications. Societies also wanted to work for the readability and high level of the Finnish language in general. Maintaining the Finnish language as a language of science was also important to one society that does not have its own publishing activity.

Maybe the main idea of existence, again, is that we call for and guard and take forward high-level national-language publishing, which has a good level of language and good level of argumentation. [P3]

> […] we find it important to publish […] in Finnish. […] And we also think that Finnish has to be developed as a language of science. It has a big importance for both science itself and the rest of society. [P7]

> On the other hand, the interviews also introduced the challenges of a small language in publishing: "But then there's these challenges of funding. If we want to tell […] about them reliably in Finnish, […] adapted to Finnish conditions, then someone has to do it." [P4]

The societies publish journals, book series and monographs usually in both print and digital formats (Table 16). Print-only publishing is clearly more typical in the case of book series and monographs than in the case of journals. Slightly more than a quarter (28%) of the journals published by the societies are published in digital format only.

Table 16. Modes of publication

	Print only	Digital only	Both print and digital
Peer-reviewed journals (n= 65)	7.7%	27.7%	64.6%
Other journals (n=18)	0	27.8%	72.2%
Book series (n=41)	41.5%	7.3%	51.2%
Monographs (n= 30)	30%	10%	60%

Source: Questionnaire

60% of the questionnaire respondents report that there have been no significant changes in their society's publishing in the last five years. A fifth of the respondents report that publishing activity has increased. In the open answers of the questionnaire, the most common changes mentioned are abandonment of print publications and shift to digital format. Transition to the journal.fi platform and to open access are also mentioned in several open answers.

Two interviewees reported that their societies' publications now appear more regularly than before. One on them described the situation as follows:

> We, perhaps, maybe just before it for a couple of years, we published too many [publications] in some years. This change, too, has probably become more or less stabilised in the last five years, so that nowadays we have [publications] published at more regular intervals […]. So that before […] it was about a lack of control related to volunteer work. [P3]

Other changes reported were development of journal layout and changes in journal content (e.g. special theme issues). The content is also affected when the editor-in-chief changes.

> […] the editor-in-chief always sort of collects his editorial staff there. This also causes the changes in the team. With new people, the content changes a bit, too. That way the journal is renewed all the time. [P2]

The changes in the academic researcher's work are reflect in the editorial work of scientific journals. Researchers have a need to publish in international journals, which has led to a reduced number of articles offered to domestic scientific journals.

> […] if you think about researchers, who are, of course, an important writer group for us. As there's the pressure not only to publish a lot, but to publish in high-rated international journals, the motive to independently write and offer a scientific article to a domestic journal is smaller, and that can be seen to some extent in the selection […] [P3]

Open science

The questionnaire also surveyed the societies' activities related to the promotion of open science (Table 17). The most popular forms of promoting open science are encouraging the use of open research data storage, allowing parallel publishing, and publishing an open access (OA) journal. Several societies (15) plan to move to open publishing. The publication of open monographs and the use of open peer review are less common forms of open science. According to the open answers of the questionnaire, some societies use a publication embargo, during which the content of the publication is not openly accessible. The societies may also have both open and traditional or embargo publications.

Table 17. Promoting open science in learned societies

	Yes (%)	No (%)	No, but planning (%)	Do not know (%)
Society publishes open access journal(s) (n=111)	49 (44.1)	44 (39.6)	15 (13.5)	3 (2.7)
Society publishes open access monographs (n=104)	20 (19.2)	71 (68.3)	8 (7.7)	5 (4.8)
Society allows parallel publishing of its publications (n=109)	55 (50.5)	23 (21.1)	8 (7.3)	23 (21.1)
Society encourages the use of open research data storage (n=108)	60 (55.6)	18 (16.7)	9 (8.3)	21 (19.4)
Society uses open peer review (n=110)	23 (20.9)	67 (60.9)	7 (6.4)	13 (11.8)

Source: Questionnaire

In the open answers of the questionnaire, the respondents report that the absence of a cost model for open access publications still prevents the transition to open access publications. This issue was also raised in the interviews. The interviewees reflected on, for example, how to tackle work that has traditionally been the task of publishers (e.g. editorial work, style revision, language check). Some of the interviewees also wondered how open science could be realised, for example, in books written for the general public that are based on research results.

Other things mentioned were the costs of maintaining journals on servers, as well as who will continue to index and archive publications and, if necessary, to convert electronic publications in the future. Also, concerns were raised, for example, about what will happen to societies' membership fees (which include a journal) or publication subscription fees.

> […] learned societies' membership fees often include that, it includes the scientific journal. And if you can now read that journal online, when it has come to your home by mail, then how many will think that I need to support the existence of this journal and pay for it, even though the neighbour doesn't and reads it just the same way. [P2]

> To learned societies, open science means more than just publishing. In the open responses of the questionnaire, it was reported that the societies conduct open science also by organising events that are open to everyone and by participating in the development of open science. Some societies seek even greater transparency, for example, by publishing research plans and their own operational processes online. Some of the interviewees also considered operational and financial transparency important: "A starting point for us is definitely that we are a transparent association." [P1]

Seminar and conference activities

Nearly all of the respondent societies (96.5 %) report that they organise seminars, conferences and other science events. In total, approximately 230 seminars, 77 scientific conferences and 226 other science events were organised by the societies that participated in the survey in 2018. The rate of activity in organising events varies significantly between the societies. For example, the societies organised an average of 2.4 seminars per year, but the number ranged between 0 and 50. The events organised by the societies in 2018 were mainly national (86%). However, 45% of the respondents also organised international events. Nearly a fifth of the societies organised local events. Most of the respondents (62.5%) report that there have been no significant changes in seminar and conference activities in the last five years. Nearly a third of the respondents (30.4%) report that their activities have increased. The open responses to the survey highlight the growing internationalisation of activities and the increased cooperation between societies. As an example of new activities, live internet streaming is mentioned in the open responses.

Research activities

The questionnaire also surveyed the societies' research activities. About a quarter of the respondents (26.3%) reported that their society has research activities. In an open answer, one questionnaire respondent stated that: "The society does

not conduct research but supports the research work of its members." Indeed, the most common research activity is research funding (Table 18). Nearly as common are data collection and maintenance of a library or archive for the use of researchers. The societies also provide facilities and tools for research work and source funding for research projects.

Table 18. Research activities of the societies

	n=30	%	% n=115
Funded research	19	63.33	16.52
Maintained a library/archive for researchers	17	56.67	14.78
Collected research data	16	53.33	13.91
Provided facilities/tools for research	12	40.00	10.43
Sourced funding for research projects	9	30.00	7.83
Other research activity	1	3.33	0.87

Source: Questionnaire

The interviews revealed that there were big differences in research activities between societies. For example, conducting research was an integral part of the activities of one society. Some of the societies did not conduct actual research, or they planned to conduct just a single research project.

> […] don't have our own research activities. Now, maybe, there will be something like that […] We can say that if we get enough grants and such, we can pay a researcher to do a real study. [P2]

Societal influencing and science communication

Most of the societies (92.6%) that responded to the survey have activities related to societal influencing. The most popular ways of implementing societal influencing are content creation to social media channels, organisation of public events and issuing statements (Table 19). In addition, several societies stated that they organise training events, cooperate with the media, produce media releases and popularise research. The societies also take part in science development projects. The societies seek to increase the science knowledge of children and young people, for example, by producing educational materials and making school visits.

Nearly half of respondents (44.1%) state that societal influencing in their society has increased significantly over the last five years. The open answers showed that learned societies may have representation, for example, in advisory boards on research ethics or in ministerial working groups in the role of a science advisor. The responses also show the growing role of social media in increasing the visibility of learned societies.

Table 19. Modes of societal influencing and science communication in the societies

	n	% n=115
Created content to the society's social media channels	78	67.83
Organised other public events	68	59.13
Issued statements (e.g. science policy)	53	46.09
Organised training events	39	33.91
Took part in other cooperation with the media (e.g. interviews)	36	31.30
Produced media releases	34	29.57
Popularised research	33	28.70
Took part in science development projects	32	27.83
Involved citizens to gather or produce research data	11	9.57
Produced educational material	10	8.70
Visited schools	10	8.70
Organised hobby activities for children or young people	8	6.96
Promoted professional interests	6	5.22
Did not take part in societal influencing in 2018	2	1.74
Other	12	10.43

Source: Questionnaire

The interviews revealed that being active in learned societies is in itself considered important to society and science.

> […] I think that the activity in a learned society is in itself societal influencing. [P1]

> So as long as there's this voluntary hobby activity in learned societies, I think that science can continue to live well in this country. [P2]

The societies exercise societal influencing on topics that they regard as important. The societies also considered it important to influence in matters that no one else takes on.

But then we have, for example, knowingly produced this [...] [material] [...] to teachers, so no one else has done it. And they have been important tools for teachers. So there again the societal influence can be really significant. [P3]

> […] we gave a statement to the Parliament about a couple of years ago about this. And then we have […] these [web]sites where we give guidelines […] It's really our key issue this, we aim at it that people would have a positive image of science […] a book is in the making and other such things. Things that no one else kind of does. Then we think that let us do it then. [P4]

The interviews also covered science communication. For learned societies, it can be a cross-cutting activity, as the following discussion shows:

> I: I have a question about this, that how the society implements science communication, so now it was said at the same time.
> P4: We don't do anything else.

The interviews also revealed that the societies want science communication to be two-way in nature.

> […] it's not just that that we wanted to share lots of information, like pouring information and holding presentations, where one person speaks and others just listen. But there's always the idea behind this that you want discussion. […] it's a really important thing to maintain a conversation about science. Also in that way that when there's a presentation occasion where there's people who are not researchers [in the discipline], that they, too, can have a discussion and speak and say their opinion and ask questions. [P2]

Cooperation with different organisations

Finnish societies

Most of the societies (89.5%) maintain contact and cooperate with other Finnish learned societies. Maintaining contact is mainly done through informal and unofficial communication (Table 20). The societies also have joint projects and other activities, such as conferences and seminars. The societies may also have collaborative publications, or they offer member benefits.

Table 20. Means of maintaining contact with other Finnish societies

	n	% n=115
Informal or unofficial communication	77	66.96
Joint projects or other activities	63	54.78
Collaborative publications	16	13.91
Member benefits	15	13.04
The society did not maintain contact with other societies in 2018	4	3.48
Other	11	9.57

Source: Questionnaire

International societies

Most of the societies (74.3%) that responded to the survey also maintain contact with foreign or international learned societies. In this case, too, communication is typically informal and unofficial (Table 21). Learned societies are also often members of international societies. Other typical forms of maintaining contact include joint projects or other activities and functioning as the Finnish division of an international society. In the open responses to the questionnaire, joint conferences, researcher visits and exchange of publications were mentioned. Nordic cooperation was mentioned several times.

Table 21. Means of maintaining contact with foreign or international societies

	n	% n=115
Informal or unofficial communication	53	46.09
The society is a member of an international society	49	42.61
Joint projects or other activities	33	28.70
The society functions as a division of an international society in Finland	21	18.26
Member benefits	15	13.04
Collaborative publications	9	7.83
The society did not maintain contact with other societies in 2018	2	1.74
Other	13	11.30

Source: Questionnaire

National committees coordinated by the Council of Finnish Academies[1,2] support the international activities of Finnish learned societies. In 2018, there were a total of 37 national committees, many of which operated in connection with learned societies. The Ministry of Education and Culture grants state subsidies to the Council of Finnish Academies, which are used to pay the membership fees of the national committees to international umbrella organisations and to grant financial support for participation in meetings of international organisations. (Suomen Tiedeakatemiain toimintakertomus 2018.)

One society (represented by interviewee P1) took part in the activities of national committees. The society actively participated in the activities of international umbrella organisations of its discipline. According to the interviewee, this brings visibility to researchers and advances networking, teaching, multidisciplinarity and science in general. The interviewee stressed the importance of national committee activity for a small learned society.

> […] in the Council of Finnish Academies, which has this national committee function, which makes these international activities possible for us […] it's a very big thing and advantage in our operating environment. It makes it possible for a small country and small society to have visibility and operate, if you're active. And we have wanted to be active. So we are still alive. [P1]

On the other hand, some interviewees reported that their society had few international activities. International activities were not considered important, for example because the society operated and published mainly in Finnish.

> Well, first of all, our operating model is such that we practically operate in Finnish. […] of course we have connections, but not extensive international activities. [P4]

Additionally, one interviewee considered that there was not enough time to organise international activities. In one discipline, international cooperation was limited by the fact that the Finnish national system is different from those of other countries. One interviewee also considered that research exchange was a task of universities.

1 The Council of Finnish Academies (https://www.academies.fi/) is a cooperative body formed by the four science academies in Finland (the Finnish Academy of Science and Letters, the Finnish Society of Sciences and Letters, the Finnish Academy of Technical Sciences, the Swedish Academy of Engineering Science in Finland). The operation of the Council of Finnish Academies began in 2018. At the same time, its predecessor, which was also called the Council of Finnish Academies in English, was abolished. (Suomen Tiedeakatemiain toimintakertomus 2018.)
2 Read about the international cooperation of the council of Finnish Academies and its predecessors in Nykänen's (2019) article (in Finnish).

Other organisations

In Finland and abroad, learned societies cooperate especially with universities and other higher education institutions (Table 22). Research institutes and state administration/ministries are also typical partners for the societies. In the open answers, municipalities, cities, the EU and different organisations, libraries and museums are also mentioned as cooperation partners. Most of the respondents (71.1%) state that there have not been any significant changes over the last five years. About a quarter report that cooperation has increased. An increase in commercial cooperation is also mentioned in the open answers. Approximately 17% of the societies cooperate with commercial organisations.

Table 22. Cooperation partners of the societies

	n	% n=115
Universities and higher education institutions	98	85.22
Research institutes	56	48.70
State administration/ministries	41	35.65
Commercial organisations	19	16.52
Secondary schools	12	10.43
Primary schools	5	4.35
No cooperation	6	5.22
Other	9	7.83

Source: Questionnaire

Future

Over 40% of the societies that responded to the survey are planning to launch new activities in the future. In two open-ended questions, the societies were asked to (1) explain the future activities they had planned in more detail and to (2) reflect on the most important functions and roles of learned societies in the future. A total of 126 answers were given, and the new functions and future plans were discussed broadly. In several answers, the respondents stated that the society's activities will continue as before. However, several new and future activities were presented.

"Publishing and organising seminars are likely to remain the core activities of the society"

Many of the responses concerned science communication, publishing and conference and seminar activities (Table 23). Science communication was often mentioned as a future function, and its promotion was clearly under discussion. Publishing and its development were also central topics. As regards publishing, the respondents especially discussed digitalisation and development of cooperation with other societies. Although publishing in the domestic languages was often seen as important, some of the societies are also considering making their publishing activities international. Open science was surprisingly rarely mentioned in the answers, but this was probably due to the fact that the questionnaire had a separate section for open science. Several societies are also planning different seminar and conference activities, which are directed at both scientific and wider audiences. Webinars and remote participation in events were also frequently mentioned new activities.

Table 23. New activities and future functions of the societies

SCIENCE COMMUNICATION	
New activities (7)	Functions in the future (21)
evening clubs	popularisation of science
blogs	refining information to support decision-making
influencing through social media	promotion of citizen science
	acting as the most important communicator in the field
	maintaining multidisciplinary discussion
	participation in societal debate

PUBLISHING	
New activities (5)	Functions in the future (28)
publication(s) to replace a scientific journal	maintaining and developing publishing activities
development of collaborative publishing	publishing in the domestic languages
restart of a manual and textbook series	targeting publications towards an international readership
making a print publication digital	open publishing
starting own publishing activities	
peer-reviewed open access journal	

CONFERENCES AND SEMINARS	
New activities (4)	Functions in the future (13)
large international conference every three years	organising science seminars and events
seminar work for doctoral students and postdoc researchers	increasing the use of digital channels in events
webinars, sharing events online	organising events that unite researchers and users of research information

Source: Questionnaire

"Investment in young researchers is growing"

Support for a field of science and research, services for researchers and students, supporting the work of researchers and research activities were also common themes in the open responses (Table 24). Several societies saw that their future task was to increase the visibility of their field of science and to support research. The societies are planning services to support the work of doctoral students. If education in a field is cut in universities, it will be the societies' task to provide education. The societies were also planning to support research and researchers by providing grants, for example. Especially young researchers and supporting their career were highlighted in several responses.

Table 24. New activities and future functions of the societies

PROMOTING A FIELD OF SCIENCE OR RESEARCH	
New activities (0)	Functions in the future (13)
	increasing the visibility and public appreciation of the field of science
	increasing people's interest in the field of science
	continuing research in the field of science
	promoting the field of science in the scientific community and society
	promoting the effectiveness of research
EDUCATION, SERVICES FOR STUDENTS	
New activities (11)	Functions in the future (6)
networking and training of doctoral students	developing postgraduate education in cooperation with universities
mentorship	the importance of the society is high because other education in the field is scarce in Finland or the degree programme in the field is terminated
postgraduate education	
RESEARCH ACTIVITIES, SUPPORTING THE WORK OF RESEARCHERS	
New activities (3)	Functions in the future (11)
involving citizens to gather or produce data	grants
travel grants	supporting researchers in their early career
funding research projects	increased investing in young researchers
	providing infrastructure

Source: Questionnaire

"We believe that the importance of cooperation and interdisciplinarity will continue to grow"

In the open responses, the societies also mentioned increasing cooperation and developing the activities of the society (Table 25). The societies are also planning to utilise cooperation with other societies, for example, to organise events. Nordic cooperation was also mentioned. Some societies are even considering combining their activities with another society in the same field. Cooperation was

also discussed from the members' point of view. The role of the societies as providers of different cooperation networks was seen to increase in the future. As cooperation partners, the societies mentioned, for example, other researchers in Finland and abroad, science enthusiasts and organisations. As regards developing the activities of the societies, the plans concerned, for example, expanding the society's field of science, setting up new departments and investing in services and member acquisition.

Table 25. New activities and future functions of the societies

New activities (4)	Functions in the future (20)
COOPERATION AND NETWORKING	
society is considering combining their activities with another society in the same field	functioning as a meeting place for people interested in and studying the same field, networking, information sharing, creating new cooperation models
starting cooperation with companies	functioning as a cooperation forum for hobbyists and researchers
organising events in cooperation with others	participating in international cooperation
Nordic cooperation	functioning as a link between society and the scientific community
DEVELOPING THE SOCIETY'S ACTIVITIES	
New activities (6)	Functions in the future (9)
expanding the society's field of science	continuous search for new activities
setting up a new department to support expertise in the discipline	discussion in the society about a name change, for example
developing member acquisition	
better involvement of members in the society's activities	
strategy work	
developing a reward system, exploring the possibility of becoming an employer	
OTHER ACTIVITIES AND FUNCTIONS	
New activities (6)	Functions in the future (6)
science term bank	defending archives and libraries
expert register	promoting the principles of open access
article awards	
study visits for members	
alumni activities	
promoting open science	

Source: Questionnaire

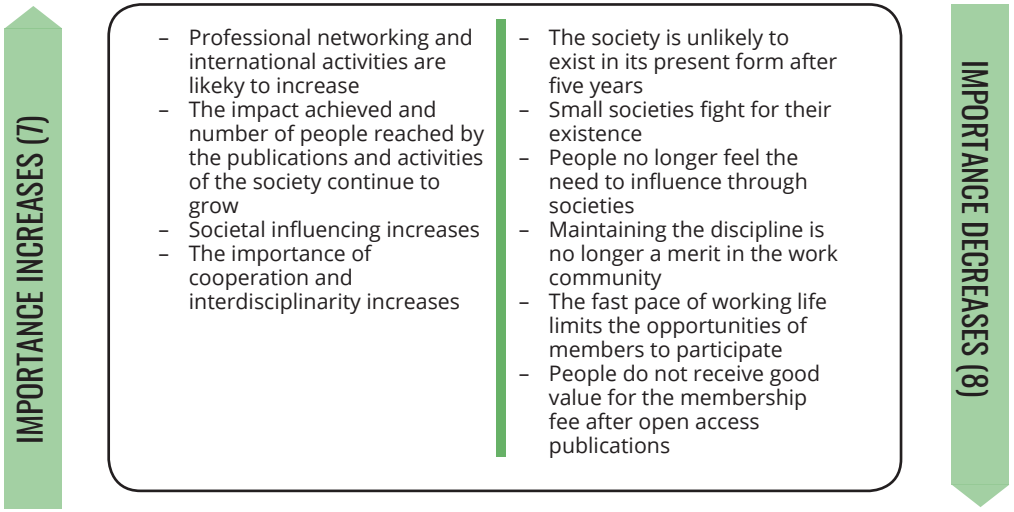

Figure 11. Views on the roles and importance of learned societies in the future (Source: Questionnaire)

The open-ended questions of the questionnaire also addressed the societies' role and importance in the future. Some respondents felt that the importance of their society will increase and its activities expand (Figure 11). In addition, interdisciplinarity was mentioned as an element that will shape the societies' activities in the future. However, some respondents also felt that the importance of their society will decrease in the future. The reasons for this were decreased membership and struggle for existence. Additionally, it was estimated in some open answers that the role of the society will remain as it is today.

In an interview, the future of learned societies was seen to depend on people's willingness to commit themselves to the societies' activities, as well as the societies' representatives and their views (P1). In addition, the resource issues of open access need to be resolved (P2, P7). According to one interviewee – taking into account each society's field of science and resources available – learned societies should strive to reach out to wider audiences (P4). In addition, the role of learned societies was estimated to gain importance in the future, but there may be a risk of fragmentation of the field of learned societies and waste of resources (P7).

> […] it seems that new societies emerge all the time […] maybe the risk can be endless fragmentation. In a country full of associations, it may lead to a situation where resources are wasted […] [societies] could be used more as a platform, when you always use the resources to organise these new things […] if you want to be multidisciplinary or if you really want to cross university boundaries, then learned societies are the forums. And then you can also do societal influencing through learned societies […], so I do see that they are important also in the future. [P7]

The interviewees were also asked what the society they represented wanted to be like in the future. Above all, they wanted the society to exist (P1, P4, P5). In addition, the interviewees wanted their society to increase its membership (P1, P4).

> Well we want to exist in the future and we work hard for that. We would gladly be even bigger, but we don't know exactly how big we can be when we have this extremely small language and population. [P4]

The interviewees also wanted their society to be active, have initiative (P2, P6) and be a prominent player (P5, P6). They also aimed at international activities (P1, P6) and cooperation with others (P1, P5, P6). One interviewee wished that their society was innovative and ready to reform, whatever the next turning point was.

> It's hard to see, now that there's clearly such transition as a result of this much-talked-about digitalisation. So it's hard to see the next possible turning point. Maybe there's no need to even think about what it is, but kind of be involved in it from the beginning. [P7]

Membership in TSV

All questionnaire respondents represented a member society of TSV. For this reason, the questionnaire also included questions about membership in the Federation.

According to the results, the most important reason for TSV membership for the societies was the services that TSV offers (Table 26). The possibility to apply for state subsidies was also a significant reason for more than 50% of the respondents. Nearly a half of the respondents saw that the visibility and influence in the scientific community that the membership offered were important reasons for membership. The open answers highlighted the facilities available at the House of Sciences and Letters.

Table 26. Reasons for TSV membership

	Major importance	Moderate importance	Minor importance
The society gains visibility in the scientific community (n=115)	47.8%	37.4%	14.8%
The society gains influence in the scientific community (n=115)	49.2%	39.5%	9.6%
The society benefits from the services offered by TSV (n=113)	74.3%	21.2%	4.4%
The society has the possibility to apply for state subsidies (n=108)	52.8%	23.1%	24.1%

Source: Questionnaire

In the interviews, TSV was described as a body that represents and unifies learned societies. Meetings of learned societies organised by TSV were valued as events that unify the scientific community. It was also considered a benefit that when working together through an umbrella organisation, societies have more influence.

> TSV is also an awfully important lobbying tool for the scientific community. We have to make sure that we have these kinds of bodies that represent us all when we want our voices heard in this society. [P7]

One interviewee valued the journal Tieteessä tapahtuu published by TSV because it conveys reliable information in the midst of today's click media. In addition, several interviewees appreciated the possibility offered by TSV to organise various events in the House of Sciences and Letters. This was important to the societies' finances.

> […] if you want to organise some panel discussion or seminar or presentation, there has to be a place where to do it. And every venue costs. So that way the fact that learned societies have been allowed to use these facilities, […] it has an enormous value. [P2]

In the interviews, the representatives of the learned societies were also asked what TSV should pay attention to or how TSV could develop its activities. The interviewees considered it important that TSV's activities keep up with the times. In addition, more outbound communication, such as greater media exposure, was desired. One interviewee also wished to receive training related to association activities, such as meeting practices. This would enhance people's opportunities for participation in association activities.

> And probably even more of that training is needed that is related to the practical issues in the society's operations. […] When one part of transparency is that people from all over are involved. But then it would require them to be able to function in that role […]. [P2]

One interviewee wished that TSV would use its position to promote issues common to different disciplines.

> […] what TSV can do is to organise various events and share information and so on. Of course, learned societies do that individually in their field. But TSV, when it covers all, it would have an opportunity to utilise different societies, different disciplines to these bigger things that concern more than one discipline. [P6]

In addition, the interviewees wished that TSV would develop the funding of scientific publishing. The challenges of open publishing were clearly brought up in the interviews.

> […] when open access and open publishing goes forward, it has to be solved what the resources are to produce the science publication. The costs aren't going to disappear. People can change and the production methods can change, but if you distribute the releases for free, then you need to be able to arrange the funding in a different way. [P7]

Comparison to earlier research

Little research has been conducted on learned societies. Most previous research has focused on a specific discipline or theme (e.g. OA). The closest counterpart to this study is the Portuguese study by Delicado et al. (2014) about the activities of learned societies.

Number of learned societies and its development

This study (survey and interviews) examined the member societies of TSV and, therefore, a learned society was defined through TSV's membership criteria (see section 3.2). TSV had 282 member societies in 2018. Presumably most of the Finnish learned societies are members of TSV, but it is difficult to estimate the exact number of learned societies in Finland. With their own criteria, Delicado et al. (2014) identified a total of 366 learned societies in Portugal (approximately 10.5 million inhabitants in 2011[3]).

According to Delicado et al. (2014), social development and freedom of association in Portugal in the 1970s enabled a growth in the number of learned societies. Indeed, nearly 90% of the Portuguese learned societies have been founded after 1970. In Finland, learned societies grew in number earlier than in Portugal. Approximately 45% of TSV's member societies have been founded after 1970.

3 Instituto nacional de estatística (www.ine.pt), People 2011, statistical yearbook

Fields of science represented by the societies
Most of the societies that responded to the survey in this study were from the social sciences or humanities (Table 9). The natural sciences gained the next most representation. The lowest number of societies were from the agricultural and forest sciences. As about 40% of TSV's member societies responded to the survey, the representation of disciplines among all Finnish learned societies may differ from these results.

The majority (29%) of the Portuguese learned societies (N=366) represented the medical field (Delicado et al., 2014, 444–445). According to Delicado et al. (2014), this was due to the fact that medical societies specialise into smaller and smaller areas of research. The second highest number of societies were in the social sciences and humanities (26%). Societies in the agricultural sciences were the least represented (3%). (Delicado et al., 2014, 444–445.)

Objectives and activities of learned societies
In this study, the majority of the survey respondents (84%) stated that their society's main objective was to promote a specific field of science or research. For 24%, the main objective was to promote a specific professional field or profession, and for 9%, the main objective was to promote the activities of a specific amateur group. Many respondents chose more than one main goal for their society, which would have made it difficult to classify the societies into the "ideal types" used by Delicado et al. (2014). However, it can be stated that the activities of Finnish and Portuguese Learned societies have similar objectives.

The activities of Finnish learned societies are similar to those of other countries (ACLS, 2017; Delicado et al., 2014; Hewitt et al., 2017). However, in Portugal (Delicado et al., 2014), the role of some learned societies as promoters of professional interests was more clearly highlighted. The study of Delicado et al. (2014) included trade unions, which were considered as learned societies. Their activities also included strikes and demonstrations as well as lobbying for better wages and social security. In this survey for the member societies of TSV, only six respondents reported that their society was involved in promotion of professional interests (Table 19). However, the study did not scrutinise the importance of promotion of professional interests for these societies. In the UK, some learned societies act as accreditors of professional skills (Hewitt et al., 2017).

Sources of income and volunteer work
In this study, the main sources of income for the Finnish societies that responded to the survey were membership fees, publishing subsidy from TSV, grants and capital income. In comparison, the members of the American Council of Learned Societies, for example, received 78% of their income from membership fees, conferences and publications (ACLS, 2017).

The TSV member societies that responded to the survey estimated that approximately 70% of their society's work is done without salary or other monetary compensation. Volunteer work was important for the operation of many societies also in the UK (Hewitt et al., 2017). However, according to Hewitt et al. (2017), estimating the amount of volunteer work was difficult, as volunteering hours are not usually mentioned in, for example, the societies' annual or financial reports.

Publishing
Unlike internationally (e.g. Larivière et al. 2015), scientific publishing in Finland falls, to a large extent, under the responsibility of learned societies. Commercial publishers have mainly concentrated on publishing scientific monographs. According to the analysis by Elsevier, 30% of the articles in the Thomson-Reuters Journal Citation database were published by learned societies (Ware & Mabe, 2012, 33). According to our analysis, 72% of the domestic publications produced by Finnish universities were published by learned societies.

In Finland and elsewhere, learned societies are encouraged to move to open publishing (Finch 2012). The same problems with cost models apply in Finland and elsewhere. Learned societies are concerned about a loss of publishing revenue, the financing of open access fees, competition with large open access publishers and deterioration in the quality and variety of publications (TBI Communications 2014). In the survey by TBI Communications (2014), learned societies also expressed their concern about the bad image that could catch from predatory open access publishers. No similar concern emerged in this study.

International cooperation
In this study, 74% of the societies that responded to the survey maintained contact with foreign or international societies. According to the study conducted in Portugal, 84% of the Portuguese societies maintained contact with foreign or international societies (Delicado et al., 2014, 456). A greater difference was found in international projects and activities: only 29% of TSV's member societies had such activities, whereas in Portugal the figure was 56% (Delicado et al., 2014, 456).

5. DISCUSSION AND CONCLUSIONS

This research project studied the activities of learned societies. The project included a literature review of previous research on learned societies and examined the role of learned societies in national scientific publishing in Finland utilising two Finnish databases: the Publication Forum (JUFO) and the VIRTA publication information service. In addition, questionnaire and interview data was collected from TSV's member societies. The research questions presented in the introduction will be answered in the following.

1. How do learned societies organise their activities?

Learned societies in Finland are largely run through volunteer work. Although most societies do not have paid staff, a large number of the societies pay compensation in exchange for work. Membership fees and state subsidies have a significant role as sources of income for the societies. Due to their small budgets, many societies are sensitive to even small financial setbacks. On the other hand, there are societies in Finland that have bigger budgets and are able to hire employees. The societies have both individual and institutional members, and they offer their members different benefits, such as the opportunity to participate in the society's events, a newsletter and a discount or exemption from participation fees for events or journal subscription fees. Most of the societies are concerned about a possible decline in membership in the future. Decreased membership may be problematic as regards the finances of the societies. The societies also wish to attract more young members, who might have new skills to develop the activities of the societies.

2. What are the main functions of learned societies?

A central objective of learned societies is to promote research in a specific field of science or research. The societies have both national and international activities, and they actively cooperate with various groups, especially research organisations. The most important functions are publishing, science communication and seminar and conference activities. The societies publish hundreds of scientific articles and monographs each year, and they organise more than 500 scientific events annually. Some societies also have research activities, such as allocation of research funding. However, the functions of the societies are even more diverse and multifaceted than this. The societies offer their members a network, through which the members can gain support and cooperation partners from Finland and abroad. Most of the societies maintain contact with international societies. For example, some societies are members of international learned societies. For many societies, it is essential to support the careers of young researchers in particular. The societies may also undertake work that goes beyond the tasks of other research organisations. The societies are able to operate with agility, and volunteer work – with both good and bad aspects – is their hallmark. The societies may suffer from scarce resources, but thanks to their light organisational structures, they can react quickly to new tasks.

3. What is the role of learned societies in the field of scientific publishing?

In Finland, learned societies have a significant role as publishers of Finnish-language science publications. The member societies of TSV and other learned societies publish the majority of scholarly journals in Finland. The publications are mainly from the fields of social sciences and humanities. Commercial publishers in Finland are mainly book publishers. Most of the societies publish in both print and digital format, and only some of the societies have switched to digital publishing only. Most of the societies publish in Finnish, but other languages are used as well. Learned societies play an important role in maintaining the Finnish language as a language of science. Locally important topics and perspectives are brought forth in the societies' publications in a way that is not possible in international publications. Most of the societies use the peer-review label granted by TSV.

4. How do learned societies implement open science? What kinds of plans and views do the societies have regarding open science?

Most commonly, learned societies implement open science by encouraging researchers to use open research data storage, allowing parallel publishing and publishing an OA journal. Approximately 40% of the publication series published by the societies are openly available online. However, only 12 journals published by the societies are listed in the DOAJ (Directory of Open Access Journals). Indexing and archiving journals into the database could increase the international visibility of the journals. The publication of OA monographs is still rare. The absence of a cost model for open publishing causes financial problems for many societies, and it is also likely to delay the transition to open publishing. In a small country and small language area, journals rarely generate economic profit, which is why cooperation with commercial publishers is unlikely. Therefore, the imple-

mentation of a cost model for scientific publishing is of primary importance for securing the future of national publishing in Finland.

5. How do learned societies implement societal influencing and science communication?

Science communication has a central role in the activities of learned societies, and its importance has increased in several societies in the last five years. Many societies also seek to raise awareness of their field of research and provide opportunities for researchers and other groups (e.g. experts, science enthusiasts) to meet. The most typical means of implementing science communication and societal influencing are content production to social media channels, organising public events and issuing science policy statements, for example. The societies can propose members to advisory boards on research ethics, ministerial working groups and expert panels of the Publication Forum, for example. Also, a researcher taking part in the activities of a learned society can in itself be considered as societal influencing.

6. What future opportunities and threats can be seen in the activities of learned societies?

Learned societies often have well-established modes of operation. Many societies felt that their functions and roles will remain the same in the future. Many societies also have plans for the development of activities, such as science communication, publishing and the organisation of various events.

The societies felt that their activities were important and useful. Several positive views of the future were expressed. Many thought that the role of learned societies will remain the same or that their role and importance will grow. Future opportunities were seen in the utilisation of digital communication and in increasing international activities.

Some societies felt the threat of decreasing membership. The societies wished to gain more active members and especially young members. The reasons for the threats mentioned above were thought to be the fast pace of study and working life as well as a decreased respect for association activities. Joining a learned society in one's own field of study is not self-evident, as it was before. Also, the societies feared that the transition to open publishing may reduce their memberships and income. On the other hand, the transition to open access is thought to increase the visibility and impact of research.

7. What role does the Federation of Finnish Learned Societies play in the activities of learned societies? Why are the societies members of the Federation?

Learned societies appreciate the services provided by TSV and the opportunity to apply for state subsidies. The facilities available at the House of Sciences and Letters received special praise. Several societies also thought that the visibility and influence offered by TSV in the scientific community is significant. TSV is a unifying body, which offers the societies the possibility to cooperate and influence science policy. The societies wished that TSV would support internationalisation, provide training, communicate on current issues and changes as well as help with communication. It was also hoped that TSV would take an active role in developing a cost model for scientific publishing.

Utilisation of the research results and follow-up

This study provided new information about learned societies, and it can be used for several purposes in the future. The strategy of TSV focuses on strengthening the identity of learned societies, and this report provides TSV with information on the activities of its member societies in order to develop the activities in the future. With the help of this report, the societies' activities can also be made visible. Additionally, the report provides ideas for designing new services and communication, and it will be used in planning a science education program launched at TSV. In addition to this report, the results will be published at least in the journal Tieteessä tapahtuu and internationally in scholarly journals (e.g. Learned Publishing). Anonymised research data collected during the project will be stored in the Finnish Social Science Data Archive.

There are also plans to continue the research by collecting similar survey data from learned societies in other European countries. Since very little nationwide research has been conducted on learned societies, it will be interesting to find out how societies organise their activities in different countries, and make international and discipline-specific comparisons. Other interesting research topics include the societal influencing and impact of learned societies as well as national and international cooperation. The digitalisation of publishing in learned societies and the development of open science also offer interesting research questions for the future.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Learned societies in Finland 2019

The Federation of Finnish Learned Societies and Tampere University have launched a joint project to study the activities of learned societies in Finland. Learned societies are important players in the Finnish scientific community, but little research on their activities exists so far. With our study, we aim to make the activities of learned societies more visible.

By responding to the survey, you will provide us with invaluable information about the learned society you represent. The perspective of each society is important to the study. The questionnaire will be sent to all member societies of the Federation of Finnish Learned Societies.

The survey takes **about 10–15 minutes** to complete. The questionnaire can be answered by **March 10, 2019**. The answers are saved by clicking the "Save" button at the end of the form.

The survey data will be treated confidentially. The results will be published in such a way that no individual society can be identified from the results. The names of the societies will not be published. The survey data will be used in a report on the role and activities of learned societies in Finland, which will be a part of TSV's web publication series. Parts of the material may also be published in scholarly journal articles. The anonymised survey data will be stored in the Finnish Social Science Data Archive (FSD). Further use of the data for research purposes is permitted.

Further information about the study from: researcher Laura Korkeamäki, Tampere University, laura.korkeamaki@tuni.fi

By submitting your contact information at the end of the survey, you will participate in a draw for three TSV's "tieteen puolesta" ("for science") hoodies and book packages. Participation in the draw is voluntary.

Privacy policy

Background information

Name of the society

Field of science represented by the society (choose 1–3 most significant)

- Natural sciences
- Biological and environmental sciences
- Technology
- Medicine and health sciences
- Agricultural and forest sciences
- Social sciences
- Humanities
- The society represents all fields of science
- I do not know
- Other, what?

The society operates in Finland (choose the most appropriate option)

- nationally
- regionally
- locally
- in some other area, where?

Does the society have international activities?

Choose here

- Yes
- No
- I do not know

The main objective of the society is (choose the most appropriate option(s))

- General promotion of science and research
- Promotion of a specific field of study or research
- Promotion of a specific professional field or profession
- Promotion of the activities of a specific amateur group
- I do not know
- Other objective, what?

What are the three most important functions of the society? (help: E.g. publishing, research, research funding, education, science communication)

The society's functions

1)

2)

3)

Membership in the Federation of Finnish Learned Societies (TSV)

Why is the society a member of the Federation of Finnish Learned Societies (TSV)?

	Major reason	Moderate reason	Minor reason	Explain, if you wish
The society gains visibility in the scientific community				
The society gains influence in the scientific community				
The society benefits from the services offered by TSV				
The society has the possibility to apply for state subsidies				

What other reasons does the society have for TSV membership? Also, assess whether the reasons are major, moderate or minor.

The society's finances

What was the society's annual budget (in 2018) in euros?

Have there been any significant changes in the society's budget in the last five years?

Choose here

- No
- Yes, the budget has increased
- Yes, the budget has decreased
- I do not know
- Additional information

What are the three (3) most important sources of income for the society?

- membership fees
- publishing subsidy from the Federation of Finnish Learned Societies
- other publishing subsidy
- journal subscription fees
- book sales
- income from training
- sponsorship income
- grants
- project funding
- support contributions by organisations and individuals
- capital income
- I do not know
- other source(s) of income, what?

The organisation and workers of the society

Are the society's activities divided into divisions, departments or teams?

Choose here

- Yes
- No
- I do not know

Did the society have paid employees in 2018?

Choose here

- Yes
- No
- I do not know

How many person-years did the society employ in 2018?

Have there been any changes in the person-years employed by the society over the past five years?

Choose here

- No
- Yes, the person-years have increased
- Yes, the person-years have decreased
- I do not know

Additional information

Did the society pay compensation for work done in 2018? (help: e.g. meeting and lecture fees, fees paid for a position of trust, etc.)

Choose here

- Yes
- No
- I do not know

How many people were paid compensation in 2018?

Estimate how large a part of the society's duties are performed without salary or other monetary compensation?

Choose here

- Membership in the society
- The society's membership consists of

Choose here

- Individuals
- Institutions
- Both individuals and institutions
- The society has no members
- I do not know

How large was the society's annual membership fee in euros in 2018 (without discounts)?

Have there been any changes in the membership fee in the last five years?

Choose here

- No
- Yes, the membership fee has increased
- Yes, the membership fee has decreased
- I do not know

Additional information

What member benefits does the society offer? (choose all that apply)

- Discount/exemption from journal subscription fees
- Discount/exemption from participation fees for the society's events
- Discount/exemption from participation fees for events organised by the society's cooperation partners
- Opportunity to participate in the society's events
- Workspace opportunity
- Opportunity to apply for grants
- Newsletter
- Insurance
- Representation of professional interests
- Support for job search (e.g. guidelines, job postings)
- The society does not offer member benefits
- I do not know
- Other, what?

Was the society concerned about membership decrease?

Choose here

- Yes
- No
- I do not know

Is the society active in member acquisition?

Choose here

- Yes
- No
- I do not know

What is the active member acquisition like?

Publishing in the society

Does the society have any publishing activities? (help: e.g. peer-reviewed journals, other journals, book series, monographs)

Choose here

- Yes
- No
- I do not know

In 2018, the society published (if no publications, mark 0)

Peer-reviewed journals

№ (titles)

- choose here

Other journals

№ (titles)

- choose here

Book series

№ (titles)

- choose here

Monographs

№ (titles)

- choose here

What is the proportion of different languages in the society's publications? (total 100%)

	approx. %
Finnish	
Swedish	
English	
Other language	

The society publishes

	In print only	In electronic form only	In both print and electronic form	I do not know	The society does not publish
Peer-reviewed journals					
Other journals					
Book series					
Monographs					

Have there been any changes in the amount of publishing activity in the last five years? (choose all that apply)

- No
- Yes, scientific publishing has increased
- Yes, scientific publishing has decreased
- Yes, other publishing activity has increased
- Yes, other publishing activity has decreased
- I do not know

What other changes have occurred in publishing activities?

Seminar and conference activities in the society

Does the society organise seminars, conferences or other science events?

Choose here

- Yes
- No
- I do not know

In 2018, the society organised/took part in organising (if no events, mark 0)

Scientific seminars (№)

- choose here

Scientific conferences (№)

- choose here

Other scientific events (№)

- choose here

The events organised by the society are (choose all that apply)

- Regional
- National
- International
- I do not know
- Other, what?

Have there been any changes in the numbers of seminar/conference activities in the last five years?

Choose here

- No
- Yes, the number of events/participants has increased
- Yes, the number of events/participants has decreased
- Other change
- I do not know

What other changes have occurred in seminar and conference activities?

Research activities in the society

Does the society have research activities? (help: e.g. research projects, research facilities, research materials, research funding, etc.)

Choose here

- Yes
- No
- I do not know

In 2018, the society (choose all that apply)

- Sourced funding for a research project
- Funded research
- Collected research data
- Provided facilities for research purposes
- Maintained a library/archive available to researchers

– The society did not have research activities in 2018
– Had other research activities, what?

Have there been any significant changes in the amount of research activity in the last five years?

Choose here

– No
– Yes, research activity has increased
– Yes, research activity has decreased
– Other change
– I do not know

What other changes have occurred in research activities?

Societal influencing and science communication

Does the society have activities related to societal influencing (e.g. training, public events, educational materials, statements, etc.)?

Choose here

– Yes
– No
– I do not know

How did the society exercise societal influencing in 2018? (choose all that apply)

– Organised training events
– Organised other public events
– Popularised research
– Produced media releases
– Took part in other cooperation with the media (e.g.interviews)
– Created content to the society's social media channels
– Produced educational material
– Made school visits
– Organised hobby activities for children or young people
– Involved citizens to gather or produce research data
– Issued statements (e.g. science policy)
– Took part in science development projects
– Promoted professional interests
– The society did not exercise societal influencing in 2018
– By other means, how?

Have there been any significant changes in the society's societal influencing in the last five years?

Choose here

– No
– Yes, influencing has increased
– Yes, influencing has decreased
– Other change
– I do not know

What other changes have occurred in societal influencing?

Open science

A few more questions about open science, cooperation and plans for the future.

How does the society advance open science? (does not have to apply to all publications)

	Yes	No	No, but planning	I do not know
The society publishes open access journal(s)				
The society publishes open access monographs				
The society allows parallel publishing of its publications				
The society encourages the use of open research data storage				
The society uses open peer review				

What other ways or plans does the society have to advance open science?

The society's cooperation with other organisations

Does the society maintain contact with other Finnish learned societies?

Choose here

- Yes
- No
- I do not know

How did the society maintain contact with other Finnish learned societies in 2018? (choose all that apply)

- Joint projects or other activities
- Collaborative publications
- Member benefits
- Informal or unofficial communication
- The society did not maintain contact with other societies in 2018
- Other, what?

Does the society maintain contact with foreign or international societies?

Choose here

- Yes
- No
- I do not know

How did the society maintain contact with foreign or international learned societies in 2018? (choose all that apply)

- The society is a member of an international society
- The society functions as a division of an international society in Finland
- Joint projects or other activities
- Collaborative publications
- Member benefits
- Informal or unofficial communication
- The society did not maintain contact with other societies in 2018
- Other, what?

Does the society cooperate with the following Finnish or foreign organisations?

- Primary schools
- Secondary schools
- Universities and higher education institutions
- Research institutes
- State administration/ministries
- Commercial organisations
- The society does not cooperate with others
- Other, what?

Have there been any significant changes in the society's cooperation with others in the last five years?

Choose here

- No
- Yes, cooperation has increased
- Yes, cooperation has decreased
- Other change
- I do not know

What other changes have occurred regarding cooperation?

The future of the society

Is the society planning to launch new activities?

Choose here

- Yes
- No
- I do not know

What types of activities is it planning?

How do you see the role and importance of the society in five years' time? What are the main functions of the society in the future?

Feedback

Would you be interested in participating in a possible interview about the activities of learned societies?

Choose here

- Yes
- No, thank you

Would you like to give us feedback on the survey?

Participation in the draw

If you wish to participate in the draw for hoodies and book packages, please leave us your contact information (name and email address). (help: Contact information will be destroyed after the draw)

Thank you for your answer! We will personally contact the winners of the draw.

APPENDIX 2: INTERVIEW FRAME

Background information

1. Name of the society
2. Name of the interviewee
3. Role of the interviewee in the society (e.g. chairman, managing director, secretary)?
4. How long have you been involved in the activities of the society? What roles have you had in the society before?

Activities

5. In your own words, please describe the types of activities the society has had over the last year.
6. Why do you want the society to have certain types of activities?
7. Did the society have international activities? Please describe the activities in more detail?
8. Does the society seek to increase internationality? Why? What benefits could it have?
9. What are the biggest challenges in operating at the moment?
10. What development opportunities are currently in sight? What kinds of opportunities for members? Are new activities being planned? What kind of positive signals are there on the horizon?

TSV membership

11. What are the views or expectations of the society regarding TSV membership? How about the services of TSV?
12. How should TSV's activities be developed?

Changes

13. What kind of activities does the society have and what changes have taken place in the activities of the society over the last five years?

    a) publishing

b) seminar and conference activities

c) research activities

d) societal influencing

e) science communication

f) cooperation with other organisations

14. Have there been any changes in the operating environment that affect the activities of the society? What kind?

Views of the society as an organisation

15. How would you describe your learned society? Why is it important that the society exists?
16. How does the society stand out from other organisations such as universities, commercial publishers, etc.?
17. Has your learned society changed from what is was before, or is it changing?
18. Who are the society's members? Why do people want to be members of the society?
19. Do the members have wishes regarding the society's activities? Do you collect feedback from the members?

Future

20. What kind of plans do learned societies have for the future?
21. What does your learned society wish to be like in the future?
22. Do you see that the role of learned societies will change in the future at all?

Final words

23. Is there anything else I did not ask that you see relevant?