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A Shifting Swarm of Vocalities: An Assemblage Approach to PA Systems and Morning Assemblies in Finnish Primary Schools (1930s–1980s)

This chapter studies the history and uses of central public address (PA) systems in Finnish primary schools, which gradually became the norm from the 1930s onwards. They could be used to broadcast live or recorded speech, music, and other sounds from one or more sending units located in the school building to loudspeakers mounted in the walls or ceilings of classrooms, halls, and corridors. Studying the historical functions, purposes and uses as well as the lived experiences of these systems sheds light on the everyday oralities of schools: how did certain types of vocalities shape time, space, bodies, and affects at school? How did they link to material and cultural systems, and how did they change? Our attention is focused on the agencies in vocal practices of the day-to-day life at school, and how these changed during the period we are studying.

As a case study, we consider one particular practice of orality, the morning assembly. Morning assemblies were an integral part of school education in Finland during the entire 20th century, shared as a material affective experience by generations of Finns. They aimed to teach and reinforce values that were deemed important and to mark the start of the school day in a ritualized way, thus giving it a spatial, temporal, and ideological rhythm and frame. When PA systems were introduced in schools, they entered the existing material and vocal practice of morning assemblies. Through the intertwined history of the morning assembly and these PA systems, we study schools as places of organised sound that encompass different technologies of vocality, allowing for different material constellations of voiced agency.

Taking Jane Bennett's *agency of assemblages* as our main theoretical approach,¹ we concur that agency will always emerge from dynamic and changing assemblages

¹ Bennett, 2010.

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that include both the human and non-human. This implies that, even in clearly hierarchical settings like schools, agency never emerges from a single human intention, but from “a swarm of vitalities”² which is material, spatial, and temporal, and encompasses a variety of elements. We perceive PA systems and their components to be elements in the swarms of vocal agency that make up a school’s everyday vocalities. The vocal assemblage of schools includes different architectural, material and technological components, bodies in various constellations, and systemic connections at different times. By analysing these PA systems and the vocal assemblages to which they contribute, we should better understand the shaping and shifting materialities of everyday voices and vocal practices in school buildings.

As in many places elsewhere, morning assemblies have been a regular part of the school day in Finland, but research on their cultural meanings and connections is scarce.³ Historical research on PA systems has mostly considered equipment used outdoors for political purposes or as local mass media.⁴ However, by studying sound as an integral element of schools as material premises, our study is closer to the type of research that historian of technology Emily Thompson has done on architectural acoustics and the culture of listening in early twentieth-century America, focusing on spaces specifically designed for presenting and listening (e.g., auditoriums, theatres, and studios).⁵ Although architecturally more commonplace, schools are culturally and materially even more complex spaces for experiencing vocality and vocal agency.

We have focused our attention on the period between the 1930s and 1980s because of two major changes. The first concerns the diminishing role of religion in schools, and the second concerns their organisation with regard to educational aims – resulting in the introduction of a nine-year comprehensive school education for all children in the 1970s. The compulsory morning assembly prevailed in spite of these changes, gradually incorporating a wider group of speakers beyond the scope of headteachers, clergy and teachers of religion. First, other teachers also began to give assemblies and then increasingly pupils did too. In her research on the early history of the Finnish primary school, social historian Saara Tuomaala defines the modern school of compulsory education as “a pedagogical and educative space, in which the child’s physical and subjective identity is constructed. At the same time, the school’s teaching constructs a moral and cultural landscape that is meant for pupils to identify with and feel part of”.⁶ The vocal practice of morning assemblies

2 Bennett, 2010, 32–38.

3 Some theses and case studies exist. See e.g., Bhattacharya and Sterponi, 2020, 181–199; Cappy, 2019, 845–876; Meriläinen and Sjöbacka, 1993.

4 See Radovac, 2015, 32–50; Fackler, 2009, 299–308; Epping-Jäger, 2018, 396–400.

5 Thompson, 2004.

6 Tuomaala, 2004, 55.

connected these elements together, but in different constellations as new agencies entered the assemblage and interacted. Distributive agency in the material assemblage thus made vocal experiences of morning assemblies more precarious.

To trace the materiality and cultural connections of this assemblage, we will be examining two main categories of historical research material. The first are documents for instruction and marketing, produced both by school administrations and the companies providing the PA technology. Their approach is strategic, and from them we can trace administrative discourses and contexts. The second category provides traces of resulting lived circumstances of vocalities in schools through public discussion materials, archived photos, and artefacts. Photographs and films are used to reconstruct material assemblages, and the more general discourse on schools as vibrant vocal spaces is followed in newspaper and trade magazines.

PA Systems and Schools as Speech Machines

Although amplifiers were already present in certain spaces and on particular occasions in Finland in the 1920s, it was not until the 1930s that their use had spread more widely to hospitals, military institutions, and private buildings.⁷ PAs were named “central radios” (*keskusradio*), as they were often used to relay radio programmes from a central radio receiver into the many different rooms and spaces of a building,⁸ even though the system was also used to play pre-recorded and live sound.⁹

When building was completed in 1934, the *Aleksis Kivi School* in the working-class district of Helsinki was celebrated as being one of the most modern in Finland. As it was the largest primary school in Finland at that time, it was a model for new school buildings – even being presented at the Paris World Fair in 1937. Among its modern features showcased in one film documentary was the school’s central radio. “As usual, the school day begins with morning prayers,” announces the narrator, as we see rows of children clasping hymn books before a large loudspeaker, “which in this school is

7 Systems from suppliers such as Fenno-radio (*Oy Fenno-Radio Ab: 1924–1949*. Helsinki, 1949, 43), Ericsson, A.E.G., and Oy Suomen Akkumulaattoritehdas “Tudor” (“Radio sairaaloissa,” *Suomen Punainen Risti*, December 1, 1934).

8 Evidence of such use (e.g., in prisons and hospitals) can be seen in artefacts and photos in Finnish museum collections and newspaper reports (e.g., photo of central radio with manual in Hämeenlinna prison: RHOHL3498, Finnish Heritage Agency; loudspeakers from Tiura Tuberculosis Hospital: EKMEKMEE12810:2, Lappeenranta Museums; and “Radio sairaaloissa,” *Suomen Punainen Risti* December 1, 1934).

9 For instance, “Uutisia ja tiedoituksia,” *Suomen mielisairasten hoitajakunnan liiton julkaisu*, August 1, 1937.

carried out with the help of a microphone and loudspeakers". The film then shows a man speaking or singing into a microphone while another plays the harmonium.¹⁰

During the 1930s, central radio systems increasingly came to be seen as necessary in Finnish schools. An important factor in these considerations was that, in 1934, the national broadcasting company YLE launched "school radio" (see Fig. 1). The aim of the school radio programmes was to improve and standardize the quality of primary education throughout the country, and by 1939, almost half (44 per cent) of all primary school pupils were listening to the school radio programmes at school.¹¹ Media sources indicate that the PA systems in schools were used for this purpose until at least the 1950s,¹² but right from the start another important use found for the PA systems was in the morning assembly.¹³

The reasons for their use in assembly was inextricably linked to the materiality, spatiality, and logistics of school life. According to the teachers' trade journal, the PA system in *Aleksis Kivi School* had solved one of the problems anticipated with having such a large school: no precious time was wasted in moving pupils between classrooms and the assembly hall.¹⁴

In 1939, these practical advantages had not escaped the attention of the local education board in Viipuri either: "The board has also noted that if there was no central radio, and the shared morning assemblies were to be held in the assembly hall / gymnasium, the floor would get dirty before the first gymnastics class – especially in autumn and spring. However, with a central radio in the school, each class can take part without leaving their classroom".¹⁵

It is difficult to estimate the prevalence of school PA systems in Finland at any given time, as no statistics have yet been found. According to the newspapers of the time,¹⁶ they were installed in large schools built in the 1940s and 1950s, and were already being described as "standard equipment" in larger schools – both in the city and countryside – by the end of the 1930s.¹⁷ A PA system proved the

10 *Suomen uudenaikaisin kansakoulu*, Suomi-Filmi Oy, 1937. The loudspeaker seen in the film is a floor model, whereas all other visual material from schools shows wall-mounted models. Floor models were apparently used in *Aleksis Kivi School* during the test-phase of the system.

11 Enden and Lyytinen, 1996, 62–64.

12 *Finlandia-katsaus 167*. Suomi-Filmi Oy, 1952.

13 See for example: "Hämeenlinnan kouluoloista," *Opettajain lehti* February 24, 1939; "Oma keskusradio ja hammasklinikka Enson kansakoulussa," *Opettajain lehti* March 3, 1939.

14 "Pakinapalsta," *Opettajain lehti* November 9, 1934; "Kouluhartaushetkistä," *Opettajain lehti* February 15, 1935.

15 "Keskusradiolaitteet Repolan kansakoululle," *Karjala* September 27, 1939.

16 See e.g., *Etelä-Saimaa* October 10, 1937; *Aamulehti* September 16, 1938; *Helsingin Sanomat* March 28, 1937.

17 *Karjala* September 27, 1939.



Fig. 1: Finnish schoolchildren following gymnastics instructions from a school radio broadcast in the 1930s (photo: Kansan Arkisto).

school was modern,¹⁸ and was often mentioned as one of its headlining features, along with a flattering description of the acoustic technology involved and how it encouraged the orderly conduct of large groups of children:

The most wonderful thing about the school, however, is the actual hall [. . .]. Morning assembly is carried out there, so that each class stands outside its classroom in rows, with the lower years on the ground floor and the upper years on the balconies above. As in the classrooms, the acoustics in the hall are excellent, with no echo at all – this means the headteacher’s announcements can be clearly heard via the central radio and its loudspeakers – which are installed at every point.¹⁹

¹⁸ “Outokumpu on saanut uuden koulutalon,” *Opettajain lehti* November 15, 1940; “Helsingin Lapinlahden kansakoulun rakennusselostus,” *Opettajain lehti* May 2, 1941; “Uudenaikainen kansakoulu rakennetaan Lohjalle,” *Uusi Suomi* June 4, 1949; “Uusi kansakoulutalo vihitty tarkoitukseensa Hyvinkäällä,” *Uusi Suomi* May 15, 1950; “Suolahti juhlii – uusi koulu vihitty,” *Uusi Suomi* June 3, 1952; “Maamme uudenaikaisin oppikoulu napapiirillä,” *Suomen Sosialidemokraatti* January 24, 1953; “Upea kansakoulu Naarajärvelle,” *Länsi-Savo* July 2, 1955.

¹⁹ “Maamme uudenaikaisin oppikoulu napapiirillä,” *Suomen Sosialidemokraatti* January 24, 1953.

A growing population meant a post-war construction boom for schools in the 1950s, though for many children – especially in the countryside – their school was still housed in small or medium-sized wooden buildings dating from the early years of compulsory primary education.²⁰ These wooden buildings had been built according to designs approved for use across the nation, and offered some children their first experiences of modern living standards (e.g., hygiene and lighting).²¹ By the 1950s, building regulations were specifying even higher standards for heating, sanitation, and ventilation. These did not as yet apply to PA systems, however, which would explain why they are not specifically mentioned in historical overviews of the building service technology used.²² PAs only feature in overall descriptions of how time, space, and bodies are managed, along with electric clocks, bells, and dental clinics. These technologies combine to ensure the rhythm of the school day and health and safety of the pupils.²³

Founded in 1954, the aerial and audio company Teleste became the leading producer of the country's central PA systems for the next few decades. Teleste installed its first school PA system in 1958, and schools became its biggest customer group for decades.²⁴ In the second half of the 1980s, Teleste began marketing the SCS 800 – a more complex audiovisual system of communication and information with an internal telephone system and the option to incorporate internal and external data banks if required at a later date. Again, this was seen as necessary technology for tackling the logistical challenges of greater distances in the new schools.²⁵ Thanks to the technology, “teachers, pupils and also the caretaker are contactable anywhere on the school premises, and urgent matters can be dealt with immediately in the lesson”.²⁶

Teleste certainly sold some of its SCS 800 systems in the 1980s,²⁷ but an examination of the company's product catalogues and archival photographs from Finnish schools in the 1940s–1980s indicates that most classrooms throughout this period had simple speakers with a knob (if any) for adjusting the volume. In the photos, the

20 Jetsonen, 2020. Compulsory primary education was defined by law in Finland in 1921.

21 Tuomaala, 2004, 125–8.

22 See Sainio, 2020.

23 See: “Oma keskusradio ja hammasklinikka Enson kansakoulussa,” *Opettajain lehti* March 3, 1939; Pentti Talvio, “Koulujärjestelmästä myönteisiä kokemuksia,” *Teleskooppi* 3/1988: 5. In a different parallel, the PA systems of schools have been discussed during the 21st century as a way of warning pupils and teachers in the case of an armed attack, possibly by using a code word or a certain piece of music. See: <https://www.is.fi/kotimaa/art-2000000491678.html>.

24 Ritakallio, 2004, 14–15.

25 Talvio, “Koulujärjestelmästä myönteisiä kokemuksia.”

26 Teleste, *Koulun tietoväylä SCS 800*.

27 Talvio, “Koulujärjestelmästä myönteisiä kokemuksia.”

PA speakers appear as part of the vocal assemblage at the front of the class along with the teacher's desk and blackboard (see Figs. 2 and 3).²⁸ They are frequently seen alongside the harmoniums too, that had an important role in sung vocalities, often accompanying the communal and hymn singing during morning assembly.

This assemblage highlights the hierarchical organisation of voices and sounds in schools at the time: the loudest and most important ones were expected to come from the front of the room. This sonic hierarchy is also apparent in the PA installation instructions. The National Board of Education's 1987 regulations defined a PA system – of central unit, speakers, antenna, and microphone – as standard equipment in schools of at least 130 pupils.²⁹



Fig. 2: A classroom in Pakila Primary School (1958). The schoolhouse was built in 1954 and is keeping with its modern architecture, has a modern speaker above the alphabet (photo: Helsinki City Museum/Heikki Havas).

²⁸ See archived photographs from Espoo City Museum, Finnish Heritage Agency, The Finnish Labour Museum Werstas, Helsinki City Museum, Iloimantsi Museum Foundation, Kerava Museum, Lappeenranta Museums, Nurmes Town Museum, Porstua, Satakunta Museum.

²⁹ Kouluhallitus, 1973, 3; Kouluhallitus, 1987, 5.



Fig. 3: A classroom in Porthaninkatu School (1972), photographed before demolition. The speaker on the wall is a Teleste made between the 1950s and mid-60s. The building dates from 1890 and earlier photographic material shows an older model of speaker being used in the 1940s (photo: Helsinki City Museum/Kari Hakli).

Rooms to be equipped with microphones were the headteacher's office, the central radio room, and the dining hall. Additional microphones were optional for the caretaker's room, main hall, music classes, gym, and outdoor areas. Speakers were to be placed everywhere in the school, except storage rooms, toilets, and the central radio room itself.³⁰

The headteacher therefore had their own personal microphone and did not even have to leave their office to assert their vocal authority. Anybody else delivering general announcements or morning assembly had to use the central radio room – a locked space, the key for which was normally only available for teachers and maintenance staff. Meanwhile, placing a microphone in the dining hall betrays the logistical importance of feeding a large number of young people on a regular basis in terms of time and space. The caretaker's microphone was for a certain degree of policing and maintenance announcements, while microphones in spaces for performances – e.g., festive gatherings, music and theatre shows – were likely to be those most accessible for pupils and visitors.

³⁰ *Sähkötietokortisto* ST 23.11.

Morning Assemblies as Vocal Practice

In Finland, morning assemblies for prayer most certainly stretch back as far as the Middle Ages, but are first mentioned in writing in an 1872 decree³¹ which calls for the daily singing of hymns, reading from the Bible, and praying – specifically in a shared space and led by the headteacher. For a century the emphasis was to focus on religious content in assemblies and, though the curricula made no mention of assemblies or prayers, there were guidelines to them every now and then in circulars from the education authorities. Assemblies provided an opportunity to fuse long-term educational objectives with the notion of an ideal citizen – a mundane but vital part of young people’s moral upbringing.³²

Following the 1923 Freedom of Religion Act, morning assemblies became a part of religious education in secondary schools [*oppikoulu*]. Those pupils who were on civil (but not parish) registers, or belonged to congregations other than the Evangelical Lutheran Church of Finland were now exempt from morning assembly, as these were nearly all religious in nature at this time. In primary schools, however, assembly remained compulsory for all pupils. This partial sensitivity to diversity continued until the 1970s, when there was an overhaul of the whole basic education system resulting in the “comprehensive school” and upper secondary education. This reform also caused morning assembly to be further separated from religious education. Assemblies were no longer called “morning prayers” (*aamuhartaus*), but instead “opening of the day” (*päivänavaus*). Although they were still supposed to be “positively linked to religious and ethical education at the school”, morning assemblies were also to cover “topics relevant to the personal development of pupils – ones relating to their lives, school, and society” and to include “the communal singing of hymns or other suitable music”³³ – this was a significant change.

The only times pupils’ voices were expected to be heard distinctly was when they were supposed to be enthusiastically joining in with communal singing of hymns.³⁴ When they later became individual speakers in morning assemblies, this happened as a part of the school’s aim to teach pupils not just how to read, but also talk in a naturally educated way like the teachers.³⁵ There are parallels here to be drawn with Janice Schroeder’s analysis of pupils’ voices in Victorian

31 Decree 26/1872 / Asetus-Kokous 26/1872.

32 Peura, 2005.

33 Peura, 2005, 14–15.

34 Väättäinen, 1986, 20.

35 Tuomaala, 2004, 192.

classrooms: schooled voices were expressions of a certain form of culture and social propriety rather than of individual selfhood or agency.³⁶

During the 20th century, the Church of Finland produced several guides³⁷ on how to give morning assembly – long seen as a cornerstone in the Church’s important relationship with schools. By the time of the educational reforms in the 1960s and ’70s however, the Church was less confident and began to contact education authorities and decision-makers directly “with the aim of keeping Christianity’s gospel [at the heart of] morning assembly at school”.³⁸ Disturbing rumours such as “reading from Chairman Mao’s Little Red Book, sharing food recipes, or lectures on the routes of migratory birds” reached the Church in the 1970s.³⁹ Even if these experimental approaches to assembly may have been only a fad, the decrease in explicitly religious content overall was not. By the 1990s, less than 20 per cent of all morning assemblies were religious in nature,⁴⁰ and the 1999 amendment to legislation further loosened the grip of the Church. Not only did assembly no longer need to make a “positive connection to the school’s religious and ethical education”, but advance notice needed to be given of any religious content.

The essence of the vocalities present in assembly was always multi-layered: the assembly was a mundane repetitive part of the school day, yet at the same time attempting to be spiritually uplifting. As such it was – and still is – a lasting element in the structure of the school day in nearly all Finnish schools,⁴¹ even if its form and content have evolved over the decades. It has also become part of the ritualistic function of music teaching in schools: singing hymns and other songs thought to instil a positive sense of community has been instrumental in the celebratory practices of the school’s time cycles.⁴²

For those schools that had them, PA systems were – in the first decades – most commonly used for morning assembly and the school radio programmes. In 1980, the Church of Finland described PAs as “a good basis for developing the practice of morning assembly”, especially with regard to music. At the time this

³⁶ Schroeder, 2015, 31–49.

³⁷ See e.g., Kulometsä, Nikunen and Visapää, 1974; Bösjinger, 1985; Holma, Majamäki, and Nummela, 1999; Stjernvall-Kiviniemi, 2021.

³⁸ Holma, 1999, 92.

³⁹ Bösjinger, 1985, 16.

⁴⁰ Pyysiäinen, 1994, 38–46.

⁴¹ Yle Uutiset May 21, 2014 “Lähes kaikissa kouluissa pidetään uskonnollisia päivänavauksia”, <https://yle.fi/uutiset/3-7252972>. Accessed September 28, 2021.

⁴² Mustakallio, 1986, 49, cited in Hirvonen, 2009, 47.

was published, it was almost as common to have an assembly over the PA as in a shared space.⁴³

The same publication claimed, however, that the use of central PAs for assembly had also “alienated teachers and pupils from the experience of active participation”, giving rise to “new didactic problems”.⁴⁴ This may have had something to do with technical issues: sound reproduction could sometimes be so poor that the speakers would often get turned off.⁴⁵ Nevertheless, by 1972 a study reported that pupils had become more in favour of assemblies over the PA.⁴⁶

Not being able to see listeners also meant no direct control over how messages were received. For adult speakers, especially those from outside of the school community, it could be a baffling experience to speak “into the void” while simultaneously being aware of perhaps hundreds of children and youths listening. As parish employees found out when making their assembly delivering rounds in the local schools, the interfaces were seldom similar between schools. School staff expected human involvement combined with adequate technology skills – and certainly not a tape sent from the congregation.⁴⁷ As the church education secretary wrote in 1985, the role of the parish visitor was not easy: “coming from outside the school community, they are particularly susceptible to criticism”.⁴⁸ They were expected to deliver the Word in a way that created trust and more or less resembled a radio programme, but in practice this often meant “a solitary morning spent in front of a microphone and, at best, the school caretaker”.⁴⁹ The gap between the goals of morning assembly and the means available for adults to conduct them also grew as youth culture gained momentum and developed new expressions and mentalities alien to many adults.

During the latter half of the 20th century, pupils became more involved in giving morning assemblies and gained new vocal roles. The change was brought on by one specific addition to the material assemblage of schools and to the everyday life of young people in general – compact cassettes. Between the 1970s and 1990s, tapes had become the mainstream technology for listening to music in Finland. Pre-teens and teenagers could now record sound, moving from simply consuming

⁴³ Kangas, 1980, 37.

⁴⁴ Karttunen, 1980, 13.

⁴⁵ Bösing, 1985, 41.

⁴⁶ Innanen, 1972 cited in Karttunen, 1980, 20.

⁴⁷ Bösing, 1985, 65; Hatanpää, 1999, 97.

⁴⁸ Bösing, 1985, 43.

⁴⁹ Karttunen and Tamminen, 1980, 124.

ready-made recordings and broadcasts to producing or “prosuming” their own DIY mixtapes, testing their radio presenter skills, and so on.⁵⁰

The biggest box office film of 1980 in Finland, *Täältä tullaan elämä*,⁵¹ (“Life, Here We Come”)⁵² featured a scene with a PA system (Figs. 4–6) that challenged the rigid vocal hierarchy of morning assembly in schools, where two boys (already in a special class for delinquent behaviour) secretly replace the tape prepared by the school’s most authoritarian teacher for morning assembly. It starts out with the religious organ music the teacher expects, but as he leaves the PA room, it changes abruptly to provocative Finnish punk and he finds himself unable to go back in and switch it off. Chaos ensues as pupils come out of their classrooms, which gets him angry and puts him in direct conflict with the boys.

In *Kasettimuistot* – the Finnish memory data collection about c-cassette technology – morning assemblies are remembered as outlets for self-expression via taped compilations. These were sometimes experimental or subversive, but they were at the very least different from what adults produced (teachers also practised their assembly material on tapes).



Fig. 4: The PA scene in *Täältä tullaan elämä*. Pete is showing Jussi the teacher’s cassette from the PA room which he has just switched with the boys’ own prank one (photo: Courtesy of KAVI (The Finnish National Audiovisual Institute)).

⁵⁰ Kilpiö, Kurkela and Uimonen, 2015, 34, 53–4, 146–7.

⁵¹ *Täältä tullaan elämä*, 1980.

⁵² Literal translation of the film title. The official English name of the film is “Right On, Man!”.



Fig. 5: Meanwhile, the unsuspecting teacher, Kiiikkulainen, inserts the wrong tape into the player, presses play and then leaves the room. It is then too late for him to get back in and stop the tape as the boys have stuck chewing gum in the lock (photo: Courtesy of KAVI (The Finnish National Audiovisual Institute)).



Fig. 6: Kiiikkulainen tries to restore order, get back into the PA room, and punish the guilty pupils all at once. Meanwhile punk music is blasting from every loudspeaker – the prank has worked (photo: Courtesy of KAVI (The Finnish National Audiovisual Institute)).

Incidents like “we played Estonian punk over the school’s central PA in morning assembly”⁵³ probably became more frequent after the success of *Täältä tullaan elämä*. Pupils invented other uses for cassettes and PAs, such as taping a whole day’s worth of playful and entertaining “senior student radio” for the day they would celebrate their *penkkarit*.⁵⁴ PA systems carried emergent properties, allowing for new vocal possibilities – they could become tools for vocal challenging, even if not always as subversive as in *Täältä tullaan elämä*. Upon entering the assemblage, cassettes nudged the swarm of vocal vitalities into new positions.

In terms of Bennett’s theory of assemblages, vocal agency is distributed among the affective bodies present in the school’s mixed assemblage.⁵⁵ The few mentions that PA systems do receive in contemporary studies of school environments, portray them as the embodiment of a simple hierarchy – a tool for adults to control children.⁵⁶ This certainly was one enduring feature of school PA systems, part of a system for creating what Foucault has termed “docile bodies”.⁵⁷ However, when studied in tandem with morning assemblies, it became clear that more complex relations were defining and producing vocalities in schools.

Studying PA systems and their use in schools renders this shifting assemblage of bodies and material objects as a tangible *swarm of vocalities*. In this swarm, representing the voice of the school, agency, and power are not distributed evenly, but the distribution remains in flux, built on shifting connections and elements – both old and new. When studying contemporary pedagogical practices at school, Dianne Mulcahy has observed that the perspective that assemblages provide helps to challenge the discourse that concentrates on the teacher and to focus on the multitudes of connections in schools.⁵⁸ The joint history of PA systems and morning assembly is a good example of such connections. It illustrates how assemblages may change over time – connecting different components in various ways, creating new vocal possibilities, and thus making morning assemblies slightly unstable in spite of their highly repetitive character. However, studying these connections historically can be tricky, as these connections have to be read from sources that are usually focusing on something else.

53 *Kasettimuistot*, resp. 818, male, b. 1977, Kirkkonummi.

54 *Kasettimuistot*, resp. 29, male, b. 1975, Porlammi. *Penkkarit* is a traditional day of wild carnivalesque celebration for Finnish last-year students about to start preparing for their matriculation examination. See e.g., <https://en.wikipedia.org/wiki/Penkkarit>.

55 Bennett, 2010, 21–24.

56 Cullingford, 1988, 7.

57 Foucault 1995, 135–168.

58 Mulcahy, 2012, 22.

Conclusions

We set out to analyse the intertwined history of PA systems and morning assemblies in Finnish schools, as neither had yet been specifically studied as historical phenomena. The aim was to discover how certain vocalities shaped the physical, emotional, temporal, and spatial aspects of schools, how they linked to other material and cultural systems, and how these vocalities themselves changed. We found that they shifted between two levels: the administrative ideological level of educational aims, and the everyday material level of the school day.

PA systems and morning assemblies are as much a part of the vocal assemblage in schools as the pupils and teachers themselves. The vocalities produced via them are elevated from the most mundane level of vocal practices happening in the classrooms, corridors, or playground of the school. They juxtapose the material swarm of agencies that make up everyday activities in the school with the more strategic and sublime ideas of the educational system – making any changes and frictions between these levels more immediately apparent.

To assess the practicality and functional aspects of the assemblage approach, the educational researchers Tara Fenwick and Paolo Landri ask three useful questions: How and why do certain combinations come together to exert particular effects? What knowledge is produced through patterns of assemblage? How do some assemblages become stable, and what force do they wield?⁵⁹

In our case, the combination of vitalities which make up this assemblage are the ideals, material technologies, and systems governing PAs and morning assemblies which were evolving during the period in question – some transnationally, some characteristic to Finland. The post-war construction boom also applied to school buildings, which now had to cater for a growing and increasingly urbanized population. The increased size of modern schools encouraged the use of sound transmission technology. PAs could weaken certain vocalities (e.g. substitute hymn singing with playing recorded music), but also bring new possibilities (e.g. inclusion of pupils' voices and the use of compact cassettes). The gradual erosion of religious authority as a general conveyor of values as well as the changing citizenship ideals are connected to the shifts in the material assemblage.

Knowledge produced via this assemblage enabled pupils to understand several aspects of their own vocality. They were shown a hierarchy of voices and preferred vocalities (e.g., public speaking vs. peer communication) – often made explicit by teachers in classrooms, but also in using vocal technologies such as radio or PA systems. Pupils were supposed to follow the teacher's example, and

⁵⁹ Fenwick and Landri, 2012, 3.

an awareness of “modern agency” was supposed to develop. However, divergent vocalities connected with these new audio technologies emerged as well – unexpected voices in morning assemblies; glitches and breakages; intentional pranks and more.

Although PA systems were – and in many cases still are – stable material elements of the vocal assemblage in Finnish schools (as part of the building), they are also a potential element of instability. Even when silent, they remain a latent presence, running through the assemblage, vibrating as possible sources of vocal emanation. Perhaps because they bypassed visual contact, authority could be undercut when classroom speakers were turned off; broadcasts sneered at; communal singing ignored; and more individualistic, comfortable postures assumed than would be possible in a shared-space morning assembly.

Rather than seeing the distribution of power and agency as that of teachers wielding their authority in one direction over pupils, the assemblage approach has allowed us to see a more nuanced and multi-layered distribution. It has also helped us trace the dynamics and origins of change in the technological infrastructure of long-lived institutional practices. Rather than following specific intentions, these changes materialise through shifts in agency, as new elements forge new connections within the assemblage.

Studying school PA systems and morning assemblies in this manner sheds light on everyday vocal practices, and shows how their combined assemblage can create vocal spaces of social negotiation and cultural shifts. The assemblage is interesting precisely because of its mundanity: voices heard so often they become the background hum of daily life, but over time also give it shape and incorporate change.

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