

'They absolutely don't want you to progress here'

The academic careers of Jewish students interrupted in Finland by the antisemitism of the 1930s

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ABSTRACT • Fascism and Nazi ideology cast a threatening shadow over Finland during its troubled 1930s. This manifested as antisemitism towards the few Jewish students pursuing higher degrees at Finnish universities. One glaring instance of discrimination involved our father, Leo Skurnik, whose advancement in his academic career was blocked at the Helsinki University Department of Medical Chemistry in the late 1930s. In this treatise, we aim to delve deeper into the challenges he faced and how they were intertwined with the antisemitic sentiments prevailing at that time.

JEWES WERE DISCRIMINATED AGAINST at the University of Helsinki in the 1930s, which practically made academic careers impossible for them. The fate of our father, who after graduating as a physician aimed at doctoral studies, was not an isolated accident. Fascism and Nazi ideology gave a threatening tone to Finland's troubled 1930s. Although these ideologies did not gain as strong a foothold in Finland as in some other countries, they were adapted in certain social circles.

Indeed, recent research has revealed that the Nazi and antisemitic movements that influenced our country at the end of the 1930s were stronger than previously thought (Ekberg 1991; Muir 2007, 2009a, 2009b and 2013; Kunnas 2013; Silvennoinen et al. 2016; Ahonen et al. 2020).

According to Henrik Ekberg's book *Führerns trogna följeslagare* (1991), fascism and Nazism found their most organized manifestation within academic circles in the form of SVL (Suomen Valtakunnan Liitto, Union of the Finnish Nation). It was founded in

1940 and operated during the Continuation War; it aimed to establish, after the foreseen victorious campaign, a one-party system in Finland, similar to the German Nazi Party. SVL was founded by the activists of the Patriotic People's Movement (Isänmaallinen kansanliike, IKL) and their kindred spirits. Mauno Vannas (1891–1964), professor of ophthalmology at the University of Helsinki, was the chairman of the union (Fig. 1).¹

As a majority of the documents of SVL were destroyed by the end of the war, the activities of the organization have been difficult to study. However, based on various information sources, there appear to have been 2,000–6,000 names on its membership lists, of which at least forty were professors (Ekberg 1991, 232–3). This number is relatively large, considering that there were only around 200 professors employed at the University of Helsinki at that time (Klinge et al. 1990). And of course, the SVL members

1 https://fi.wikipedia.org/wiki/Mauno_Vannas



Fig. 1. Mauno Vannas, Professor of Ophthalmology, was the chairman of SVL. He also blocked Moses Zewi's dissertation at the Clinic of Ophthalmology in the 1930s. Image source: SA image archive.

among university employees were not limited to professors only. Professor Tarmo Kunnas,² in his book *Enchantment of Fascism* (2013), presents an impressive list of persons belonging to the cultural elite of the time who provoked the idea of fascism from their position on the top of the hill (cf. also Maddow 2023).³

At the end of the 1930s, when only around ten Jewish students were pursuing degrees at Finnish universities (Muir 2009b, 136), several blatant cases of discrimination took place where highly merited Jewish students were barred from further studies. It may be a coincidence that as of 15 May 1937, Jewish dissertations were no longer accepted in Germany

2 https://fi.wikipedia.org/wiki/Tarmo_Kunnas

3 Rachel Maddow's book (https://en.wikipedia.org/wiki/Rachel_Maddow) explores how the isolationist movement and Nazi sympathizers posed significant obstacles even in the USA for President Franklin D. Roosevelt and other political leaders who recognized the threat Hitler posed to democracy and US security. We would like to express our gratitude to our American friend, Honorary Doctor Lee Egerstrom, for bringing to our attention the existence of this interesting book, which contextualizes Finnish experiences within a broader international framework, (<https://www.minnstate.edu/stories/honorarydegrees/bios/Egerstrom.html>).

(Muir 2009b, 143; see also SVL 1942, § 17).

The case of Moses Zewi (1909–2002) took place in the Faculty of Medicine. Professor Mauno Vannas, mentioned above, blocked Zewi's doctoral thesis at the Clinic of Ophthalmology in the late 1930s (Mäkelä 1997; Muir 2009b).⁴ The same fate was experienced by Herman Skurnik (1907–99), who was working on a doctoral thesis on venereal diseases at the Dermatology Clinic.⁵

The most thoroughly documented case so far has been the doctoral dissertation of Israel-Jacob Schur (1879–1949) in the field of religious history and ethnology, first at the University of Helsinki and then at Åbo Akademi University. The dissertation process, which manifested peculiar and even questionable twists and turns, dated to 1937–8 (Muir 2007; Muir 2009a; Muir 2009b). Schur's dissertation was controversial among his evaluators at the time, and it was rejected by both universities. However, it resurfaced at the beginning of the twenty-first century, first within the scientific community and then within the university administration (Muir 2007, 2009a and 2009b; Mäenpää et al. 2008; Janhunen 2009; Sihvola 2009).⁶ Professor

4 Professor and later Nobel laureate Ragnar Granit (1900–91) took Zewi, who had been dismissed by Vannas, into his own research group to specialize in the physiology of the eye and the retina, on which topic he later defended his doctoral thesis (Zewi 1939; Wegelius 2002).

5 Herman Skurnik's case has not previously been mentioned publicly. He shared his experience with Gideon Bolotowsky, the long-term chairman of the Helsinki Jewish congregation, who in turn forwarded the information to the authors of this article. While Axel Cedercreutz (1873–1946) was the Professor of syphilology and dermatology at that time, we have no information on his possible role in this case.

6 Stimulated – and forced – by Simo Muir's writings and their wide publicity, the rector

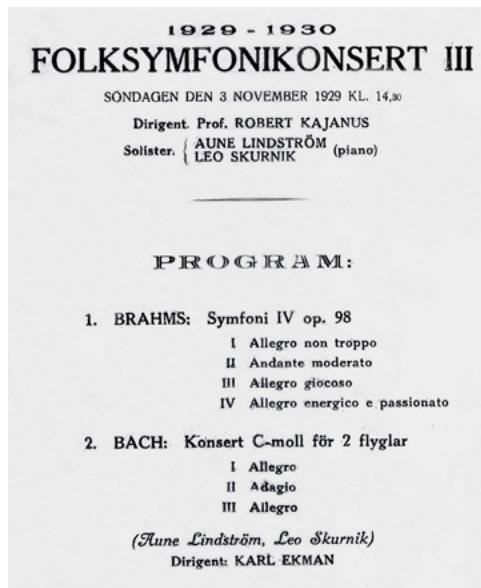


Juha Manninen,⁷ who is well acquainted with the scientific field of Schur's dissertation, stated in his recent assessment that 'Israel-Jakob Schur's intended dissertation was a significant achievement of Jewish enlightenment, but it was rejected in the atmosphere of the University of Helsinki in 1937' (Manninen 2009a, 2009b).

The case of our father Leo Skurnik (1907–76, Fig. 2) has also been mentioned publicly (Mäkelä 1997; Muir 2009b, 143). It can be

of the University of Helsinki Ilkka Niiniluoto set up a working group to investigate the Schur case (Mäenpää et al. 2008). The scientific community has, however, criticized the composition of the working group as none of the three members represented the scientific field of Schur. In relation to the Schur case the University was also criticized for appearing to take as its biggest concern its reluctance to open other possible cases of discrimination, suspicions and accusations of abuse associated with the evaluation of theses, a possible 'Pandora's box' (Sihvola 2009).

7 https://fi.wikipedia.org/wiki/Juha_Manninen



Figs. 2, 3. Licentiate of Medicine Leo Skurnik was also a talented pianist. He aspired to continue his medical studies in order to obtain a doctoral degree but found the way blocked. Image source: Skurnik Family Photo Archives

counted as another case in the series of the three mentioned above.

So far, however, the authors have only had a rough picture of what exactly happened in Leo Skurnik's case and what it meant in practice for him (Skurnik 2013, 325–6). So, our purpose here is to investigate more thoroughly the difficulties he faced and how they were related to the antisemitic currents of the time.

The case of Leo Skurnik

Leo Skurnik (born in 1907) belonged to one of the Jewish Cantonist families forcibly relocated to our country in the middle of the nineteenth century (Petrovsky-Shtern 2009; Skurnik 2013 and 2016). As a native of Helsinki, he represented the third generation of the Skurnik family in Finland. Not only was he Jewish, but his mother-tongue was Swedish, which put him in a double-minority position in our country (Illman 2022).

At that time, until the 1920s, the opportunities for the 'forced immigrants' of Cantonist families to make a living were strictly limited

by law, and many were employed in second-hand trading in Narinkkatori marketplace, i.e., running a kind of micro-entrepreneurship. After Finland announced independence 1917, the conditions of the Jews also began to ease a little; the trinket shops were replaced by larger-scale entrepreneurial enterprises (Skurnik 2016, 2021) and the children began to be educated, many following a route into academic professions.

Medicine was one of the most popular fields among Finnish Jews. It was also our father's choice. He started medical studies in 1926 at the University of Helsinki and aimed at a career as a researcher. Previously, one career option he had considered had been that of a concert pianist (Fig. 3). In his decision-making at that time, however, medical studies took precedence, partly for health reasons.

International level science

Leo Skurnik apparently started his scientific career during the last year(s) of his education as a licentiate of medicine, which was completed 1937. He carried out laboratory experiments at the Department of Medical Chemistry under the supervision of Professor Paavo E. Simola (1902–61, Fig. 4). In the 1920s and 1930s, internationally high-level biochemical research was carried out in Simola's laboratory, and that also engaged Leo Skurnik's scientific mind.

Simola's scientific career began in the circle of researchers in the laboratory of Professor A. I. Virtanen (1895–1973) in the dairy company Valio. Virtanen was a renowned chemist and university professor, and a 1945 Nobel laureate (https://en.wikipedia.org/wiki/Artturi_Ilmarinen). Simola was appointed professor of medicinal chemistry in 1933 (Virtanen and Simola 1926; Simola 1931a and 1931b). He was a double doctor as he had doctoral degrees both in medicine (1931) and biochemistry (1937). The majority of his substantial production took place in the years 1925–40 (Soininen 1941).

In the early 1930s Simola also worked on a Rockefeller scholarship in Stockholm as an assistant to Hans von Euler-Chelpin (1873–1964), a 1929 Nobel Prize laureate. During that residency he became interested in vitamins and their mechanisms of action.

After returning to Finland, Simola along with his research group developed *the citric acid cycle hypothesis*, which was considered a significant achievement, on which over fifty scientific articles appeared in the 1930s (Järnefelt 1981). Perhaps their top achievement was the 1939 publication in *Science* on this hypothesis (Hallman & Simola 1939).

As a demonstration of the high quality of Simola's research, over ten young talented scientists obtained their doctoral degrees from Simola's laboratory in the 1930s, and they all made significant scientific careers in Finland afterwards (Jännes 1961; Järnefelt & Simola 2002).



Fig. 4. Professor of Medicinal Chemistry Paavo E. Simola. He blocked Leo Skurnik's path to a doctoral degree. Image source: Fiftieth anniversary publication of the Finnish Clinical Chemistry Association.

UNIVERSITY OF CAMBRIDGE & MEDICAL RESEARCH COUNCIL
DUNN NUTRITIONAL LABORATORY,
MILTON ROAD (FIELD LABORATORY),
CAMBRIDGE
24th May, 1939.

Dear Dr. Skurnik,

I would be much obliged if you could spare me a reprint of your interesting paper with Suhonen on the estimation of vitamin A.

I am sorry you had trouble with my original method for the estimation of vitamin A. I have not been using the procedure as described in my 1930 paper for the last seven or eight years. Mr. Davies in my laboratory investigated the technique rather fully in 1933 (Biochemical Journal, 27, 1770) and found among other things that the addition of alcohol to the "hydrolystase" is essential if regular results are to be obtained. I would imagine that it is the omission of this step which is mainly responsible for the divergences in the results you have observed.

Like many other workers you state that the alkali digestion method involves saponification of the fat. The occurrence of saponification cannot be guaranteed, and if especially accurate results are desired a saponification with hot alcoholic potash should be given.

One is always ready to welcome improvements in technique, and in the estimation of vitamin A and carotene there is room for improvement. I think however, it would have been better if you had compared your new method with that of Davies rather than with my old discarded technique.

Yours sincerely,

T. Moore

Dr. L. Skurnik,
Department of Medical Chemistry,
University of Helsinki,
FINLAND.

P.S. On referring to the late L.K. Wolff's 1936 paper, I find that the method described, with which you agree, is exactly that of Davies. Wolff adopted this method some years ago as being more convenient than his original method, which involved Soxhlet extraction. The agreement between Wolff's old method and the Davies method is mentioned in Davies' paper.

Fig. 5. A letter from the University of Cambridge.
Image source: Leo Skurnik's scientific archives.

During and after his medical education Leo Skurnik started his own vitamin studies, first in the Virtanen laboratory, and later in Simola's. By the end of the 1930s Skurnik had already reached significant scientific results on the topic.

From 1938, Skurnik published his scientific work in established international journals either as a sole author or with co-authors. Altogether he published five scientific articles in peer-reviewed international journals and, a little later, another article in a Finnish periodical (Skurnik & Suhonen 1938; Skurnik & Groth 1939; Groth & Skurnik 1939; Skurnik 1941; Skurnik & Hellen 1944; Jalavisto & Skurnik 1946). Citation records in scientific databases indicate that Skurnik's contributions were noticed by other researchers in the field.

The biochemist Thomas Moore (1900–99), a long-term vice-director of the Dunn Nutrition Laboratory at the University of

Cambridge, was one of the leading figures in international vitamin research (Bates 1999). He noticed and became interested in Skurnik's publications and in a letter from spring 1939 (Fig. 5) requested a reprint of Skurnik's first scientific article (Skurnik & Suhonen 1938).

We have no evidence whether the correspondence between Moore and Skurnik continued over the next four articles published by Skurnik. It is, however, plausible that it did so in some form, as Skurnik's publications are mentioned five times in the 645-page book *Vitamin A*, known to contemporary vitamin researchers as Moore's Bible of Vitamins (Moore 1957).

The path to a doctoral degree is blocked

The Licentiate of Medicine degree at the end of 1937 gave Leo Skurnik the right to practise as a physician, but also brought him as a researcher to a stage in his career where he would have been expected to start working on his doctoral thesis. Based on his ongoing laboratory experiments on vitamins, it would have been natural for him to continue on that topic. But then *something strange happened*.

In Skurnik's own words, Simola instead wanted him to take a research topic on *craniometry*, which the Nazis in the 1930s used to promote their racial theories (see Arnold 2006). As a Jew, Skurnik considered the proposal as a personal insult.⁸ As Simola declined

8 Incidentally, Skurnik's contemporary colleague and co-author of one of his published articles, Margit Hellen (Skurnik & Hellen 1944), later (1948) defended her doctoral thesis



Fig. 6. A view from 1937 of the Simola laboratory at the Department of Medicinal Chemistry. Leo Skurnik (at the time, Bachelor of Medicine) is working at the bench to the left of Professor Paavo Simola (second from the right). Image source: Helsinki University Research Museum

to give him any other project, Skurnik drew his own conclusions in the spring of 1938.

However, before drawing further conclusions on this dispute, we need to consider whether Skurnik's quick conclusions in the spring of 1938 were realistic. Teacher–student relationships are known to be delicate and sometimes poor communication may give rise to misinterpretations, especially by the student. Was Skurnik perhaps too hasty in his own conclusions? (Häikiö 2023)

Several contemporary witnesses have described Simola as a unique personality, who, despite his exceptional talents, was the ‘eccentric man of the village’, who practically isolated himself from society at a very young age (Raivio 2023). The obituary published in the periodical *Duodecim* noted that ‘the absoluteness of his character also led to the

on craniometry: ‘An Anthropological Study Determining the Distances between Certain Fixed Points of the Skull’ (Nieminen 2019).

deeply human tragedy of his life: the extremely intensive work he performed in his youth took its toll later on’ (Jännes 1961). While we have no precise idea what the obituary is referring to, the characterization does not sound very promising from the perspective of Skurnik's scientific career.

As Simola had worked side by side with Skurnik in the laboratory for quite some time (Fig. 6), he certainly knew the results he had achieved. There were already several manuscripts ready for publication in international scientific journals. In retrospect, the four articles published by Skurnik in 1938–41 might have had enough material for a doctoral thesis.

This gives the impression that Simola clearly did not want to promote Skurnik's scientific career. In Skurnik's field of research it was essential for the doctoral student to be supported by his professor, who provided resources and appropriate working conditions for the research. Without these the task was difficult, if not impossible.



Figs. 7–10. Jewish students blocked in their post-graduate studies at the University of Helsinki in the 1930s: Israel-Jacob Schur, Herman Skurnik, Leo Skurnik, and Moses Zewi. Image sources: Skurnik Family Photo Archives (Schur and L. Skurnik), Jewish Archive (H. Skurnik), Zewi family photo archive.

On top of the possible ill-will between Simola and Skurnik, we also need to take into consideration the atmosphere of the era with antisemitism undeniably present within university circles.

Thus, Skurnik's interpretation of his own situation was very likely realistic, especially when considering his long-term collaboration with Simola, his scientific merits and the spirit of the times.

We have no information whether Skurnik complained about the unjust treatment he received, or if he sought to join another university or research group (Bredfeldt 2023). At that time there were hardly any channels through which to complain, a situation very different from that of present-day doctoral students, whose rights are controlled by supervisory committees and university regulations. Apparently, there were no suitable research groups in Finland to replace that of Simola for Skurnik.

In addition, moving abroad, perhaps to join the Moore group in Cambridge, then at the forefront of the field, was not an option for Leo Skurnik for family reasons (Skurnik 2013). Such plans, if there were any, would have been shredded as the threat of war was realized for Finns in the form of the Winter War (1939–40), followed by the Continuation War (1941–4).

Systematic discrimination targeting Jewish students during the late 1930s

As far as we know, doctoral studies were blocked in the late 1930s for four of the at most dozen Jewish university students (Figs. 7–10). In practice, this was the fate of most Jewish students working on their doctoral theses at that time. Discrimination was therefore systemic.

All in all, Skurnik abandoned an academic career; he so to speak 'disappeared from the scene' and, as he was a licensed physician, occupied temporary general practitioner positions in northern Finland.⁹ And when the Winter War started late 1939, Skurnik, who had gone through military service, was mobilized as a medical officer in an army corps formed mainly of men from the county of Ii.

'They' don't want you

But what really was the issue with Skurnik at the university? A credible explanation was provided by an older friend of Skurnik, Associate Professor Erik Adlercreutz (1899–1989) (Kirpilä et al. 1963), who told him roughly in these words

⁹ His first position during summer 1938 was as acting resident at the Oulu City Hospital. Next, until March–April 1939, he was a temporary general practitioner in the small county of Ii, located a little north of Oulu (Skurnik 1954).

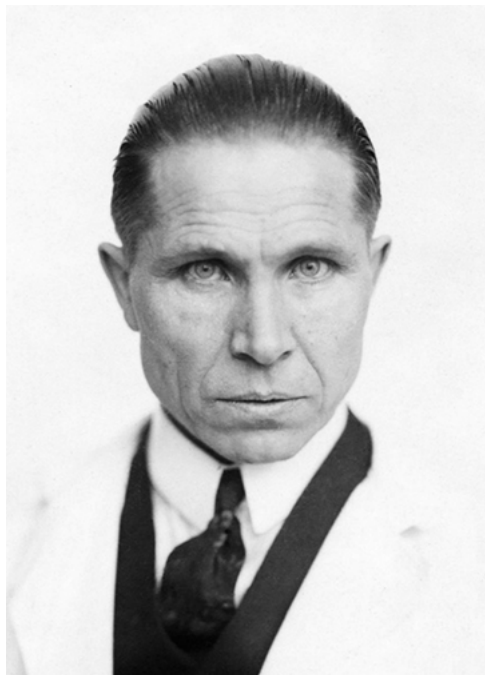


Fig. 11. The chief physician of the Helsinki children's hospital, Arvo Ylppö, who warned Leo Skurnik about the antisemitic atmosphere in Helsinki. Image source: University of Turku.

(in Swedish): 'Loli [Leo Skurnik's nickname], you must now understand that "they" simply don't want you to get on here.'¹⁰

He also received similar advice from another friend, Arvo Ylppö (1887–1992), the legendary Finnish paediatrician and head physician of Lastenlinna (the children's hospital in Helsinki), and later professor and archiater, (Fig. 11) who told him that 'The circumstances here in Helsinki are now tilting in such a way, Leo, that for your own protection it's best to head north'.¹¹

10 Information from Adlercreutz's colleagues reveals that while Adlercreutz himself was not one of 'them', he was nevertheless well aware of the atmosphere in the academic circles of Helsinki and knew of the opinions circulating about Jewish students (Pasternack 2023a).

11 This information about Ylppö's advice was revealed by our father during a discussion with our brother-in-law, Hannu Luhtaniemi (Luhtaniemi 2023). The North, to which

'Finland must be liberated from all Jewish influence'

Antisemitic ideas, alluded to by both Adlercreutz and Ylppö, were officially documented a few years later in the programme of the SVL, led by Mauno Vannas. The matter is directly stated in its 17th article: 'A public servant must be committed to our national endeavours and be independent of promises to secret societies or other non-national organizations. *Our country must be liberated from all Jewish influence*' (SVL 1942).¹²

While in the bigger picture, antisemitism in Finland was a clique or conspiracy rather than a genuine popular movement, 'they', mentioned by Adlercreutz, were also present in Simola's immediate circle; and 'they' were considered highly influential people.

One of them, known for his antisemitic ideology, was Simola's colleague Mauno Vannas, already mentioned earlier; another was Simola's collaborator, A. I. Virtanen, and a third was Erkki Leikola (1900–86),¹³ who was Associate and Adjunct Professor in Simola's department, and according to Finnish secret police information, later a member of SVL (Figs. 12–14). On top of this, on the basis of the literature on Finnish antisemitism, Professor

Ylppö referred, was Oulu and the Oulu Province Hospital where Dr Aleksanteri Steinbock (1894–1975), a family friend of Skurnik's, worked as a chief physician at the time (Kirpilä et al. 1963). Steinbock was able to employ our father in a temporary resident position that he could take up immediately.

12 We would like to thank Dr Antti Suvanto for bringing the existence of this document to our attention.

13 Leikola held many significant positions in Finnish society throughout his life: adjunct professor and professor of pharmaceutical chemistry (1931–33, 1938–67), associate professor (1931–41), CEO of the pharmaceutical company Orion (1933–51) and member of parliament (1945–51, 1954–62).



Figs. 12–15. Nazi sympathizers found support for their views in the actions of Professor Paavo Simola: Prof. Mauno Vannas and A. I. Virtanen, Associate Prof. Erkki Leikola, Rector Rolf Nevanlinna. Image sources: Vannas (SA photo archive), Virtanen (<http://www.finna.fi/Cover/Show?id=musketti.M012%3AHK19870106%3A347>), Leikola (Finna/Wikipedia), Nevanlinna (Atelier Apollo/Museovirasto, Historiallinen kokoelma),

Rolf Nevanlinna (1895–1980),¹⁴ the rector of the University of Helsinki (1941–5), can also be counted among ‘them’ (Fig. 15), either as an active participant or at least as an ideological sympathizer (Ekberg 1991; Tarkkanen 2007; Manninen 2007; Muir 2009b; Kunnas 2014; Silvennoinen et al. 2016; Westerlund 2019).

Intense social pressure characterizes the university in the late 1930s

Paavo Simola’s daughter, Professor Emerita Liisa K. Simola (1938–2023), claimed that her father was not antisemitic (email message to Samuli Skurnik, 2 February 2023). Since the war, however, similar claims have been made on behalf of many other persons, and a person’s close relative, a daughter, may not be an impartial witness in this matter. But even if Simola was not an antisemite, it does not exclude the role of antisemitism in the Skurnik case (cf. Westerlund, 2019).

The Nazi influencers close to Simola could have been exactly ‘those’ (referred to by Adlercreutz) who may have influenced the research-oriented Simola to execute their ideology. It would have required exceptional courage from Simola to oppose the prevailing atmosphere and the social pressure it created around him.

It is also plausible that Simola prioritized his own interests and career over opposing the ideas of his colleagues. He himself could have become a target of discrimination. The harsh fate of Professor Aapeli Saarisalo (1896–1986) served as a recent harsh warning example of that. Saarisalo had been nominated as a pre-examiner of Schur’s doctoral thesis and he recommended its approval. However, he was forced to resign from his pre-examiner position, and a more critical, and suitable, examiner was nominated as a replacement.¹⁵

In light of this background information, if Simola was reluctant to tell Skurnik directly that he was not allowed to get a doctoral degree, Simola took an indirect approach to achieve his goal. In conclusion, based on all the information described above, there were clear antisemitic features in the destruction of Leo Skurnik’s scientific career, and also in Simola’s actions. This was also our father’s own view.

15 Professors Saarisalo and Rafael Karsten (1879–1956), who were originally nominated as pre-examiners of Schur’s doctoral thesis, both recommended its approval. However, Saarisalo, who was nominated as the *custos* of the defence, was forced to resign from this task, and ‘a more suitable’ (i.e., Schur-critical) person was nominated instead. The opinion of the official opponent, Karsten, who still approved the defence, was overruled, and the defence was rejected (Muir 2009b, 136–7, 142).

14 <https://wihuriprizes.fi/kvp/rolf-nevanlinna/>

All this was somewhat strange and surprising to our father. Even though, as a Jewish boy, he had faced bullying,¹⁶ it had never been very severe for him. In any case, the academic events of the late 1930s generated a fateful turning point in his life, a sort of existential catastrophe. The academic goals and professional aspirations that had hitherto supported his life collapsed. At the same time, the Second World War engulfed the globe, and Skurnik also encountered setbacks a little later in his personal life, all of which forced him to rebuild his entire attitude towards life from scratch (Skurnik 2013).

In retrospect, however, Leo Skurnik was grateful for the advice received from his friends Adlercreutz and Ylppö. It opened his eyes that had been 'blinded by ambition to the realities of the time' (Luhtaniemi 2023).

From vitamins to developing a stereoscopic X-ray device

For Skurnik, both as a medical doctor and a Jew, the 1941–4 Continuation War was extremely challenging, especially during the period when he was in charge of a field hospital next to the German military headquarters in an operational sector of the front that was under German military command (Skurnik 2013). Nevertheless, his inner researcher spirit was constantly alert, looking for new ways to fulfil his calling.

X-rays – i.e., the Roentgen apparatus – played a central role in identifying foreign bodies in wounded soldiers. However, it only gave a two-dimensional image, which was insufficient

in some cases to provide an accurate view of the three-dimensional space. Skurnik, as a front-line military surgeon, faced this shortcoming in his fieldwork, prompting the inventor in him to develop a stereoscopic X-ray device¹⁷ that could be used even in frontline conditions.¹⁸ His partner in the project was Kaj-Wilhelm Noschis (1918–84), a radiology technician at the Oulu Medical Supplies Depot. The project, which came very close to achieving its final goal, including preliminary negotiations with representatives of the international X-ray device industry (Karjalainen 2023, 229; Skurnik 2013), was unique even by international standards.¹⁹

16 In a letter of January 1948 from Leo Skurnik to his future spouse and our mother, then Helmi Kaisto (1924–2014), he wrote about this issue as follows: 'I have indeed suffered from it [Judaism] since I was a little child. In school, we were beaten because of it, and at the university, we were marginalized, etc. However, in the eyes of God, we are all the same' (Skurnik 2013, 356).

17 The history of the stereo-radiography machine is considered to have begun in the early twentieth century (Wolbarst 1989). During the wars, another Finnish inventor, Dr Alwar Wilska (1911–87), also worked on the same challenge. Apparently, neither of these inventor teams was aware of the other's developmental work (Kaataja 2011; Kaataja & Vilén 2011).

18 The inventor's hat was one part of Leo Skurnik's persona, continuously generating various larger and smaller inventions. Some of these emerged in the post-war period to facilitate and improve various laboratory experiments and test arrangements in his scientific studies. However, the largest inventions in scale originated outside the field of medicine, sometimes in surprising areas of life. Four of them were awarded patents: 1. Timber-sorting device (no. 28702); 2. Sorting device for logs and similar items (no. 30477); 3. Log-transport device (no. 28783); and 4. Potato-harvesting machine (no. 28307). Source: PRH, Finland's Patent and Registration Office, 2024.

19 Noschis began after the war to work at Ab Scönannder, where he had conducted commercial negotiations towards the end of the war together with Leo Skurnik. During that time, he held one Swedish patent from 1950 (Kungl. Patent- och registreringsverket nro 133351) 'for an apparatus for X-ray photography, specifically designed for portable or ambulatory devices for screen-image photography of the lungs'. According to the



Figs. 16–17. Leo Skurnik at his private domestic scientific “rat farm” some time in the 1940s. His first wife, Lempi Skurnik (née Laukka), later Karvinen, also participated in the care of his experimental animals. Image source: Skurnik Family Photo Archives

After Skurnik was released from the military as a major at the end of the war, he became a general practitioner. At the same time, he continued his scientific research, focusing now on cancer (*Helsingin Sanomat* 1947; Skurnik 1948). The research was not easy as he was not formally associated with a university or research institution and lacked both a scientific degree and the support of the scientific community. For many years, he carried out cancer research on his own as a ‘lone wolf’, maintaining at his own cost a 500-rat facility and laboratory in his home (*Helsingin Sanomat* 1947) (Figs. 16–17).

Despite the difficulties, Skurnik tried to build himself a network of scientific connections. He was always searching for suitable new collaborators. For example, one manuscript among his remaining documents reveals a connection to Professor Nils Oker-Blom (1919–95), the head of the University of Helsinki’s Department of Virology, who later served as the University Rector and Chancellor and in 1992 was awarded the title of archiater by the president of the republic of Finland.

In 1959 Skurnik was appointed as a city physician in Oulu, and there made connections

United States Patent Office, he applied with Georg Scönaner as assignor for a patent for a more advanced X-ray machine, first in Finland in May 1947, and then in the United States in May 1948. This patent was granted on 21 July 1953. <https://www.freepatentsonline.com/2646514.pdf>

with the new generation of scientists at the medical faculty of the University of Oulu. One of his closest collaborators there was Olavi Räsänen (1931–2020), professor of pathology.²⁰

From the early 1960s, Skurnik conceptualized a potentially groundbreaking hypothesis on a novel, biological cancer treatment. In his research plan, revolutionary at the time, the idea was to train the cancer patient’s own immune cells in the laboratory (*in vitro*) to destroy cancer cells.²¹

One of the mentors in this project was the distinguished Hungarian-Swedish cancer researcher George Klein (1925–2016), a professor of tumour biology at the Karolinska Institutet in Stockholm (and also Jewish). In the early 1970s, Leo Skurnik started to carry out laboratory experiments on this hypothesis at the University of Oulu’s Department of Medical Microbiology, where Professor Veijo Raunio (1929–2022) was the director at the time.

20 Skurnik wrote a scientific manuscript with Räsänen (Räsänen and Skurnik 1971) that was submitted for publication to *Nature* magazine in 1971. Although the article was not accepted, it is likely to have been the basis for an article Räsänen published three years after Leo Skurnik’s death (Räsänen 1979).

21 For example, Professor Lauri Saxén (1967), later the Chancellor of the University of Helsinki, evaluated the plan sympathetically in his statement written in 1967 (Leo Skurnik’s scientific correspondence). See <https://www.freepatentsonline.com/2646514.pdf>

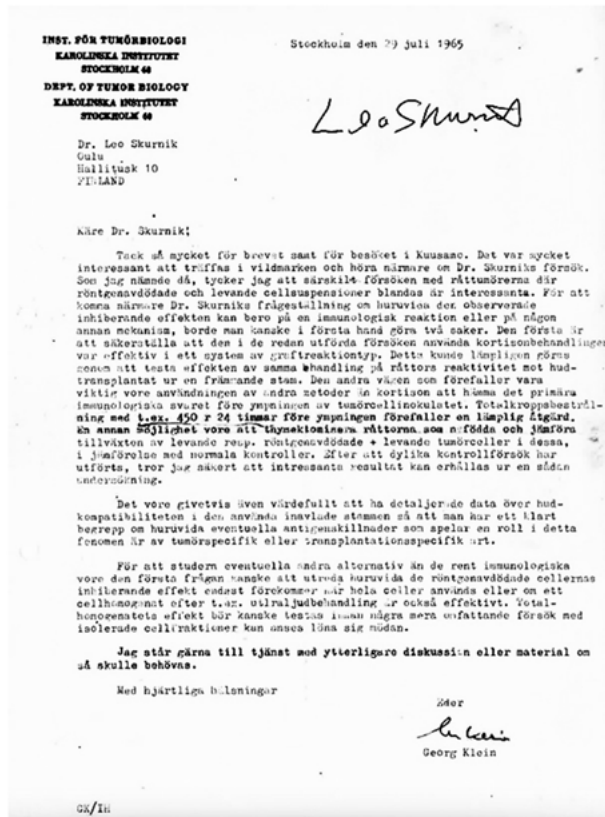


Fig. 18. Letter from Professor George Klein. Image source: Leo Skurnik's scientific archives

Attempt to pass on the baton

In the mid-1970s, a generational shift was attempted within the Skurnik family. At that time, one of the authors of this article, Mikael Skurnik, graduated from the University of Oulu as a biochemist and started to work towards his doctoral degree at the Department of Medical Microbiology on the cancer immunology project in collaboration with Leo Skurnik.²² Unfortunately, soon after the start of the

22 In simplified terms, the aim was to isolate and culture cancer cells of a surgically removed tumor in the laboratory and subsequently 'educate' the patient's immune cells to target these cancer cells. After these *in vitro* trained cells had been readministered to the patient, any remaining cancer cells would be identified and eliminated.

laboratory experiments, Leo was diagnosed with pancreatic cancer, which quickly proved fatal. Mikael continued the research project on his own for a while but without much progress, as the project turned out to be far too challenging for an individual researcher. Fortunately, he was able to change his doctoral project to the field of bacteriology, for which the department provided a productive and supportive environment.

In retrospect, it is easy to see that Leo Skurnik's cancer immunology hypothesis was ahead of its time. Only in recent years has the science of cancer treatments begun to apply immunological approaches that were already present in Skurnik's research plans in the early 1960s.²³ However, the development of his idea into a successful project would have required special expertise, appropriate resources and a well-equipped laboratory operating within the framework of a suitable scientific community. For a lone general practitioner, whose own scientific credentials dated back almost four decades, securing such research funding was not a realistic option.

In addition to facing challenges in carrying out this kind of lone-wolf research, Leo Skurnik was surrounded by sceptics. For example, Kaste Varjoranta (1910–85), a colleague of our father in Oulu, called him 'a madman who believed in the importance of scientific research' (Pasternack 2023b). Teuvo Larmi (1924–2006), a well-known professor of surgery in Oulu, had, in a casual conversation with our sister, stated

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23 Cancer immunotherapies, which have now achieved significant results, emerged first in the 2010s. However, their research dates back to the 1980s (see Cancer Foundation Finland 2024; Scheinin 2024).



Figs. 19, 20. The professor brothers Arje and Theodor 'Teddy' Scheinin advanced far up the academic and scientific ladders. Image sources: Arje Scheinin, University of Turku; Teddy Scheinin, Scheinins' Family Archives.

that 'your father is probably a great genius – or completely insane' (Skurnik 2013, 355).

A new time

Long before our father's death, the social atmosphere towards Jews in Finland gradually softened. This change was probably facilitated by the participation of Jews in the war effort as equal citizens and the heavy casualties they suffered, as well as by Marshal Mannerheim's post-war gestures, including his visit to the Helsinki synagogue on 6 December 1944.

Finnish Jews started to advance in their academic careers, on the basis of their own qualifications, and could make full use of their potential for the benefit of Finnish society. Among them, Leo Skurnik's cousins, professors (and brothers) Arje (1923–2003) and Theodor 'Teddy' Scheinin (1924–2006), progressed internationally the farthest (Figs. 19–20). Arje Scheinin, professor of dentistry, headed the famous *xylitol projects* (Turku Sugar Studies,

see Scheinin & Mäkinen 1976, Mäkinen 2015) and served as rector of the University of Turku (1981–87). Theodor Scheinin, on the other hand, was an eminent surgeon, whose team performed, among other achievements, *the first liver transplant in the Nordic countries* (1982) and established the operation in Finland (The Finnish Surgical Society 1989, Keiding et al. 1990, Roberts 2006). In 1989 Teddy Scheinin was invited to become an honorary member of the American College of Surgeons, an honour bestowed upon only a few Nordic surgeons.

Progress in their academic careers was not easy, however.²⁴ Teddy Scheinin's advancement was threatened in the late 1950s when his

24 Progressing as conscripts in the way they had hoped was also a challenging and insurmountable hurdle for both brothers. Neither of them was accepted into either the reserve officer candidate or non-commissioned officer school (RUK), which they both found very humiliating (Scheinin 1987 and 2023, Skurnik 2013: 328).

professor tried to block his admission to specialized studies. He eventually succeeded after changing his supervisory professor (Scheinin 2023).

Arje Scheinin, for his part, publicly discussed his own painful school experiences only twice in his lifetime. In a talk with his army comrades (Scheinin 1987), he recounted how he had faced clear discrimination as a Jewish teenager in the late 1930s. The prejudice culminated in 1941 when Arje, then a seventeen-year-old high-school student, had a disturbing conversation with a long-time classmate, a future SS officer. Although the classmate explained that he had nothing personal against Arje, he insisted on the ‘necessity of the elimination of those like him. In his opinion, I should understand that the extinction of me and those like me would allow more space for individuals who were racially purer and superior to me’.

In a later part of his talk, Arje added that while climbing higher on the social ladder, he never experienced discrimination again.

Traces of antisemitism

While Herman Skurnik, Leo Skurnik, Israel-Jacob Schur and Moses Zewi faced discrimination during their university studies in the 1930s, their lives somehow continued normally after the war – unlike the lives of Jews in many other countries. Herman and Leo Skurnik both became well-respected medical practitioners, Herman in Lohja and Leo in the surroundings of Oulu. Moses Zewi became in Turku a recognized eye specialist, even though his career did not progress smoothly (Wegelius 2002). Israel-Jacob Schur, who was somewhat older than the others, did not manage to benefit from this attitudinal change towards Jews. He passed away in 1949, grieving the loss of his only son, who had died as a war hero in 1940.

The social recognition received by Leo Skurnik represented two extremes. On the one



Fig. 21. Medical major Leo Skurnik. Image source: Skurnik Family Photo Archives

hand, while he faced blatant discrimination in his academic career, he received significant recognition during the war, rising to the rank of medical major and being awarded notable military honors (VR 3 and VR 4, 3rd and 4th Class Crosses of Liberty, of the Order of the Cross of Liberty).²⁵ He even received additional but unofficial posthumous recognition from the present generation.²⁶

Towards the end of his life, already

25 Even the Germans awarded Leo Skurnik the 2nd class Iron Cross, but he refused to accept it (Skurnik 2013, Simon 2019).

26 In 2014, five war-history researchers and bloggers from *Seura* magazine, including Markku Jokisipilä, Mika Kulju, Jarmo Nieminen, Antero Raevuori, and Martti Turtola, aimed to complete the list of 191 men who were officially recognized as Mannerheim Cross knights during the Winter and Continuation Wars by adding nine additional names, thus bringing the total to 200. Leo Skurnik’s name was at the top of this unofficial list of ‘the missing Marski knights’ (Kulju 2014, 36–37).



Figs. 22, 23. Leo Skurnik enjoying his favourite hobby in the mid-1950s and 1960s: fishing. Image source: Skurnik Family Photo Archives

terminally ill, Leo Skurnik converted to Christianity. In his own words, the practical reason for this was that he wanted to be buried near his beloved fishing waters in Kirkkosaari, Ii. However, in reality, it probably involved something more: perhaps the heavy trials Judaism had caused him to experience during his lifetime and the religious conviction that he gradually developed living in a different, Christian sphere of life.²⁷ He spoke about this latter motive to our stepbrother, Matti Karvinen (born Skurnik), and undoubtedly also to his confessor and friend, the Reverend Ossi Ylimaula, with whom he had long conversations during the final weeks and days of his life. Leo Skurnik had always maintained a strong but secularized Jewish identity but without specific religious ties or

forms, however, and he retained that identity until the end of his life.

Overall, the events described in this article should not have been part of the history of a civilized state. They should, however, be viewed against a wider background of those times and remembered now, as these phenomena are surfacing again. ■

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²⁷ Both of his wives were Christians. Our mother, Helmi Skurnik (*née* Kaisto), the latter of the two, came from a deeply religious Laestadian family background although she no longer belonged to the movement.

References

- Ahonen, Paavo, Simo Muir & Oula Silvennoinen. 2020. 'The study of antisemitism in Finland. Past, present, and future', in *Antisemitism in the North*, ed. J. Adams and C. Heß (Berlin: de Gruyter), 139–54. <https://helda.helsinki.fi/server/api/core/bitstreams/7ea8f3a9-ae9e-41e0-b160-f53428a70975/content>.
- Arnold, Bettina. 2006. 'Arierdämmerung. Race and archaeology in Nazi Germany', *World Archaeology*, 38/1: 8–31. <https://www.tandfonline.com/doi/full/10.1080/00438240500509744>.
- Bates, Chris. 1999. 'An appreciation. Thomas Moore', *Proceedings of the Nutrition Society*, 58: 751–2. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/AD9FC05EF85A94BF09AA32D538E58FC0/S0029665199001019a.pdf/an_appreciation_thomas_moore.pdf.
- Bredfeldt, Rita. 2023. Emails to the authors commenting one of the earlier drafts, 23–5.4.2023.
- Cancer Foundation Finland. 2024. <https://syopasaatio.fi/tutkimus/tutkimusmatkalla/immunologiset-hoidot/>
- Ekberg, Henrik. 1991. *Führerns trogna följeslagare. Den finländska nazismen 1932–1944* (Helsinki: Schildts).
- Ekholm, Laura, Simo Muir & Oula Silvennoinen. 2016. 'Linguistic, cultural, and history-related studies on Jews in Finland. A look at the scholarship in the twenty-first century', *Nordisk Judaistik / Scandinavian Jewish Studies*, 27/1: 43–57. <https://doi.org/10.30752/nj.67605>
- The Finnish Surgical Society. 1989. 'The Surgical hospital in Helsinki 100 years', *Annales Chirurgiae et Gynaecologiae* 78 (3): 158–227. Helsinki, Finland
- Groth, Heinz, & Leo Skurnik. 1939. 'Intravenous saturation with vitamin A', *Acta Medica Scandinavica*, vol. C I, fasc. IV–VI: 333–7.
- Hallman, Niilo, & Paavo Simola. 1940. 'The mechanism of the biological acid citric synthesis', *Science*, 90: 594–5. <https://www.science.org/doi/abs/10.1126/science.90.2347.594.b>
- Helsingin Sanomat*. 1947. 'Kokeellinen syöpätutkimus uhkaa loppua varojen puutteessa' (21.8.1947).
- Häikiö, Martti. 2023. Email to the authors commenting one of the earlier drafts, 25.3.2023.
- Illman, Ruth. 2022. 'Finlandssvensk och judisk: En etnografisk analys av dubbla identifikationer och vardagsreligiositet' *Nordisk judaistik / Scandinavian Jewish Studies*, 33/2: 19–37. <https://doi.org/10.30752/nj.125093>
- Jalavisto, Eeva, & Leo Skurnik. 1946. 'Atelektasias aiheuttavien hengitysteiden synnyttämistä sokintapaisista tilanteista', *Duodecim*, 10: 1209–20. https://www.terveysportti.fi/d-htm/articles/1946_10_1209-1220.pdf:
- Janhunen, Juha. 2009. 'Schurin väitöskirja ja yliopiston suomalaistaminen', *Tieteessä tapahtuu*, 27/3. <https://journal.fi/tt/article/view/1854>
- Jännes, Juhani. 1961. 'P. E. Simola', *Duodecim*, 17: 595–7. https://www.terveysportti.fi/d-htm/articles/1961_17_595-597.pdf.
- Järnefelt, Johan. 1981. 'P. E. Simola ja sitruunahappokierro', *Duodecim*, 13: 928–30. https://www.terveysportti.fi/d-htm/articles/1981_13_928-930.pdf
- & Liisa K. Simola. 2002. 'Simola, Paavo Eevertti (1902–1961)', in *Kansallisbiografia* (Helsinki: SKS). <https://kansallisbiografia.fi/kansallisbiografia/henkilo/6903>.
- Kaataja, Sampsa. 2011. 'Alvar Wilska – tutkimuksen teknologialle omistautunut moniosaaja', *Tieteessä tapahtuu*. <https://journal.fi/tt/article/view/4526/4274>
- & T. Vilén. 2011. 'Stereoröntgen ja anoptraalimikroskoopi esimerkkeinä varhaisesta suomalaisesta tutkimusteknologiasta'. *Tekniikan Waiheita* 29/3, 5–10. <https://journal.fi/tekniikanwaiheita/article/view/64000>
- Karjalainen, Mikko (ed.). 2023. *Puolustusvoimien kokeilutoiminta sotavuosina 1939–44. Kokeilutoiminnan historialliset juuret*, part II (Helsinki: Maapolustuskorkeakoulu). <https://journal.fi/tt/article/view/1854>.
- Keiding, Susanne, Bo-Göran Ericzon, Siv Eriksson, Audun Flatmark, Krister Höckerstedt, Helena Isoniemi, Niels Keiding, Rolf Olsson, Kaija Salmela, Erik Schrupf & Charlotte Söderman. 1989. 'Survival after liver transplantation of patients with primary biliary cirrhosis in the Nordic countries. Comparison with expected survival in another series of transplantations and in an international trial of medical treatment', *Scandinavian Journal of Gastroenterology*, 25/1. <https://www.tandfonline.com/toc/igas20/25/1?nav=toClist>
- Kirpilä, Juhani, Sisko Motti & Anna-Marja Oksa. 1963. *Suomen lääkärit 1962* (Helsinki: Suomen lääkäriliitto).
- Klinge, Matti, Marketta Klinge, Rainer Knapas, Anto Leikola & John Strömberg. 1990. *Helsingin yliopisto 1640–1990. Kolmas osa, Helsingin yliopisto 1917–1990* (Helsinki: Otava).

- Kulju, Mika. 2014. 'Puuttuvat Marskin ritarit. Seuran uudet ritarit, osa 1/3', *Seura*, 12: 35–7.
- Kunnas, Tarmo. 2013. *Fasismien lumous. Eurooppalainen älymystö Mussolinin ja Hitlerin politiikan tukijana* (Jyväskylä: Atena).
- Luhtaniemi, Hannu. 2023. Oral information to S. Skurnik, 28.5.2023.
- Maddow, Rachel. 2023. *Prequel: An American Fight against Fascism* (London: Penguin Random House). <https://www.penguinrandomhouse.com/books/721028/prequel-by-rachel-maddow/>
- Manninen, Juha. 2007. 'Eino Kaila ja kolmas valtakunta', *Tieteessä tapahtuu*, 21/4: 29–40. <https://journal.fi/tt/article/view/204>
- 2009a. 'Ympärileikkaus maagisena vastakeinona paikallisjumalille ja yön demoneille. Israel-Jakob Schurin väitöskirjassa', *Tieteessä tapahtuu*, 26/1. <https://journal.fi/tt/article/view/1749>.
- 2009b. 'Juutalaisen valistusajattelijan väitöskirjan hylkääminen Helsingin yliopistossa', *Tieteessä tapahtuu*, 27/2. <https://journal.fi/tt/article/view/1792>.
- Mäenpää, Olli, Fred Karlsson & Olli Alho. 2008. 'Israel-Jakob Schurin väitöskirjan käsittely ja hylkääminen Helsingin yliopistossa lukuvuonna 1936–1937'. (An internal working-group memorandum commissioned by the Rector of the University of Helsinki, previously published online but no longer available. See Muir 2013, 54–8, 65).
- Mäkelä, Taru. 1997. *Daavid. Tarinoita kunniasta ja häpeästä*. Documentary film (Helsinki: Kinotar.)
- Moore, Thomas. 1927. 'Vitamin A formation in the etiolated wheat shoot', *Biochem J.*, 21/4: 870–4. <https://portlandpress.com/biochemj/article-abstract/21/4/870/4084/Vitamin-A-Formation-in-the-Etiolated-Wheat-Shoot?redirectedFrom=fulltext>
- 1929a. 'V. Vitamin A and carotene. The absence of the liver oil vitamin A from carotene. VI. The conversion of carotene to vitamin A in vivo', *Biochem J.*, 24/3: 692–702. <https://portlandpress.com/biochemj/article-abstract/24/3/692/20077/Vitamin-A-and-caroteneThe-absence-of-the-liver-oil?redirectedFrom=fulltext>
- 1929b. 'The relation of carotin to vitamin A', *Lancet*, 380–1.
- 1929c. 'A note on carotin and vitamin A', *Lancet*, 499–500.
- 1957. *Vitamin A* (Amsterdam: Elsevier).
- Muir, Simo. 2007. 'Israel-Jakob Schurin väitöskirjan hylkääminen Helsingin yliopistossa vuonna 1937. Antisemitismiiä, kieliikiistaa ja henkilöintrigejä', *Historiallinen Aikakauskirja*, 105/4: 463–83. <https://journal.fi/haik/article/view/139454>.
- 2009a. 'Suomalainen orientalisti: Israel-Jakob Schur'. in *Hyljättiin outouden vuoksi. Israel-Jakob Schur ja suomalainen tiedeyhteisö*, ed. Simo Muir & Ilona Salomaa. Suomen Itämaisen Seuran julkaisuja 37, <https://journal.fi/tt/article/view/4526/4274>. (Helsinki: Suomen Itämainen Seura ry).
- 2009b. 'Anti-semitism in the Finnish academe. Rejection of Israel-Jakob Schur's Ph.D. dissertation at the University of Helsinki (1937) and Åbo Akademi University (1938)', *Scandinavian Journal of History*, 34/2: 135–61. <https://doi.org/10.1080/03468750902860468>. https://www.researchgate.net/publication/233126501_Anti-Semitism_in_the_Finnish_Academe_rejection_of_Israel-Jakob_Schur's_PhD_dissertation_at_the_University_of_Helsinki_1937_and_Abo_Akademi_University_1938_1.
- 2013. 'Modes of displacement. Ignoring, understating, and denying antisemitism in Finnish historiography', in *Finland's Holocaust*, ed. S. Muir and H. Worthen (London: Palgrave Macmillan), 44–68.
- Mäkinen, Kauko. 2015. *Sen täytyi tapahtua: mitä jokaisen suomalaisen tulisi tietää ksylytlistä* (Tampere: Mediapinta).
- Nemes, Joel. 2023. Telephone communication to Samuli Skurnik, 5.6.2023.
- Nieminen, Anja. 2019. 'Hammaslääketieteen naistohtoreista historian valossa', Suomen Naishammaslääkärit ry, Christmas event, 13.12.2019 (abstract).
- Noschis, Kaj. 2023. Email to Samuli Skurnik, 23.4.2023.
- Pasternack, Amos 2023a. Telephone communication S. Skurnik/Amos Pasternack, 23.3.2023.
- 2023b. Email to Samuli Skurnik, 23.3.2023.
- Petrovsky-Shtern, Yohanan. 2009. *Jews in the Russian Army 1827–1917. Drafted into Modernity* (Cambridge: Cambridge University Press). <https://www.cambridge.org/us/universitypress/subjects/history/russian-and-east-european-history/jews-russian-army-18271917-drafted-modernity?format=HB&isbn=9780521515733>, see <https://journals.openedition.org/pipss/2313>
- Raivio, Kari. 2023. Email to Samuli Skurnik commenting one of the earlier drafts, 18.4.2023.

- Rautkallio, Hannu. 1989. *Suomen juutalaisten aseveljeys* (Helsinki: Tammi).
- Roberts, Peter. 2006. 'Kirurgi oli tekemässä Suomen ensimmäistä maksan siirtoa. Professori Teddy Scheinin' (obituary), *Helsingin Sanomat* 26.4.2006. <https://www.hs.fi/ihmiset/art-2000004391474.html> .
- Räsänen, Olavi, & Leo Skurnik. 1971. 'The growth-stimulating effect of cardiac, uscle on tumours in homologous tumour transplants in rats', Draft for *Nature*. Included in Leo Skurnik scientific archives.
- Saxén, Lauri. 1967. 'P. M. Leo Skurnikin tutkimussuunnitelmasta', Department of Pathology, University of Helsinki, Laboratory of Experimental Embryology, 25.7.1967. Included in Leo Skurnik scientific archives.
- Scheinin, Arje. 1987. 'Epäonnistuneen korpraalin kokemuksia. Armeijakavereiden tapaamisessa pidetty puheenvuoro'. Scheinin family archives.
- & Mäkinen, Kauko K. 1976. 'Turku sugar studies: An overview', *Acta Odontologica Scandinavica*, 34/6: 405–8. <https://www.tandfonline.com/doi/pdf/10.3109/00016357609004651>.
- Scheinin, Barbro. 2023. Oral communication to S. Skurnik, 26.5.2023.
- Scheinin, Harry. 2023. Email to Samuli Skurnik, 19.9.2023.
- 2024. Email to Samuli Skurnik March 27, 2024.
- Sihvola, Juha. 2009. 'Juutalaisuutta ja antisemitismiä koskevaa asiantuntemusta ei ollut edustettuna', in *Hyljättiin outouden vuoksi*, ed. Simo Muir & Ilona Salomaa (Helsinki: Suomen Itämainen Seura). https://www.academia.edu/82867291/Antisemitism_in_the_North?f_r=51645
- Silvennoinen, Oula, Alpo Roselius & Marko Tikka. 2016. *Suomalaiset fasistit. Mustan sarastuksen airuet* (Helsinki: WSOY).
- Simola Paavo E. 1931a. 'Über den Abbau der Cellulose durch Mikroorganismen I zur Morfologie und Physiologie der aeroben sporenbildenden Cellulosebakterien'. Doctoral dissertation in the Medical Faculty, Helsinki University.
- 1931b. 'Über den Abbau der Cellulose durch Mikroorganismen II. zur Chemie der Cellulosebezersetzung duec die aeroben sporenbildenden Cellulosebakterien', *Aus dem Laboratorium der Butterexportgesellschaft Valio am.b.H.* Ann. Acad. Sci. Fenn. A.34: Nos. 1 and 6. Doctoral dissertation, Philosophy Faculty, Helsinki University.
- Simon, John B. 2019. *Strangers in a Stranger Land. How One Country's Jews Fought an Unwinnable War alongside Nazi Troops ... and Survived.* (Conneticut: Hamilton Books).
- Skurnik, Leo, & Pekka Suhonen. 1938. 'Determination of vitamin A and carotene in organs', *Zeitschrift für Vitaminforschung*, 8/4.
- 1941. 'Über den A-Vitamin- Carotin- und Riboflavingehalt der Leber', in collaboration with H. Heikel, & Th.U. Westerberg, *Zeitschrift für Vitaminforschung*, 15/1–2: 69–76.
- 1948. 'Syöpätaudista ja kokeellisen syöpätutkimuksen tuloksista', *Kaleva*, 19.
- 1954. CV for the National Board of Health (incl. annex of the publications in international scientific).
- early 1970s. 'Influence of atebirin on benzpyrene-induced sarcoma and on skin grafts in rats'. Unpublished draft article. Included in Leo Skurnik scientific archives.
- & Heinz Groth. 1939. 'Vitamin C in blood and urine by intravenous saturation', *Acta Medica Scandinavica*, vol. C I, fasc. IV–VI, 321–32.
- & Margit Hellen. 1944. 'Über Bestimmung und den Gehalt des Vitamin A und Carotene in Milch und Blut', *Zeitschrift für Vitaminforschung*, 15/1–2.
- Skurnik, Samuli. 2013. *Narinkkatorilta Kiestingin mottiin. Juutalaissuvun selviytymistarina* (Helsinki: Paasilinna). https://www.researchgate.net/publication/376392499_Narinkkatorilta_Kiestingin_mottiin_Juutalaissuvun_selviytymistarina
- 2016. 'Juutalaiset maahanmuuttajat kokivat kovia', *Kanava* 2, 52–5.
- 2021. 'Yhteiskunnallisten olojen vapautuminen 1900-luvun alussa hyödytti myös Suomen juutalaisia', *Tieteessä tapahtuu*, 39/2: 17–22. <https://journal.fi/tt/article/view/107630>
- Soininen, Gunnar. 1941. *Suomen lääkärit 1940*. Helsinki: Suomen lääkäriliitto.
- SVL. 1942. *Suomen Valtakunnan Liiton ohjelma* (Pohtiva: Poliittisten liikkeiden tietovaranto). <https://www.fsd.tuni.fi/pohtiva/ohjelmalistat/SVL/377>.
- Tarkkanen, Ahti. 2007. *Professori Mauno Vannas 1891–1964* (Helsinki: Silmäsäätiö). <https://www.silmäsäätiö.fi/content/uploads/2020/07/Professori-Mauno-Vannas-1891-1964.pdf>
- Vasara, Erkki. 1997. *Valkoisen Suomen urheilivat soturit. Suojeluskuntajärjestön urheilu- ja kasvatus toiminta vuosina 1918–1939*. Suomen historiallinen seura, Bibliotheca Historica 23 (Helsinki: Suomen Historiallinen Seura).

Virtanen, Artturi I., & P. E. Simola. 1926. *Das Vorkommen der Cozymase im Blut*. Suomalaisen tiedekatemian toimituksia. Sarja A 5, *Medica-Anthropologica* (Helsinki: Suomalainen tiedekatemia).

Wegelius, Uno. 2002. 'Moses Zewi In Memoriam', *Hakehila* 2, 52.

Westerlund, Lars. 2019. *The Finnish SS-Volunteers and Atrocities 1941–43 against Jews, Civilians and Prisoners of War in Ukraine and the Caucasus Region 1941–1943. An Archival Survey*

(Helsinki: SKS). https://kansallisarkisto.fi/documents/141232930/153230445/SS-VOLUNTEERS_verkkoon.pdf/05c3492b-afa d-5205-a0bf-bf035d4fa4d2/SS-VOLUNTEERS_verkkoon.pdf

Wolbarst, Anthony B. 1989. *Medical Imagining. Principles and Practices* (: CRC Press).

Zewi, Moses. 1939. 'On the regeneration of visual purple', *Acta Societatis Scientiarum Fennica*. Nova Series B, Opera biologica 2.4 (Helsinki: Societas Scientiarum Fennica).

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