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SOUND READING

ELISA TATTERSALL WALLIN

Exploring and conceptualising audiobook practices among young adults

THE SWEDISH SCHOOL OF LIBRARY
AND INFORMATION SCIENCE
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Abstract

Audiobooks and subscription services are becoming increasingly popular in Sweden as well as many other parts of the world. This compilation thesis develops knowledge and conceptualisations of audiobook reading practices in the context of subscription services and apps. This is carried out by exploring audiobook use among young people, with a particular emphasis on the temporal and spatial aspects of the practices and the tools used. The context of the thesis is Sweden, with subscription services and users in the country. The thesis takes an explorative approach, where several theories and research methods are operationalised in four different articles. Schatzki's practice theory forms a foundation for the thesis, with the theory of timespace applied to consider temporal and spatial aspects of activities. Furthermore, the theories of remediation and affordances have been included to examine the digital technology related to contemporary audiobooks. Different aspects of audiobook practices have been explored; firstly, with temporal transaction logs collected from a subscription service. Secondly, semi-structured interviews with ten young audiobook users, and thirdly, an app feature analysis focusing on the player function in three audiobook apps. As such, the approaches are both qualitative and quantitative, and digital methods are employed together with more traditional research methods in virtual forms.

The transaction log study reveals that the average subscription-service user listens to audiobooks for a considerable amount of time every day. There also appears to be a correlation between audiobook listening and the work or school day, with more audiobook use carried out during daytime on weekdays, but also at bedtime. The analysis of the interview study highlights that audiobook reading practices have become part of users' everyday routines, and listening is closely interwoven with other daily activities. For young people, audiobooks are combined with commutes, schoolwork, chores, exercise and leisure activities. Listening has become routine for specific purposes, such as improving the enjoyment of another task, increasing reading time or supporting the user's wellbeing. Audiobook apps play a significant role in contemporary audiobook practices. The app feature study explores features in the player function of three subscription service apps and has found that some features make certain reading practices easier, while others create hindrances for users. Some app features are used for adjusting time, such as changing the speed of the book, setting a sleep timer or rewinding the audiobook when the user has lost focus. Moreover, some users alternate between the printed and audio version of a book title, and when possible, then use a feature for selecting the track to switch between formats. Finally, the thesis also contributes by developing and clarifying concepts relating to audiobooks, subscription services and reading. For example, the concepts of *reading by listening*, *mobile reading* and *stationary reading* are introduced here to highlight the specificity of different reading practices. Furthermore, the business models of subscription services have been conceptualised as following either a *library model* or *bookshop model*. Research on digital and subscription-based audiobooks is still in its initial stages. An ambition with this PhD thesis is to contribute with new knowledge and lay some conceptual groundwork relating to this topic.

Acknowledgements

Time, I have come to realise, is an illusion. PhD time, doubly so[1]. I can remember no other experience which has simultaneously gone by so quickly and felt like it has spanned a lifetime (in the best possible way).

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[1] I am of course paraphrasing Douglas Adams, who in *The Hitchikers Guide to the Universe* (1979) wrote "Time is an illusion. Lunchtime doubly so" (p. 23, the 2005 edition). I do incidentally agree with the observation that lunchtime, and arguably also breakfast time, is a bit of an illusion. However, PhD time even more so.

colloquium, The Storytel research group, the Audiobook symposium and the iSchools European doctoral research seminar.

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Elisa Tattersall Wallin

Borås, January 2022

[2] From *The Lord of the Rings: The Fellowship of the Ring* 2001 film. Obviously.

Part I – The summary essay

1. Introduction

In this thesis, audiobook listening is studied as a reading practice. A particular emphasis is placed on the temporal and spatial aspects of audiobook reading practices. Furthermore, in order to understand the framework wherein users' audiobook practices are carried out, the thesis also considers commercial subscription services, platforms, apps, user interfaces and the content playing tools users engage with, that is, smartphones, speakers, headphones and earbuds. The user group chosen for exploring these reading practices is young adults aged between 18 and 20. The results of the thesis are presented in four scholarly articles.

Audiobooks have been growing in popularity in recent years (Publishers Association, 2021; Wallin et al., 2021; Weber et al., 2021). Previously a marginal part of book publishing, audiobooks are now becoming an increasingly important component of the book market, not least in Scandinavia (Have & Stougaard Pedersen, 2020; Wikberg, 2021). This development may be related to the remediation of audiobooks from physical bearers like cassette tapes and CDs into digital files for streaming or downloading from subscription services, public libraries and online bookshops. Furthermore, this change follows the path of other media formats like film, television, music, radio and podcasts which today are distributed as content on digital platforms from streaming subscription services. Simultaneously with these developments, the widespread adoption of smartphones and the advancement of high-speed internet access has enabled media use on the go (Colbjørnsen, 2021). Audiobooks can now be listened to via smartphone apps and the mobility of digital audiobooks entails that use is possible in situations where it would be difficult to read a printed book. Without bulky physical containers, digital audiobooks also become more flexible and convenient to use compared with previous audiobook formats (Rubery, 2008). This mobility may create more time for books in peoples' everyday lives (Koepnick, 2013). The audiobook format may also make reading more appealing or accessible for additional user groups.

In Sweden, where this thesis is set, the most common way of accessing audiobooks is through subscription services for digital books (Wallin et al., 2021). Subscription services now form a large part of the Swedish book market (Wikberg, 2021). Several services have been launched in Sweden in recent years, and some are now also important actors on international markets. The first and largest actor, *Storytel*, was established in 2005, and as the popularity of audiobooks began to increase, they were followed by *BookBeat* and *Nextory* in the mid 2010's. In 2018, *Bokus Play* was the latest to launch its service. Aside from these Swedish services, the largest international subscription service, *Audible*, may also attract Swedish users looking for a larger English language catalogue. As such, potential subscribers have several services to choose from. As of 2020, about 21 percent of the Swedish population have access to an audiobook subscription service in their household (Nordicom, 2021).

Annual surveys on book reading reveal that at least 35 percent of the Swedish population listened to audiobooks in 2020 (Wallin et al., 2021). Furthermore, daily listening has increased during the last decade. While only 3 percent of the population listened to audiobooks during an average day in 2010, this number had increased to 12 percent in 2020 (Nordicom, 2021). Young people from 15 to 19 years of age slightly exceed the national average, and 14 percent of them listen to audiobooks every day. Following the trend of previous years, audiobook use is likely to continue to grow in the years to come. During 2020, the sale of digital audiobooks in Sweden increased by 32 percent from the previous year (Wikberg, 2021). Furthermore, the lending of digital audiobooks, talking books and e-books also increased by 32 percent in Swedish libraries during 2020 (Ranemo, 2021). This not only shows that digital book formats are increasing in popularity, but also that younger generations to a large extent are early adopters.

Along with the developments relating to digital audiobooks, subscription services and digital reading practices, new areas for research are emerging. Topics concerning reading, publishing, and literature have long been studied in different research fields. However, the context both for research and use changes with audiobooks in the digital age. Printed books are related to other print media, both in reading and distribution. Meanwhile, digital audiobooks are situated near other digital media also distributed through streaming subscription platforms and used with content playing devices like smartphones and headphones. With the changes associated with audiobooks, new research interests may for example relate to:

- audiobook technology
- subscription service business models
- literature written directly for audio
- the role of the narrator
- audiobook publishing
- the distribution of audiobooks to bookshops and libraries
- the use of audiobooks

The latter may relate to questions such as how listening is carried out and whether new ways of reading are emerging. However, as discussed by Rubery (2016), audiobook listening has not always been accepted as a legitimate form of reading and the audiobook itself has often been viewed less favourably than the printed book. For example, Kovac et al (2019) argue that audiobook use is not reading and that audiobooks are different from books, something which has also been reflected on by Kopenick (2013). Meanwhile, Stougaard Pedersen & Have (2012) suggest that audiobook listening can be understood as a form of reading and call for conceptual work relating to this issue.

Audiobooks are evidently a changing and dynamic object of study, with research still in the initial stages. This topic may engage researchers from different fields with varying approaches, such as library and information science, media and communication studies, comparative literature, publishing studies, language studies, business studies and more. Furthermore,

audiobooks may be of interest within the interdisciplinary area of sound studies, which gathers researchers from different disciplines interested in a broad range of sound-related topics (Langkjær & Have, 2012; Rubery, 2011; Sterne, 2012). With varying and distinctive approaches, the different traditions need to be able to form their own views of audiobooks, but a mutual dialogue between the disciplines is also beneficial. Although there are established methods and theories in the various fields interested in audiobooks, there also is a need for approaches to study new questions. One such approach is digital methods, which can be employed to explore a variety of aspects relating to audiobooks and contribute to a broader understanding of the phenomena. Digital methods are applied for studying digital platforms, often performed using tools built into the platforms to collect large quantitative datasets (Rogers, 2013; 2019; Venturini et al., 2018). However, qualitative approaches are also possible. In this project, digital methods are utilised for studying user patterns by exploring traces from digital platforms, and to explore the affordances of features on the platforms. It is also possible, for example, to employ digital methods to study how algorithms rank and filter material (Niederer, 2019; Rogers, 2013; 2019). As the use of such approaches increase, this can provide further connections between audiobook research in different fields.

This thesis explores the use of audiobooks as a form of reading practice. A practice approach involves studying reading as it is carried out, without preconceived notions about how reading *should* be done. The interest lies in the settings of reading and activities that people are doing when they read. Particular attention in this study is given to the temporal and spatial aspects of the practices as the mobility of audiobooks may enable people to read at other times and in new places. The subscription services, the platforms apps and the other tools users interact with are all closely related to audiobook reading practices. These both provide a framework within which reading practices are shaped and are part of the practices. In order to explore these audiobook reading practices, it is advantageous to focus on a specific user group. The focus in this thesis is on young adults, aged between 18 and 20. As noted previously in this chapter, recent Swedish statistics show that the use of audiobooks has been increasing among young people during the past few years and that they are some of the most avid listeners (Nordicom, 2021; Wallin et al., 2021). These are therefore an interesting audiobook user group to focus on.

1.1 Aim and research questions

The aim of this thesis is to develop knowledge and conceptualisations of audiobook reading practices in the context of subscription services and apps. The aim is fulfilled by exploring audiobook use among young people, with a particular emphasis on the temporal and spatial aspects of the practices and the tools used.

The four research questions of this thesis are:

- RQ1: What are the daily, weekly and yearly temporal listening patterns of users of an audiobook subscription service? How do the patterns of young people differ from those of all other users?

In order to answer this first question, a dataset from transaction logs showing traces of audiobook use is studied. Exploring these temporal patterns can be a help in understanding the reading practices emerging. As noted previously, the mobility of audiobooks may enable listening at different times compared to traditional reading. Large-scale data on when audiobooks are read can also provide an idea of the places in which audiobook use is carried out and provide a foundation for further studies on the spatial and temporal aspects of audiobook practices.

- RQ2: Which everyday audiobook practices can be identified among a group of Swedish young adults? How do these practices interweave with other routinised practices?

This second research question is addressed with a qualitative interview study designed in order to create an understanding of the complexity of audiobook reading practices. By exploring these aspects, it becomes possible to understand where, when and how audiobook listening is performed, how audiobook use relates to other daily activities, and the place audiobooks have in everyday routines.

- RQ3: How do player features in the subscription service apps afford audiobook reading practices among a group of young audiobook listeners?

The third question relates to audiobook apps, one of the tools used in audiobook listening practices. As the apps can be understood to have a role in how audiobook use can be carried out, it is of interest to study their features. The audiobook player function in the apps is the most relevant in relation to audiobook reading practices, as the player is used when listening is carried out. Therefore, it becomes interesting to study the features within the players, and which reading practices they afford or constrict.

Finally, the fourth research question relates to possible concepts:

- RQ4: Given the pioneering stage of contemporary audiobook research, how can audiobooks, subscription services for these, and audiobook listening be conceptualised?

In order to examine and understand audiobook reading practices, relevant concepts are required in order to present and discuss the findings. Several issues also need to be clarified to aid future studies as audiobooks are an emergent topic for research and there are many new developments related to audiobook technology, subscription services and the increase in audiobook listening. Such conceptual work is therefore also carried out in this project in relation to the fourth research question.

As illustrated previously, audiobooks are a continuously evolving phenomenon. To achieve the aim and answer the research questions, a methodological approach is required which accounts for the resulting dynamic. This thesis takes an explorative approach, where several research methods are applied for the different studies and adjusted to suit the project's specific interests

and settings. The approaches are both qualitative and quantitative, and digital methods are employed in this thesis along with more traditional research methods in a virtual setting. Together with the conceptual contributions, the empirical material collected to answer the research questions can provide new understandings and form a foundation for future research on audiobooks.

1.2 Studying audiobook use as reading

A key foundation of this thesis is studying audiobook use as a form of reading practice. As noted previously, audiobook listening is not always seen as real reading (for example, Koepnick, 2013; Kovac et al., 2019). It is often taken for granted that reading involves the silent and solitary decoding of written inscriptions on paper – or possibly on a screen – with the help of the eyes. However, engaging with books through listening is a practice which has existed even prior to the codex becoming established (Cavallo & Chartier, 1999; Darnton 2014/1986; Richards, 2019). Furthermore, the reading of braille by people who are blind or vision impaired illustrate how reading can be carried out with other senses than that of seeing.

Reading is undeniably a complex concept and can be understood in many ways in different contexts. For the purpose of this thesis, reading is not just conceptualised as an activity which is done in one way. Rather, many different activities which involve text and a person engaging with the text are recognised as reading. For example, listening to an audiobook and reading a printed book are both seen as part of reading practices, even though they are carried out in different ways and involve separate human senses. Similarly, reading an e-book on a tablet, checking a news story on a smartphone or leafing through a comic-book are all different types of activities, but all of these are understood as part of reading practices. This inclusive perspective on reading means that audiobook listening can be studied as reading. The thesis will therefore contribute with further understandings of reading as practices are evolving.

Throughout the thesis three concepts will be employed for the engagement with audiobooks, namely audiobook *use*, *reading* and *listening*. Furthermore, *user*, *reader* and *listener* will be applied to signify the person(s) interacting with audiobooks. These different concepts will all be employed for variation in the text, as well for clarity when needed. *Use* and *user* will sometimes be preferred because these cover a broader range of activities involving the audiobook format, besides listening to the content. This also follows the tradition of studying use and users in library and information science, as illustrated in the next section.

It is important to acknowledge that just as reading is complex and varied, so are readers. All readers will not feel the same way about different book formats or literary genres, nor will they carry out reading in identical ways. As such, audiobook listening may be experienced as reading for some, and as something else for others. A user perspective on this topic will be explored in chapter five of this thesis. How reading and audiobook use is conceptualised in this thesis will be explained further in chapters three and six and in the four articles. To summarise, an inclusive understanding of reading practices is employed in this thesis, which also recognises that readers

are different and that research on reading, and audiobooks, can be conducted in many ways with various perspectives.

1.3 Positioning and relevance

This is a social science thesis positioned within library and information science. It is a broad field, ranging across areas as diverse as scholarly communication and cultural policy, knowledge organisation, information literacy, bibliometrics, reading studies, and much more. A core aspect of the field of library and information science has long been the study of information by applying different approaches and perspectives (Bawden & Robinson, 2012; Case & Given, 2016; Nolin & Åström, 2010). Library and information science research also relates to the profession of librarians and institution of libraries (for example, Eklund, 2022; Lindberg, 2015; Michnik, 2018). The interdisciplinary character of the field is here seen as a strength, not least because it enables collaboration and the inclusion of methods and theories applied in other fields (Nolin & Åström, 2010).

This thesis primarily relates to four areas within library and information science. First, it is connected the tradition of studying how people *use* information infrastructures, such as libraries and online platforms, or sources of information, such as books and documents (Case & Given, 2016). The thesis is especially related to such studies within information practice research (for example, Ekström, 2022; Rivano Eckerdal, 2012; Talja & Hartel, 2007; Pilerot & Lindberg, 2018). Second, the thesis is also closely related to library and information science research that explores the internet, platforms, social media, and the practices which emerge around these developments (for example, Gunnarsson Lorentzen, 2016; Haider & Sundin, 2019; Sandin, 2021). Third, it relates to studies on digital books and libraries (for example, Bergström et al., 2017; Wallin, 2019). Fourth, the thesis is positioned within reading research and related to works such as Dolatkhah (2011) and Ross et al. (2018).

Reading research is an interdisciplinary research area in itself, with researchers from many different fields. This makes it difficult to demarcate library and information science reading research from the reading studies carried out in other fields (Dolatkhah, 2011). Arguably there are at least three focus areas which are especially common to library and information science reading studies. The first is the focus on readers' advisory and reading promotional work done in libraries (for example, Dali, 2014; Lindberg & Hedemark, 2019). The second is the study of cultural policy relating to readers, literature and books (for example, Hedemark, 2020; Kann-Rasmussen & Balling, 2015; Lindsköld, 2013; Lindsköld et al., 2020). The third, where this thesis is positioned, is the focus on users and on their reading practices (for example Cedeira Serantes, 2014; Dolatkhah, 2011; Late et al., 2019; Lundh, 2022; Rothbauer, 2009). This is also a long-established focus within the field, as some of the earliest library and information science user studies were focused on reading and readers (Lundh et al., 2018).

The thesis will primarily contribute to library and information science research, and especially these four aforementioned areas. Furthermore, it can also be of relevance to researchers from other fields studying reading, audiobooks, subscription services, streaming, platforms and apps.

The project may also be useful for librarians as it provides an understanding of audiobook user groups and their reading practices. Furthermore, due the increasing number of audiobook readers and subscription services, the thesis contributions are likely to be of relevance beyond the research and library communities. Empirical findings relating to audiobook practices, and conceptual contributions regarding how audiobook listening can be understood as reading, are examples of aspects which may garner a wider societal interest.

1.4 Demarcations

Demarcations are needed to focus the research and provide a frame for an achievable project. In this thesis, the focus is solely on digital audiobooks which are accessed via subscription services for digital books. As such, the following related aspects are not included in this study: audiobooks listened to via library-provided apps, bought from online bookshops or streamed from other platforms like *Spotify* or *YouTube*. Similarly, audiobooks on CD or any other physical container are not considered. The focus is also exclusively on commercial audiobooks, and as such, talking books produced specifically for people with print disabilities are not included here.

Here, audiobook use is studied as a reading practice and focus is placed on the temporal and spatial aspects of listening, as well as on the tools with which practices are carried out and shaped. That is, subscription services, platforms, apps, and the devices used for listening, such as smartphones and headphones. This approach is different from, for example, phenomenological, cognitive, aesthetic or literary approaches on reading studies. The user focus also means that the thesis does not consider the content as such. Therefore, the aesthetic qualities of audiobooks or the literary works available in audiobook format will not be studied in this project.

The context of the project is Sweden, with subscription services available in the country, and users from different parts of Sweden in the empirical studies. Although the subscription services are Swedish, the same or similar services are available in many other countries. A particular focus in this thesis is also placed on the audiobook user group of 18-20-year-old young adults.

1.5 The structure of the thesis

This compilation thesis consists of a summary essay and four scholarly articles.

Chapter two gives a background to audiobooks and audiobook research, and explores the context of subscription services, platforms and apps. The chapter also provides an overview of the reading practices and media use of young adults, the user group in focus of the thesis.

Chapter three covers the theories of practice theory and timespace, remediation and affordance, with an emphasis on how they are understood and operationalised in this thesis.

Chapter four presents the methodology and method, including how methods have been chosen and adjusted for the different studies in this project and how the material was collected and analysed. Furthermore, the chapter examines how the Covid-19 pandemic impacted data collection, and details ethical considerations.

Chapter five provides a summary of the four articles of this thesis and includes a section with unpublished materials which are relevant to the aim of the thesis.

In Chapter six, the contributions of the thesis are discussed in relation to three themes building on the aim and research questions: conceptualising audiobook(s), reading and listening practices, the timespaces of audiobook reading practices and, subscriptions, platforms and apps.

Finally, Chapter seven is the conclusion, where possible continuations for future research are also briefly explored.

The four articles are included in the second part of the thesis.

2. Background and context

In order to explore and conceptualise contemporary audiobook reading practices, it is necessary to first understand audiobooks, their technological development and the contemporary context of digital audiobooks. These aspects will be explored in this chapter, parts of which have also been examined in-depth in article II of this thesis. Furthermore, this chapter covers contemporary audiobook research and explores studies on young adults' reading practices and media use, as this is the user group in focus for exploring audiobook reading practices in this thesis.

2.1 Understanding audiobooks

It has been more than a century since the first iteration of audiobooks were invented, and since then there have been major changes regarding format, use and the attitudes toward them (Rubery, 2008; 2016). Therefore, understandings of audiobooks are also constantly changing. There have been a few attempts to define the audiobook, for example as "a single speaker's word- for-word recording of a book originally published in print" (Rubery, 2016, p. 3) and "a sound recording of a book read aloud by a performing narrator" (Have & Stougaard Pedersen, 2016, p. 154). These definitions capture important aspects of the medium. However, it is also relevant to consider that some audiobooks are narrated by several performers, that there are books now written specifically for audio, and that new books often are released in print, e-book and audiobook formats at the same time. Furthermore, audiobooks are commercial products and different from talking books, which are recorded verbatim for people with print-disabilities, and for which there are exemptions in copyright law (Lundh & Johnson, 2015). One of the aims with this project is to advance and nuance our understanding of audiobooks and therefore a working conceptualisation of audiobooks is provided in article II of this thesis and discussed in chapter six.

At its inception, the audiobook (or the phonographic book) was marketed as a way of continuing traditions of reading aloud in families while freeing up time and enabling everyone to do chores or other activities while the book was playing (Rubery, 2016). Reading aloud has been an established practice throughout most of the history of reading and people have read for each other in families, social situations and even in some professions while they worked (Cavallo & Chartier, 1999; Colclough, 2011; Darnton 2014/1986). For most of the history of reading, books have been heard more than they have been seen (Darnton, 2014/1986; Rubery, 2008). Early on in the history of the audiobook it was noted that another advantage was that they were narrated by a professional, who could read the book in a correct manner (Rubery, 2016). This suggests that ordinary readers were seen as amateurs who did not know how to read properly. Such a notion is in stark contrast to attitudes of today, where "proper" reading typically is silent solitary

reading, and audiobooks are often seen as a lesser form of reading. However, the idea that audiobooks can free up time and enable the performance of several activities at the same time, as noted in early marketing, is still seen clearly today.

Since the beginning, audiobook technology has often been at the forefront of technological development (Colbjørnsen, 2015b). However, this innovative aspect of audiobooks has rarely been remarked upon. Colbjørnsen (2015b) suggests this may be due to the marginalised status of audiobooks in book publishing and society. As noted above, the first audiobook iteration was the phonographic book. Although initially marketed to families, this format was also largely used by people who were blind, such as wounded soldiers returning from the two world wars (Rubery, 2016). In the 1960s-1970s phonographic books were remediated into books on tape. As cassette players became fitted into new cars, and portable cassette players were developed, the audiobook became more mobile and popular among commuters. In the 1980s digital audiobooks on CD were launched (Colbjørnsen, 2015b). Like books on tape, the CD book needed a large number of discs to contain a single audiobook (Rubery, 2016). The introduction of MP3 in the late 1990s offered the opportunity for an audiobook to be contained on a single high-capacity CD disc (Whitten, 2002). However, these do not appear to have been as popular with users, perhaps due to some CD-players and car stereos not being able to play an MP3 CD. Instead, the original multi-disc CD-book was the dominant format for audiobooks in libraries and bookshops alike for over 20 years (Colbjørnsen, 2015b; Whitten, 2002). Along with CD, specific audiobook players were launched in the 1990s and 2000s. *Audible*, the largest audiobook subscription service today, started in 1995 with a device called the Audible player, which could hold up to two hours of audio (Rubery, 2016). Some of the players in the 2000s were single-use devices holding one audiobook while others functioned similarly to the e-readers established today, but with less capacity (Colbjørnsen, 2015b). In the 2010s, digital audiobooks became widely available for download from bookshops and libraries. For the first time, the audiobook was removed from a specific physical container. Instead, it became a digital file to be used on a computer, digital music player or smartphone. This development enabled the emergence of subscription services for digital audiobooks, where books are either streamed or downloaded onto an app from the platform.

In its first iterations, the audiobook was intended for a variety of users. However, during the last century, talking books for people with print disabilities emerged as a separate book format, different from the commercial audiobook. As with audiobook formats, accessible books have also gone through several developments, for instance the audio-formats DAISY (Digital Accessible Information System) and the multi-modal ePub3. In Sweden, such formats are now made available to users via the Swedish Agency for Accessible Media (MTM), in some other countries they may be accessed by special libraries for the blind. Talking books are therefore a separate format from audiobooks today, used by specific groups and accessed in different ways than audiobooks (Lundh & Johnson, 2015).

The audiobook remediations would not have been possible without developments in technologies for playing and listening to audiobooks. In the 1980s the introduction of small portable tape players like the *Walkman* meant that audiobooks could be used on the go, outside

the car. Then in the 2000s Mp3 players such as the iPod made it possible to download a full audiobook to the device itself. Today, smartphones are used for a variety of media consumption, and there is no longer need for a specific device for playing audiobooks. The development of various on-ear and in-ear speakers has also been significant for the audiobook. Bluetooth enabled headphones and earbuds entail that reading by listening can now be wireless.

2.2 Platform, app, streaming and subscription – the digital audiobook context

Concepts such as *platform*, *app*, *streaming* and *subscription service* are significant within the context of digital audiobooks. This section will clarify these, along with related concepts, and how they are associated to each other in the context of this thesis. *Platforms* have become the "dominant infrastructural and economic model of the social web" (Helmond, 2015, p. 5). This development can be understood as a *platformisation* of the web (Helmond, 2015). Aside from social media platforms, other industries such as healthcare, education and transport are now part of this platformisation. Furthermore, digital media content, both professional and user created, is available through streaming or subscription service platforms, which is the context for this thesis. Along with this infrastructural and economic understanding, the platform concept is understood and used in the computational or technological sense in this thesis. Five concepts which relate to the technological aspect of platform are *(meta)data*, *algorithm*, *protocol*, *interface* and *default* (van Dijck, 2013). These concepts are put into context by van Dijck as follows:

> Technologically speaking, platforms are the providers of software, (sometimes) hardware, and services that help code social activities into a computational architecture; they process (meta)data through algorithms and formatted protocols before presenting their interpreted logic in the form of user-friendly interfaces with default settings that reflect the platform owner's strategic choices (van Dijck, 2013, p.29).

Based on specific directives, algorithms produce their output by processing and calculating input provided by the user and system (van Dijck, 2013). There are different forms of algorithms, such as the fixed pre-programmed, and those which learn and develop by being used (Bucher, 2018). Aside from this basic technical understanding of algorithms it is also important to understand the social implications of algorithms as they are used in a variety of settings. On a digital media platform, the type of data processed by algorithms can be usage patterns, the content a user consumes, as well as any personal information they have provided, or which has been collected in other ways. Such information will then impact which new content they get recommended by the algorithm. However, the algorithms of different platforms are kept secret and aspects like recommendation systems can differ greatly between similar services. Studies on algorithmic recommendation systems have found that these are biased, which, for example, impacts the type of content that gets promoted (Eriksson & Johansson, 2017; Floegel, 2021; Hallinan & Striphas, 2016). Platforms tend to have two different

interfaces, the one which the user comes into contact with, i.e., the user interface, and the software interface or API (application programming interface) (Helmond, 2015). These two interfaces can also be talked about as the front end, which is the visible interface, and back end, which is the metaphorical machine room of the platform (van Dijck, 2013). The user interface consists of various features, which can be understood to have certain affordances. The interface shows the user the purpose and function of the platform, and feature settings determine which type of activities are possible, and which are not. Typically, platforms are locked with default settings, and users have little possibility to adjust them. Functionality is therefore strictly controlled by the company, and dependant on how it wants it to be used.

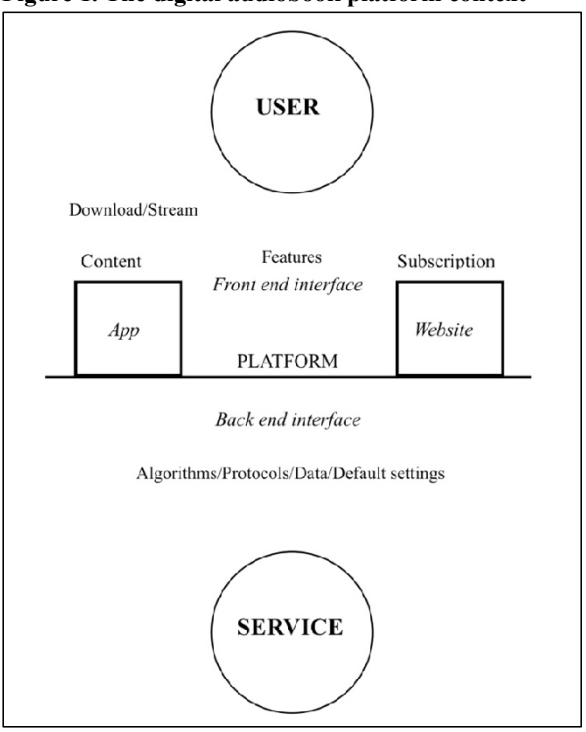
These platforms are here understood as a form of flat surface, on which different constructions i.e., user interfaces, can be set up. An app is one possible construction on a platform. *App* is of course short for application, which is a software program. Apps were developed for mobile devices like smartphones and tablets. In contrast to traditional applications running on a computer, apps are primarily run through cloud-based applications and data. In other words, they lose functionality when not online. In the context of platforms providing digital media content, apps are typically one construction of the platform, while websites or desktop applications are another. For some platforms, these constructions have similar purposes and user interfaces, however, a brief exploration of the audiobook platforms reveals that the apps and websites have different roles. The websites are mainly for starting and changing subscriptions and although it is possible to browse the catalogue on the website, the reading, and most activities related to the reading, is carried out within the apps. In comparison, several other media services have very few differences between the different constructions on their platforms. The app and website versions of *Netflix* and *YouTube* for example, are comparable and offer the same or similar affordances. The main differences between them are in how the interface is adapted to the difference in screen size.

Most audiobook platforms allow readers to choose between downloading the books to read in offline mode or streaming them. *Streaming* entails transferring media over the internet, without files needing to be downloaded (Herbert et al., 2019). As internet access and speed has improved, streaming has become a common way of distributing and consuming content. Aside from the technological understanding of streaming, this is also a concept applied in various ways in relation to different forms of streaming media, services, and platforms (see for example Colbjørnsen, 2021; Spilker & Colbjørnsen, 2020). The audiobook platforms explored in this thesis are all subscription services. *Subscription service* is a business model where users gain access to content on a media service platform by paying a monthly subscription fee. Typically, the platform, or a construction on the platform, is only available to paying members. Many popular streaming services today are subscription-based, like *Netflix*, where users pay a monthly fee to access the platform and content. There are also services which offer users the choice between a free and premium version (Colbjørnsen, 2015a). *YouTube* and *Spotify* are such examples, where subscribers of the premium subscription version can use the platform without limitations or the interruption of advertisements, unlike those on the free version. Instead of being funded by subscription fees, open models are typically funded by advertising and the collection of user data. This is similar to the practices of most social media platforms (Frenkel

& Kang, 2021; van Dijck, 2013; Zuboff, 2019). However, it is also likely that user data is mined by subscription services in order to provide personalised recommendations, develop algorithms and in the creation of new content for the platform. The audiobook subscription services on the Swedish market, and their business models, will be outlined in the next section (2.3).

In this thesis, the concepts of *subscription service*, *platform*, *app* and *streaming* are understood to be related in the following way: the service is a company, and the subscription is the business model employed by this company. The service platform has two constructions: the website and the app. A new subscriber signs up to the service on the website, and can then access the content on the app. Usually, they can then choose to either listen to audiobooks via streaming, or download them and listen through an offline mode within the app. This understanding is specific to the context of the audiobook subscription services explored in this thesis. The relationship between the concepts outlined in this section is illustrated in figure 1.

Figure 1. The digital audiobook platform context



This model depicts the audiobook subscription platforms both from the user and service perspectives. The front end side shows the aspects users can see and interact with, with the app and website constructions on the platform and their functions. The back end side of the platform, on the other hand, is where the subscription service can collect user data, develop algorithms or adjust default settings, for example.

2.3 Audiobook subscription services in Sweden

Subscription services for digital books are the most popular way for Swedish listeners to access audiobooks. As of 2021, there are five commercial services active on the Swedish market. Four of these were founded in Sweden, and the fifth is a global English language subscription service which is available to users in Sweden. These subscription services are outlined in table 1.

Table 1. The subscription services active on the Swedish market as of 2021[3]

Service	Country of origin	Year established	Active markets	Cost of monthly subscription	Number of titles in catalogue	Number of subscribers
Storytel	Sweden	2005	25 markets[4]	179 SEK (1 adult, 1 child) Family: 228 SEK (3 users) 287 SEK (6 users)	700 000 (internationally) Produces original content	1,7 million (internationally)
BookBeat	Sweden	2015	30 countries	199 SEK 149 SEK (100 hours listening) 99 SEK (20 hours listening) +49 SEK to add another user (up to 5 additional users)	300 000 (In Swedish and English)	500 000 – 600 000 (internationally)
Nextory	Sweden	2015	9 countries	169 SEK 139 SEK (30 hours listening) Family: 199 –279 SEK (2–4 users)	100 000 + (In Swedish and English)	Unknown
Bokus Play	Sweden	2018	Sweden	139 SEK 79 SEK (listen to one book per month) Family: 229 SEK (3 users)	50 000 (In Swedish)	Unknown
Audible	USA	1995 (bought by Amazon in 2008)	Global. Swedish users get access to the UK version.	7,99 GBP (one book credit per month to keep, plus free listening to some content)	300 000 + Produces original content	Unknown Users in 150 countries.

[3] This is accurate as of December 2021. Information about the subscription services was gathered from their websites, some complementary information has been found at online the news site *Boktugg.se* which covers the Swedish book market. Where information is not available it is marked as unknown.
[4] It is unclear whether markets mean countries, languages or regions.

This thesis mainly explores audiobook use in relation to *Storytel, BookBeat* and *Nextory*, as these are the largest and most established services in the Swedish context.

Unlike other media platforms, all these audiobook services follow a subscription model where users pay a monthly fee to access the platform and its content. There are however differences between them, as noted in the table above. At the time of writing, the most common model amongst the Swedish services is one based on ideas of access rather than traditional notions of ownership. In this model, subscribers get access to the catalogue of books in the app and can read whichever titles they want to, but they do not own the books. This follows the tradition of public libraries, which are instead funded by taxes but likewise allows patrons to borrow reading material or other media from the library catalogue (Wallin et al., 2019). Initially, the audiobook subscription services following this model had one type of subscription, which allowed users access to the whole catalogue, and offered them the possibility to read as many books as they wanted every month. However, most services have now introduced lower-priced subscriptions as well, which typically have restrictions on the number of hours of reading possible per month. The exception is *Bokus play*, where the cheapest subscription allows the user to borrow and read one book per month. All of the Swedish services now also have family subscriptions, where additional user profiles can be added to the same subscription for an added cost. The added profiles are separate, but it is possible for the main user to access them in the app, which means that a parent can see what their children are reading, for example. If the main account has a monthly time restriction, the other profiles will not use the same pot of time but will have their own with the same amount of time for reading, such as 30 or 100 hours.

The other model utilised by audiobook subscription services follows on traditional ideas of the bookshop where books are sold as individual units. *Audible* employs this model, and for the monthly subscription fee users get a credit which allows them to purchase one audiobook each month. These books are then downloaded onto the platform app and used in the same way as in the other subscription services. The type of ownership connected with this model is therefore different from purchasing a printed book. Recently, *Audible* has adjusted their model so that users also can access more titles for free alongside the books they purchase with the credit. The different audiobook subscription service models are conceptualised in article II of this thesis.

The audiobook subscription service market is evidently dynamic, with changes to subscription models, the emergence of new actors and the expansion of established services. In November 2021, *Storytel* acquired *Audiobooks.com*, one of the larger audiobook subscription services in the United States (Comerford, 2021). With this, *Storytel* entered the English language market, acquiring their catalogue and customer base. Similar to *Audible*, *Audiobooks.com* operates on a credit system rather than the access-based subscription model employed by the Swedish services today. It remains to be seen whether this deal will alter the audiobook market and the varying subscription models at play.

2.4 Contemporary audiobook studies

Audiobooks are still a relatively new and underexplored topic in research. However, research interest has increased over the last decade and there are now studies exploring audiobooks from different perspectives. Many of the studies are performed within the humanities, especially comparative literature, and some also within the interdisciplinary field of sound studies. An anthology on audiobooks, literature and sound edited by Rubery in 2011 marks the beginning of contemporary audiobook research. Rubery's 2016 monograph is also an important resource for the history of the audiobook and its development as a format for literature. Meanwhile, Colbjørnsen (2015a; 2015b) has explored audiobook technologies from the past couple of decades, including the Scandinavian setting. Both of these researchers' work has been utilised in section 2.1 of this chapter. Two other prominent audiobook researchers from this past decade are Have and Stougaard Pedersen (for example, 2012; 2016; 2020). In their work, such as a 2016 book on digital audiobooks, Have and Stougaard Pedersen apply a phenomenological and aesthetic approach to study the new audiobook medium and the listener experience. For example, they explore the voice of the narrator, the sensorial reading experience, and accounts from audiobook users. Findings from their interviews (2016) are included in the following section of this chapter. Furthermore, in their work, Stougaard Pedersen and Have also consider whether audiobook listening can be understood as reading, and suggest that it can be, but that it "requires that you reconceptualise the concept of reading as something not necessarily attached to sight" (2012, p.94). They suggest that by acknowledging that reading can change and develop, it also becomes possible to understand traditional forms of reading in new ways (Have & Stougaard Pedersen, 2016).

As audiobooks have significantly grown in popularity in Sweden in recent years, research on audiobooks in a Swedish context has also increased. For example, a Swedish language anthology on audiobooks, edited by Pennlert and Ilshammar and published in 2021, covers aspects relating to sound and literature in both historical and contemporary settings. Furthermore, figures on audiobook sales from the Swedish Publishers Association are compiled into a yearly report on book sales by Wikberg (2021). Audiobook use is now also studied in large annual national surveys, the findings of which will be delved into in the next section.

Recent studies in a Swedish setting have employed digital methods to explore usage patterns of subscription-based audiobooks. The number of streams, in the *Storytel* app, of bestselling literature has been compared with that of prize-winning literature (Berglund, 2021). While introducing the concept of *average finishing degree* to compare fully completed consumption of different genres, the study showed that *Storytel* users completed their listening of popular fiction audiobooks, especially crime fiction, to a higher degree, compared to "prestige" fiction audiobooks. Another study, using similar methods, explored the usage patterns of two *Storytel* originals titles, that is, stories written and produced directly for audio, in this case, shorter episodic audiobooks created by subscription service *Storytel* (Tanderup Linkis & Pennlert, 2020). The narrative content of the stories was analysed in combination with the streaming patterns, exploring how the writing styles may have played a part in maintaining a high level

of user attention and loyalty throughout the series. The writing style of popular audiobooks has also been explored by Berglund and Dahllöf (2021).

Other recent studies, both in Sweden and internationally, have explored how backlist has become more popular in audiobook format (Berglund & Steiner, 2021), the range of award-winning literature available from audiobook subscription services (Määttä, 2021), and mapped children's literature in audiobook format (Steiner, 2021). Furthermore, the role of audiobook narration in the interpretation or experience of specific literary titles has been delved into in several studies (for example, Björkén-Nyberg, 2021; Harrison, 2011; Knox, 2011; Severs, 2011). In addition, the setting of *Storytel* original audiobooks has been investigated in relation to the mobility of audiobooks and the readers phenomenological experience of place (Tanderup Linkis 2021a; 2021b). In these different studies on readers experience of place or narration, the analyses has built on the authors' own experiences, and have not included empirical material such as interviews or surveys with users.

There are also a few studies which have explored audiobook reading comprehension or experience in a controlled environment. For example, Rodero and Lucas (2021) compared reading comprehension and engagement when a story was narrated by a human performer compared to a synthetic voice. The participants in the study were more engaged in the listening and retained more information when the story was narrated by a human. In a study on reading comprehension and experience, Moyer (2011) compared audiobooks, e-books, and printed books. The findings showed that there was little to no difference between the formats for the university students who participated in the experiment, indicating that users can enjoy and remember audiobooks just as well as other formats.

The studies outlined in this section reveal that a small body of work around audiobooks, literature and sound is taking form. These works can provide valuable insight into the availability and consumption of particular literary texts or genres, as well as the aesthetic experience of the audiobook medium and the narrator performing the text. Some studies also provide insight into literary consumption within subscription services. However, while literary audiobook research is growing, there is still a lack of user studies exploring audiobook reading with a practice theory approach, where the temporal, spatial and material aspects are at the centre. The next section will explore studies with an expressed focus on contemporary audiobook listening and user groups.

2.4.1 Studies on audiobook use

Audiobook use, and especially digital and subscription-based audiobook reading, is still relatively unexplored in research. This section explores the few studies found on digital audiobook use and users, mainly statistics on audiobook reading in Sweden from two sources. The reading habits of the Swedish population are studied annually in a national survey covering topics related to society, opinion and media use of Swedes aged 16–85 (The SOM institute). Survey results show that audiobook use has increased in the Swedish population in recent years. While 28 percent of the population listened to audiobooks at least once during 2017, this figure

had increased to 35 percent in 2020 (Höglund & Wahlström, 2018; Wallin, et al., 2021). There was a slight difference in annual audiobook use between men (33%) and women (37%), however the gender difference was smaller compared to printed books. In 2020, 70 percent of men and 82 percent of women read a printed book. The book format with the smallest gender difference was e-books, which 20 percent of women and 19 percent of men read (Wallin et al., 2021). This shows that the gender gap in reading is becoming smaller with the arrival of digital book formats of audiobooks and e-books.

When looking specifically at those who listen to audiobooks every month it becomes possible to compare the habits of different demographics. As with all types of reading, frequent audiobook reading in 2020 was more common among people with higher levels of education and the number of monthly users increases with each educational level. For example, 28 percent of people with a university degree listened to audiobooks each month in 2020, compared with 10 percent of people without a completed secondary school education (Wallin et al., 2021). However, the number of frequent audiobook readers increased considerably in both these groups between 2019 and 2020. In this one year, 8 percent more of those with higher education, and 7 percent more of those with lower levels of education, began listening to audiobooks every month in 2020. It is possible that this increase was related to the Covid-19 pandemic, and a change in the types of activities people could engage with in their free time.

When exploring different age groups, it is apparent that frequent audiobook listening was also more common among the younger groups. Young adults aged between 16 and 29 was the group with the highest number of monthly audiobook users in 2019, however in 2020 they were only just surpassed by 30 to 49-year-olds. In 2020, 25 percent of young adults and 26 percent of Swedish 30 to 49-year-olds listened each month. The number of frequent audiobook users had increased in both these groups since 2019. The number of listeners then decrease in the older groups, with the lowest number of monthly audiobook users in the 65–85 age group (8%) (Wallin et al., 2021).

Another large annual survey is the media barometer, which explores daily media use in the Swedish population (The media barometer, 2021). Their figures show that 12 percent of the population listened to audiobooks during an average day in 2020. Among 15 to 19-year-olds this figure was 14 percent, while only 8 percent of the 20 to 24-year-olds listened to audiobooks daily. The age group 15 to 19-year-olds stand out when it comes to reading in other book formats as well, as 36 percent read printed books and 10 percent read e-books daily. This was slightly higher both compared to the national average and to the 20 to 24-year-olds. It is possible that teenagers read more since most are in education, as it is typical in Sweden to complete upper secondary school at the age of 19. However, it is interesting that there are more frequent readers in this age group, as young people are often reported to be reading less. When it comes to audiobooks, there was only one age group where more listened each day compared to the 15 to 19-year-olds and this was the 45 to 54-year-olds, where 17 percent listen daily (The media barometer, 2021).

Have and Stougaard Pedersen have explored the digital audiobook as a literary format and interviewed four Danish adult users of audiobooks (2016). One of their respondents began listening to audiobooks when he started working as a postman. A keen reader, audiobooks meant he could hold on to part of his identity as someone highly interested in literature, while working. He listened around 10–15 hours a week, mostly while driving and delivering parcels. He began listening by CD-books but as they were quite cumbersome, he subsequently got a subscription to *Audible* and listened on his smartphone (Have & Stougaard Pedersen, 2016). The other respondents all listened while commuting to work, either driving a car or riding a bike. The cyclist mostly had a scenic route on the way to work and listened all the way until she reached the city. When the noise from traffic got too loud, she would switch off her book and save it until she cycled home again. This respondent also listened to audiobooks on her iPod while doing household chores, gardening, and walking the dog (Have & Stougaard Pedersen, 2016). Their study shows how audiobook use was mainly combined with other activities, many of which would not have been possible to combine with other book formats.

2.5 Young adults' reading practices

This section explores some research on young adults' reading practices and the role reading has in their lives. The focus is on leisure reading, which is also known as reading for pleasure, recreational reading or free voluntary reading. As there is a lack of studies on young peoples' audiobook use, this section will mainly cover studies on the reading of other types of texts and book formats. The studies referenced here are predominantly from library and information science.

Young people's reading practices are complex and diverse. Results from several interview studies show that many young people will read different book formats or types of texts in specific situations (for example, Cedeira Serantes, 2014; Hedemark, 2021). A Swedish focus group study with 16–18-year-olds (Hedemark, 2021) found that most participants preferred printed books when reading fiction, as they liked the feeling of the physical book and turning the pages. Printed books felt more authentic and cosier and were primarily read in comfortable situations. A common practice among Hedemark's (2021) respondents was listening to music when reading fiction in print, as this helped them become immersed in their reading. Meanwhile, audiobooks and talking books were used in specific situations, such as when doing other things simultaneously or for particular genres which the young adults felt worked better in audio. Listening to audiobooks was talked about as a different sort of practice, compared to the reading of printed books. Social media and other texts on the internet were also constant part of their daily lives, and read more often than books (Hedemark, 2021). This suggests that different text formats can play separate roles in young readers lives, as they fit in different situations and are used for separate purposes. Another format which some young people read are comics or manga (Cedeira Serantes, 2014; 2016; Sellers, 2019). A Canadian study found that comics were seen as an efficient type of reading material, which was possible to carry around in a bag and pick up whenever there was a moment over (Cedeira Serantes, 2014; 2016). Due to the writing style, it was possible to jump into the text and read a short extract while on the bus or waiting for an activity to start. These interview studies show that many young people

surround themselves with text and reading material, but that printed books do not seem to play a big part in their mobile everyday reading practices.

A lack of time for reading was expressed by young people in several studies (Cedeira Serantes, 2014; Hedemark, 2021; Rothbauer, 2009; Sellers, 2019). Many declared that they wished they could read more, but that school and homework kept them busy. Hedemark's (2021) respondents also found that they prioritised social media over book reading. However, choosing not to read can reflect that they do not have access to material that interests them. Rothbauer's (2009) study on the reading practices of teenagers in rural Canada, showed that many primarily read materials which they had easy access to and stumbled over serendipitously, such as books or magazines already available in the home, or information on the internet about things which interested them. This finding suggests that access to reading material which interests young people is key, in order for them to read for leisure.

Reading has an elevated status in many societies and young people are often aware that reading is considered good for them. However, a study on younger British teenager's identities as readers (Sellers, 2019) found that being a reader was often seen as the opposite of fitting in with their peers. Even those who enjoyed reading saw it as something which took time away from their friends. Reading therefore became a hindrance to being social. However, in some friendship groups reading was a part of fitting into that group, even making some young people feel the need to read particular books to be able to be part of conversations. Their reading practices were developed in social situations with their friends. A few also embraced how being a reader made them different from other teenagers, and that this was a part of their identities (Sellers, 2019).

In order to communicate with peers about reading and be part of a community, some turn to social media. Books and reading are discussed on *YouTube*, *TikTok* and *Instagram* under the hashtags #booktube, #booktok and #bookstagram respectively (Merga, 2021; Thomas, 2021). In a study on *TikTok's* reader community, Merga (2021), found that book recommendations were the most common videos on booktok, but there were also videos on reading experiences and practices, such as how readers set up their preferred reading space and humorous videos on being a reader. Furthermore, there were videos on topics such as going through periods of not wanting to read, and then reading intensively during other periods, and comparisons between leisure reading and assigned reading for school, where the latter was portrayed as less appealing (Merga, 2021).

Previous studies show that leisure reading has been used for relaxing, to pass the time or to escape feelings of stress (Rothbauer, 2011). It can also be used for contemplation, for information or to learn new things (Cedeira Serantes, 2014; Hedemark, 2021; Rothbauer, 2011). Furthermore, reading can help individuals understand the experiences of other people, making it easier to connect with others and understanding themselves (Hedemark, 2021; Rothbauer, 2011). However, among the respondents in the different interview studies, there appeared to be a marked difference between the role of leisure reading and that of the reading assigned to them in school (Hedemark, 2021; Rothbauer, 2011). Having to complete assignments and knowing

the reading was mandatory removed the enjoyment from the experience, even when reading works by authors' they previously had enjoyed in their own time (Hedemark, 2021). When reading for leisure, young people felt independent, inspired and enjoyed choosing what, when and how to read (Hedemark, 2021, Rothbauer, 2011).

2.6 Young adults' media use

Some of the media young people engage in in their everyday lives may be used in contexts similar to audiobook listening. The use of audio media like music and podcasts may be especially similar, but streaming video, film and television, and social media may also be used with the same devices as audiobooks. It is therefore relevant to briefly explore Swedish young adults' media use. The statistics are from the 2020 media barometer survey; however, the results of this survey are presented slightly differently in separate categories. In some categories the results of all young adults ages 15 to 24 are grouped together, while in other categories the figures are separated for 15 to 19-year-olds and 20 to 24-year-olds.

The 2020 media barometer survey reveals that audio media are popular among young adults (The media barometer, 2021). Of all the age groups surveyed, music consumption was most widespread among young adults aged 15 to 24, with 90 percent listening to streamed music daily in 2020. Listening to podcasts and radio was also popular among young adults, but less so than music. 62 percent of Swedish 15 to 24-year-olds listened to some form of radio daily, which includes listening to radio on the web, using a traditional radio and a car stereo. Furthermore, 34 percent of young adults listened to podcasts on an average day in 2020.

Video, film and television are also highly popular media among Swedish young adults. In this category it becomes possible to focus specifically on teenagers aged between 15 and 19, where 84 percent watched *YouTube* on an average day, and 70 percent watched streamed film or tv. *Netflix* was the most common platform for daily film and television viewing among Swedish teens. Only 39 percent of 15 to 19-year-olds watched traditional broadcast television during an average day.

Finally, young adults used social media most out of all age groups in the 2020 Media Barometer survey. Young adults between the ages of 15 to 24 estimated that they spent on average 131 minutes on social media daily, which was an hour more than the national average. Looking specifically at 15 to 19-year-olds, 97 percent used social networking sites daily. The most popular platforms among this age group were *Snapchat* (91%), *Instagram* (84%) and *Tiktok* (57%).

From these statistics it becomes evident that young people use a variety of digital media during an average day. They also tend to stand out in their media consumption compared to other age groups. Carrying out all this media use requires the right tools. Access to digital devices is very high among Swedish teenagers. Almost all (99%) 15 to 19-year-olds had a smartphone in 2020. Furthermore, 95 percent owned or had access to a laptop and 78 percent a tablet, such as an iPad (The media barometer, 2021).

2.7 Summary

This chapter has provided an overview of audiobook history and technological development. Furthermore, important concepts in the context of digital audiobooks have been clarified, and the audiobook subscription services in Sweden have been outlined. The chapter has also summarised contemporary audiobook research, with a particular focus on studies on audiobook use and users. In addition, research on young adults' reading practices and media use has been reviewed. All of these aspects have been covered in order to provide a background and context to the thesis topic and the user group in focus. The following chapter will describe the theories applied in this thesis in order to explore and conceptualise audiobook reading practices.

3. Theory

This thesis studies reading from a library and information science perspective, and practice theory has formed the theoretical foundation. Similar practice approaches have previously been operationalised in related library and information science research. Practice theory is here found useful for understanding reading as enmeshed in everyday routine, and the way it unfolds in particular settings. This theoretical foundation has formed a starting point in the design of the studies. As the project has progressed, the understanding and application of practice theory has become more defined. Furthermore, additional theoretical tools have emerged as relevant as the empirical interests have taken form and material has been collected in the different studies. The practice theory of timespace (Schatzki, 2009; 2010) has been operationalised in two articles to investigate temporal and spatial aspects of activities. Other theories regarding temporality were considered initially, such as such as *Chronos* and *Kairos*, and Heidegger's theory on time. However, the timespace was found to be the most relevant as the project progressed. Furthermore, remediation (Bolter & Grusin, 2000) has been applied to conceptualise and understand developments of audiobook formats. The concept of affordances (Kaptelinin & Nardi, 2012) was included in article IV to analyse features of audiobook apps. These theories complement each other and have been useful in approaching and achieving different aspects of the thesis aim, that is, to develop knowledge and conceptualisations of audiobook reading practices in the context of subscription services and apps, which is carried out by exploring audiobook use among young people, with a particular emphasis on the temporal and spatial aspects of the practices and the tools used.

In this chapter, the theories will be presented in the following order: practice and timespace, remediation, and lastly, affordances. The chapter ends with a summary and table covering which theories have been applied in the different articles.

3.1 Practice theory

Practice theory includes a number of approaches which can be used when studying and discussing the things people do in everyday life. Primarily, this thesis is guided by Schatzki's practice theory (2002; 2005; 2010), but also utilises work by Southerton (2013; 2020) and Shove (2009) on practice, time and everyday routines. The things people do in everyday life are incredibly complex and it is not suggested here that practices actually exist in the way researchers talk about practices. It is not possible to perform an empirical study and simply collect practices. Rather, practice theory is a theoretical construct utilised by some researchers when analysing empirical material concerning the activities people do in everyday life. This section outlines how the notion of practice is understood and operationalised in this thesis.

Practices are here understood as routinised activities, which are both individual and part of societal rhythms. Some practices have been long established as related to particular times and places, and as such, individuals may be largely informed by established conventions when performing them. However, practices are also open-ended and can be carried out in different ways depending on individuals and settings. Changes in society can also lead to the emergence of new practices, which are shaped as people begin to carry them out. The routines of individuals will also change as they go about their lives, moving for example from school to university to work and to retirement. Certain practices exist mainly in relation to specific routines.

Schatzki defines a practice as "an organized, open-ended spatial-temporal manifold of actions" (2005, p. 471)[5]. Building on this definition, practices are in this thesis understood as comprising of activities people do. These activities are always situated in time and space. Some activities can be understood as connected to each other and are as such talked about in relation to the same practice. For example, a number of activities where people engage with text in some form can be talked about as reading practices. In order to analyse how everyday things are done, attention in practice theory is given to the materiality of objects used by people and the times and places where activities are performed (Schatzki, 2002; 2010). The materiality of objects or tools influence how they can be used. For example, an audiobook accessed via a smartphone app and listened to with wireless earbuds can be used in different ways compared to one on CD listened to with a *Discman* and corded headphones. Furthermore, various temporal and spatial settings allow for different activities, and influence how they can be carried out. Often, specific settings indicate what practices belong therein. A train carriage on a weekday morning is likely to be the setting of commuting practices. As such, certain types of activities related to the practice are performed in this setting. Practices are here understood as part of individuals' everyday routine and collective or societal rhythms (Shove, 2009 Southerton, 2003; 2013). Collectively, some practices are understood to belong to daytime on weekdays, while others are connected to the weekend. For example, commuting to work or school is routinely performed on weekdays in daytime while leisure activities are carried out on weekends or weekday evenings to a larger extent. Patterns showing the use of resources such as roads, public transport, energy and water can provide insight into collective rhythms on a large scale (Shove, 2009; Southerton, 2013). Through such patterns, the collective rhythms and routines of different societies can be identified.

A majority of practices are organised around clock time, where time is measured in seconds, minutes, hours, weeks, months and years (Southerton, 2020). Indeed, most societies would come to a standstill without clock time. Everyday occurrences like work meetings, university seminars, football matches, theatre performances and yoga lessons are organised to begin and end at a particular time. Buses and trains are expected to leave and arrive at specific times, to enable people to get to work or appointments on time. Clock time is employed to organise both

[5] In his writings, Schatzki often uses *actions* and *activity* interchangeably, however, in this thesis the concept of *activity* is preferred.

society and the everyday life of individuals (Southerton, 2020). The topic of this thesis, audiobooks, is also measured in clock time. This is unlike printed books which are measured in pages. In this way, audiobooks are perhaps more linked to clock time.

In order to continue to exist and be recognisable, practices need to be performed. It is through reproduction and continued performance that practices become established (Shove, 2009). Practices take up time and as people have a finite amount of time, the emergence of new practices in their lives ought to mean that other practices are performed less frequently, or faster. Practices are open-ended and are thus not fixed (Schatzki, 2005). New practices can emerge, and existing practices can expand, decrease, or change as people carry out activities in new ways. Changes can be related to the development of new technologies and the materiality of tools. Furthermore, practices can overlap or interweave, and one activity can be part of several practices. For instance, one activity people may perform while on the train in the morning is listening to audiobooks. This can then be understood as both part of reading practices and commuting practices. A student listening to a school-assigned novel in audiobook format is also performing a study practice. There are many examples of how different practices and activities can be understood to be related to each other.

Reading practices are at the centre of this thesis and practice theory underpins the understanding of reading which the thesis is founded on. As mentioned previously in this text, reading practices are here understood broadly, as activities where people engage with text in some form. The use of audiobooks is recognised as part of reading practices, as one way in which it is possible to engage with text in time and space with material tools. Because the focus of this thesis is on audiobook reading, other related practices become relevant to consider as well, particularly audiobook practices and listening practices. As the human sense of hearing is used to engage with the text in an audiobook, all audiobook reading practices are also listening practices. Therefore, just like audiobook use is related to other reading practices, it is also related to other listening practices, such as listening to music, radio or podcasts. In addition, it may sometimes be relevant in this thesis to talk about audiobook practices rather than reading practices. An important distinction for the topic of this thesis is that all reading practices are not related to audiobooks, as there are many activities which involve other types of texts. Meanwhile, all audiobook reading practices are intrinsically connected to audiobooks. Not all audiobook use is reading but may entail other activities closely related to audiobook reading, such as the use of the apps from the audiobook subscription services or browsing for books. These surrounding practices could be understood as part of reading practices, as they are so closely related to reading activities, however, naming them audiobook practices can more thoroughly clarify what they entail. Furthermore, it is likely that there are audiobook practices which are listening practices but not reading practices. This could be activities where an audiobook is playing though the user is not actively engaging with the text. For it to be classed as reading, there ought to be some meaning-making and engagement with the content of the

book[6]. Therefore, audiobook use can at once be understood as a reading practice, listening practice and audiobook practice. At times, users' audiobook activities may primarily belong within one of these practices. Furthermore, audiobook use can also be an activity part of other practices, like commuting or homework practices as suggested above. This is an example of how practices interweave (Schatzki, 2010). It is also worth noting that reading practices and listening practices are connected outside of their link with audiobook practices. With the well-established traditions of reading aloud, reading and listening practices have been related long before the invention of the audiobook.

Reading practices are also here understood as related to information practices. This is an area of study in library and information science relating to how information is used, found and shared. Information practices originally emerged as a critical alternative to the established concept of information behaviour (Savolainen, 2007). Although these are sometimes referred to in interchangeable ways, information behaviour relates to cognitive aspects while information practices pertain to the social context of information. The introduction of practice perspectives brought new topics of inquiry for information researchers (Talja & McKenzie, 2007) and a "practice turn" in library and information science can be discerned in the mid to late 2000's (Pilerot et al., 2017). In an exploration of practice theory operationalised in library and information science, Pilerot, Hammarfelt and Moring (2017) found that there is not one single practice theory approach within the field, rather practices are applied in a variety of ways. This thesis continues the tradition within library and information science of applying practice theory to how information and practice can be theorised as interlinked. As noted above, reading practices are here seen as related to information practices. These can be understood as existing side by side. As reading is engaging with information, it can therefore also be seen as an information practice. On a similar note, since some information use is performed by reading, these information practices can be understood as part of reading practices. Hence, reading practices and information practices are related and interweave in different ways.

As outlined above, the key assumptions in this thesis are that practices comprise of activities which are situated in time and space. The routinisation of activities is key, as it is through repetition and continuous performance that practices come to be and are recognisable. Furthermore, the materiality of the objects in practices are also of interest. Studying practices from this perspective entails exploring how, when and where activities are carried out, as well as tools used when performing these activities. For the particular study of reading practices using audiobooks, this involves studying the times and places of reading, the tools used for reading and how reading activities are carried out in these settings.

[6] Further conceptual clarifications regarding how reading and audiobook use is understood in this thesis can be found in article II and chapter six.

3.1.1 Timespace

Timespace theory is a part of Schatzki's theory on practice. While time and space have always played a role in Schatzki's practice theory, these concepts and their relation to activity have been developed further in his more recent work (2009; 2010).

Timespace theory should be understood separately from theories about time and space, as it complements these phenomena and understands time and space within an activity as unified, rather than as objective or separate (Schatzki, 2009; 2010). Schatzki suggests that objective time and space exist independently of human activity and understanding. Examples are a naturally existing landscape and sequential time, such as night and day. Whilst humans may both perceive and act on objective time or change a space, it would also exist and occur without them. The inventions of the clock and the calendar are examples of how people measure objective time, and organize themselves according to its succession (Schatzki, 2010). This is referred to as clock time in the section above.

Schatzki (2009; 2010) notes that time and space are dimensions of activity and that these are intrinsically connected. The time and space in timespaces are unified. Timespaces are understood as central characteristics of activities, making up what an activity is, how it can be carried out and the scope of the activity. The timespace connects the specific time, space and activity. Thus, timespaces are individual and numerous, with as many timespaces as there are activities. As these activities are part of practices, they are also social. The timespaces of different people may therefore be partly the same, and as such they can interweave. Both objective time and space, and unified timespace are relevant to practices. For instance, performing an activity takes up sequential time and it is done in an objective space. The activities of individuals are characterised by the objective space where they are performed and the objective time in which they occur. It is within these times and spaces, while performing an activity, that the timespace comes to be. It is also within objective times and spaces that timespaces can interweave, as people perform the same or similar activities in the same places.

The theory of timespace is applied here to consider time and space in relation to activities. It was introduced to the thesis project during the writing of article I, in order to consider the situatedness and spatial aspects of practices in relation to the collected empirical material on temporal aspects. With Schatzki's suggestions that time and space can be understood both as objective and as unified, it is highlighted how specific activities, times and spaces all play a part in practices. Furthermore, practices are typically understood as social within practice theory, but this practice theory of timespace notes the individual aspects of activities. This can facilitate an understanding of how individuals perform activities in specific ways in different settings, while still informed by established practices or societal rhythms. In article III, timespace has been applied to consider and conceptualise the different categories of timespaces wherein routinised audiobook practices take place during an average weekday.

3.2 Remediation

The theory of remediation was introduced by Bolter and Grusin in the late 1990s but can also be understood as successive of earlier media theory work by McLuhan (1964). Remediation refers to when a new medium alludes to features of an established medium, while also renegotiating aspects of it (Bolter & Grusin, 2000). It is "the representation of one medium in another" (Bolter & Grusin, 2000, p. 45). A new medium remediating a prior medium is at once paying homage to its predecessor, and is simultaneously positioning itself as a rival, by attempting to improve features or enhance its functionality (Bolter, 2001). This can be seen in how a new medium is marketed as both similar to an established medium, but also as superior because it has expanded possibilities. One example of relevance for this thesis is the printed book, which has been remediated into e-book and audiobook formats. As e-readers for e-books were advertised, they were portrayed as offering a similar experience to the printed book, with e-paper and e-ink, but also as better because of their lighter weight, built-in dictionaries and the possibility to store thousands of books on the same device. This example also emphasises that the way media can be used changes with remediations. The development of media technologies can therefore be related to many everyday practices, such as audiobook reading practices. Therefore, it was relevant to include the theory of remediation in this thesis alongside the practice theory perspective.

Bolter and Grusin's theory of remediation builds on the opposite logics of *immediacy* and *hypermediacy* (Bolter and Grusin, 2000). These two logics articulate different aspects of remediation and complement each other. Immediacy refers to making the medium invisible, in order to make the content the main feature. By letting the user focus on the creative work, the experience may feel more authentic and direct. With the logic of hypermediacy, the characteristics of the medium are made visible, and the user is reminded of the medium itself. By alluding to properties of the prior medium, hypermediacy can also be a way of paying homage to its predecessor. The way logic is used in this theory along with how immediacy and hypermediacy is presented by Bolter and Grusin can appear deterministic. However, this is not how remediation is used this thesis. Technologies are not here understood to be on an unavoidable trajectory, nor is it pre-determined how they might change practices. Immediacy and hypermediacy are not fixtures of a medium. Rather, immediacy and hypermediacy are here understood as possible aspects of remediation and can be used to analyse the changes in mediums and how this can be related to practices or user experiences. Similarly, remediation is not here understood as something which actually occurs, but as a theory which can be used when researching and discussing technological developments or activities related to them. To exemplify, the audiobook can be understood as a remediation of the printed book. The materiality of printed books is a significant part of how the books are characterised and used, the physical container is perhaps equal to the content. With digital audiobooks accessed and read through subscription service apps, focus is predominantly on the content of the book, rather than its material properties. As such, the medium can be experienced as invisible, which can therefore be understood as immediacy. Simultaneously, however, as the materiality of audiobooks is so different from that of printed books, the dissimilarities can become highly noticeable. This can be understood through the notion of hypermediacy. During this thesis

project, remediation was used in article I to consider the development of audiobook formats and technologies. Moreover, the idea of remediation has been especially useful in article II to conceptualise these audiobook developments, including in relation to user practices.

3.3 Affordances

Affordance was originally introduced by Gibson (1977) in regard to how animals and humans perceive the affordances of natural objects, that is, what actions become possible to perform within the local environment. This depends on the species and their needs. For example, a rock with a flat surface can be used for sitting or lying on and a wooden stick can be used as a cane for walking or as a club for hammering. Since its inception, affordances have been used in a variety of ways in different fields. In this thesis, the concept of affordances is used to analyse audiobook app features in article IV. This follows the use of affordances in studies on social media platforms in library and information science (for example, Gunnarsson Lorentzen, 2016; Haider, 2016). Furthermore, the use of affordance in this thesis follows how the concept has been used within Human Computer Interaction to consider possibilities for user practices (for example, Fragoso et al., 2012; Kaptelinin & Nardi, 2012).

Affordances are here understood as how users can interact with an app interface (Kaptelinin & Nardi, 2012). Aside from allowing for interaction, it permits a consideration of what happens in the interaction. For example, it may be possible to tap a symbol, and by tapping it something occurs; a song begins playing or a setting of the app is adjusted. Kaptelinin and Nardi (2012) take a scroll bar as example, not only does it have an affordance which allows the user to drag the bar, but this also causes the content on the screen to move, making some aspects of a webpage or app visible and others invisible. Furthermore, affordances are applied in this thesis to consider how the design of apps and their features affords certain activities while others are made more difficult or impossible. As such, certain practices become more common than others. The concept of affordance is here applied concisely to consider how digital technology can be used, and how this relates to the development of practices.

3.4 Summary

This chapter has outlined the theories operationalised in this thesis. These theories can be applied and understood in various ways, so one purpose of this chapter has been to clarify how they are employed and understood in this context. It has also been noted for which article the theories have been introduced to the thesis project. In order to clarify, table 2 outlines which theories have been utilised in the separate articles of the thesis.

Table 2. Theories in the articles

Theory / Article	Article I "Time to read" (Empirical)	Article II "Reading by listening" (Conceptual)	Article III "Audiobook routines" (Empirical)	Article IV "Audiobook apps" (Empirical)
Practice theory	●	●	●	●
Timespace	●		●	
Remediation	●	●		
Affordance				●

Practice theory forms the most fundamental theoretical foundation of this thesis and has both informed the development of this explorative project and provided a language and perspective with which to analyse empirical material. Timespace is an extension of Schatzki's practice theory which is useful due to the focus on time and space in this thesis. While practice theory does emphasise tools and materiality, there is also a need in this project to consider the digital technology involved in audiobook practices. Therefore, remediation and affordance are included as further theoretical resources. The concept of remediation makes it possible to consider the development of technology, both in an historical context and in relation to surrounding artefacts. Affordance as a concept provides resources for understanding technological design choices and how these can constrain or support human activities. The theories of practice and timespace, remediation and affordance complement each other and are highly useful when exploring and conceptualising audiobook reading practices. In the next chapter, the thesis' methodology and the methods employed to collect and analyse the empirical material are presented.

4. Methodology and method

The research methods utilised in order to explore audiobook reading practices are outlined in this chapter together with the methodological considerations for this thesis. Furthermore, during the progression of this PhD project, some challenges relating to data collection have unfurled. This chapter will explore these challenges and how they have been navigated. The following sections are part of this chapter: methodological considerations, method plan, the effects of Covid-19 on data collection, collecting and analysing the data and finally, ethical considerations.

4.1 Methodological considerations

In this explorative project, different methodological approaches have been introduced for each article in the PhD thesis. As many aspects relating to audiobook reading practices have been unexplored, this approach has been a suitable way of gaining valuable insights and a rich understanding of this phenomena. All methods utilised in the thesis have either been digital or virtual in order to explore the times and places for audiobook reading, tools used in the practices and the feature affordances in audiobook apps. Virtual methods are digitised traditional social science methods, such as interviews performed via videocall, or surveys administered through an online tool. Meanwhile, digital methods are employed for collecting digital data, often large quantitative datasets with tools existing within the medium itself (Rogers, 2013; 2019; Venturini et al., 2018). It is also possible to employ digital methods using manual approaches, and for collecting qualitative material. Both quantitative and qualitative methods have been used in this thesis. These have been combined as quantitative methods can be employed to study patterns on a large scale, while qualitative methods can be used to carry out detailed exploration on a small scale (Plano Clark & Ivankova, 2017).

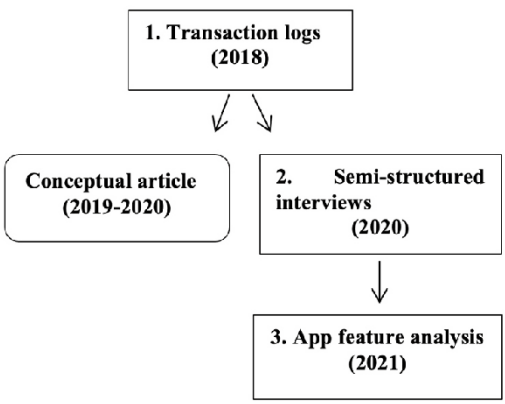
Combining qualitative and quantitative methods for collecting and analysing data in order to provide a broader understanding of a research problem can be understood as mixed methods (Johnson, et al. 2007; Plano Clark & Ivankova, 2017). Mixed methods can be applied in different ways, for example, either qualitative or quantitative methods can be dominant, or they can be employed equally (Wildemuth, 2017). Furthermore, the timing of qualitative or quantitative data collection may occur separately or simultaneously. The data can be integrated in different ways, for example the material may be merged for analysis or, the findings from one dataset may inform the collection of the next. However, a dilemma with mixed methods is that qualitative and quantitative methods are typically based on different epistemological and ontological foundations (Wildemuth, 2017). Therefore, combining these different methodologies may pose issues relating to the metaviews the project is based on.

As outlined in the previous chapter, the theories operationalised in this thesis are practice theory with an emphasis on timespace, as well as remediation and affordance. The focus of this project is on how audiobooks are, and can be, used, with a focus on the temporal and spatial aspects, and the framework wherein the practices are shaped. People's practices are understood as incredibly complex, and context is important. As such, methodologically, this thesis is qualitative. The data produced by the quantitative method has been utilised to seek out patterns, which then have been further probed through qualitative methods. In this project, qualitative and quantitative methods are not used together in the same study or article, it is in the context of this thesis that they are combined. A new method has been employed for each empirical article, and as such a new methodological approach has been designed for every article in this thesis. This approach has been used in order to explore different aspects of audiobooks and reading practices, and the findings of the first study have then informed the focus of the next study and the choice of research method. These methods will be outlined in the next section, along with how they informed each other.

4.2 Method plan

Different methods have been employed in the three empirical articles included in this thesis. This section will cover the methods used and the explorative process where the results of one study have informed the focus and choice of method for the next study. In order to visualise this, figure 2 illustrates the order of the studies and the three methods employed in this thesis.

Figure 2. Timeline of methods



The first study performed for this project was a transaction log study in 2018. The ambition was to explore temporal audiobook use on a larger scale, to gain an idea of contemporary audiobook practices. A transaction log study was found to be an ideal method to gather information about audiobook usage from a large group of audiobook readers. Log data is gathered by search

engines, web sites, social media platforms, library catalogues and companies offering digital services (Sheble et al., 2017). Transaction logs have been employed in library and information science to collect information on use of various digital collections and platforms (Jansen et al., 2008; Huurnink et al., 2010). It has also been applied specifically for studying temporal aspects (Jansen et al., 2005). An advantage with data from transaction logs is that they detail the actual usage patterns, and the method is not reliant on participants having to recall their activities (Sheble et al., 2017). With this quantitative method it is also possible to carry out large scale studies which can reveal patterns of use from a substantial number of people. This means it can be more representative of a larger population. Furthermore, by accessing server-side logs that have already been collected through the use of a digital platform it becomes a non-intrusive method (Sheble et al., 2017). This type of data is natively digital, rather than digitised, and reveal traces of activities performed in a mobile application or other digital platform. A transaction log study can be considered a digital method as it utilises the internet and tools built into platforms to carry out research about things people do on those platforms (Rogers, 2019).

The transaction log study influenced both the second and third articles. During the writing of article I using the dataset from the transaction logs, it became clear that several conceptualisations and clarifications were needed to continue to research and report on contemporary audiobook use. Therefore, a conceptual article (II) was written next in this PhD project, as outlined in figure 3. The findings of the transaction log study also informed the following qualitative study and the topic of article III. A limitation of the transaction log study is that the captured data is insufficient to form a comprehensive understanding of audiobook practices. The patterns cannot reveal the situations in which people use the particular service, why or how they are doing it. The dataset from the transaction log study revealed surprising aspects relating to the routines of young audiobook users. Therefore, an interview study with young adult users was planned in order to further explore and understand these emerging audiobook practices. First, photo-elicitation interviews were considered in order to explore the temporal and spatial aspects of audiobook reading practices. This is a visual research method which involves photographs in interviews, for example to visualise everyday routines (Eberle, 2018; Rose, 2014). A small pilot study was conducted during the autumn of 2018 to test this method. One 18-year-old audiobook user was recruited and was instructed to take five photographs during an average day of listening to audiobooks, detailing the different places and situations where audiobook reading was carried out. These photographs, together with an interview guide, were included in an interview to explore how, when and where the participant listened to audiobooks. Although the photo-elicitation interview was successful, upon further reflection it was decided that this method was not going to be employed in the study. There were two reasons for this. Firstly, the photographs detailed common places and situations such as a bus, a footpath with a dog as well as a sketchpad with a drawing in progress. In the pilot interview it was found that these types of established places and activities could be described equally well with the use of appropriate interview questions and that the photographs were thus not necessary. Secondly, by taking photographs and sharing them with the researcher, more work would be involved for the study participants, possibly making recruitment more difficult. Instead, semi-structured interviews were chosen as the method for the upcoming qualitative interview study.

Semi-structured interviews follow an interview guide with open-ended questions, which means that the researcher has a structure with topics to cover, however, it is possible to add probes, explain questions further and to move back and forth in the interview guide to fit the flow of a particular interview (Ayres, 2012). Semi-structured interviews therefore offer structure as well as some flexibility (Lou & Wildemuth, 2017). The interview study was planned during 2019 and carried out virtually between May and November 2020. The interviews revolved around how, when and where audiobooks were used by the respondents. Material from the interview study was utilised in two articles. Most of the results were used in article III and a specific aspect relating to audiobook apps was used in article IV. A finding from the interview study revealed how the apps provided by the audiobook subscription services played a significant part in reading practices. This was an interesting finding which urged further exploration. Therefore, it was decided that an additional study should be carried out which focused on the apps and their roles in listening practices. This study was carried out in February, 2021. The method chosen to explore the apps was a feature analysis, which involves studying the interface of webpages or apps and the features available. This digital method is utilised for exploring the type of feature interactivity possible in the apps. (Rogers, 2013). Furthermore, it is possible to compare the features and functionalities of different apps or webpages. Together with material from the interview study, the findings of the app feature study formed the final empirical article for this thesis. Table 3 provides an overview of the different research methods utilised in this PhD project and the collected material.

Table 3. Overview of research methods and empirical materials

Study	Method	Empirical material	Article
Transaction log study	Transaction logs (Quantitative, digital)	Data collected in May 2018. The dataset consists of statistics detailing four aspects of temporal use of audiobooks on the *BookBeat* app during the period of April 2017–March 2018. The number of users was not divulged by BB but estimated to include around 80 000 individuals.	I "Time to read" (Written 2018–2019)
Interview study	Semi-structured interviews (Qualitative, virtual)	Material collected between May–November 2020. Interviews with ten young audiobook users, each interview averaging between 30–45 minutes long, transcribed by author. 58 pages of interview transcripts.	III "Audiobook routines" (Written 2020–2021) IV "Audiobook apps" (Written 2021–2022)

App feature study	App feature analysis (Qualitative, digital)	Data collected in February 2021. Analysis of the features of the audiobook player in the apps from *Storytel*, *BookBeat* and *Nextory*, Eight pages of notes and 22 photographs detailing the app features.	IV "Audiobook apps" (Written 2021–2022)

Table 3 also shows which articles were written using the empirical material from each study. As mentioned previously, a conceptual article was written during 2019–2020 as part of this project, however, this has not utilised the empirical material and is therefore not included in the table.

4.3 The effects of Covid-19 on data collection

The Covid-19 pandemic had an impact on this thesis, particularly the interview study. This had been carefully planned during the autumn of 2019 and outlined in an ethical review application, which had been submitted to the Swedish Ethical Review Authority in December 2019 (see section 4.4.2). In summary, the original plan was to recruit respondents through school visits and to carry out the interviews in person. Due to the pandemic, the original plan for recruiting respondents and carrying out interviews had to be adjusted. However, all changes had to be carefully considered so that they would comply with the decision from the ethical review authority. Otherwise, a new application would have had to be submitted and the new decision would need to be awaited before the study could commence.

The ethical review was passed in late March 2020, and it was possible to begin the study. However, by this time all upper secondary schools in Sweden had closed due to Covid-19 and moved their teaching online. As such, classroom visits were no longer an option. Instead, emails were sent out to teachers and librarians with information about the study, which they were asked to pass on to their students. In the first batch of emails, staff were asked if a virtual classroom visit would be possible, but this was declined. Therefore, an information leaflet and a short video about the study was provided instead. Although the initial plan had been to only contact schools in the West Sweden region, it was decided to extend the search to all of Sweden to reach as many respondents as possible. Between April and October 2020, over 100 schools across Sweden were contacted. Staff at 38 schools agreed to spread information about the study on their virtual learning platforms. Many of the teachers and librarians who were unable to help gave the pandemic as reason. Staff noted that they were overwhelmed with the move to online teaching, that students were suffering from poor mental health due to the pandemic and that they were busy with contact tracing in the schools during a period when teaching was moved back on campus. Aside from approaching schools, the decision was also made to send a poster with information about the study to all public libraries in Sweden and a few youth clubs. Out of the 290 public libraries contacted, 50 responded that they had displayed the poster. However,

shortly after, new governmental restrictions regarding Covid-19 were imposed on public places such as libraries. As a result, some public libraries closed, and others only offered restricted access to the library building to borrow and return materials. Due to challenges in reaching potential respondents in the planned way, information about the study was also posted twice during September and October of 2020 in three *Facebook* groups for audiobooks users.

Despite these extensive attempts, recruiting respondents proved difficult. It is impossible to know how many received information about the study through the various channels. In most of the schools the students had to choose to click on a post on the virtual learning platform to see the information, and furthermore they would need to be audiobook users as well as between 18-20 years old to participate. Had it been feasible to visit classrooms, it would have been easier to know how many had received the information and it would have been possible to answer questions and build rapport with interested respondents. Yet, advertising through schools was the most successful strategy. Only one respondent found out about the study through the library posters, and no one through the social media posts. However, the Facebook groups were predominantly used by adult audiobook listeners and due to the closures and restrictions it is likely that the posters in the libraries did not reach as many as intended. The initial ambition was to interview at least 20 young audiobook users. After six months of recruitment 15 people had responded. Five of these did not fit the criteria outlined in the information sent out, and in the end, ten young adults participated in the interviews. Still, it is worth noting that despite a smaller group of respondents, the collected material was rich and the young adults who participated provided detailed and highly valuable narratives about their audiobook use.

Because of the pandemic, it was no longer possible to do the interviews face to face. Instead, they were carried out over video call using Zoom. Therefore, this interview study became virtual. The interview sound was recorded with a feature on the videocall platform that saved the recording locally on the author's computer. The videocall solution mostly worked very well, however, there were a few instances where internet connection issues caused the sound to disappear temporarily or delays in the conversation. A positive result of carrying out the interviews virtually was that it was easier for respondents to participate. They were able to log on to the Zoom call from their homes and did not have to travel to a particular location. However, the move to virtual interviews brought up issues concerning the handling of consent forms. Instead of respondents receiving a physical copy during the interview meeting and signing it in person, the consent forms had to be sent to them by post and with stamped envelopes for the return of the signed copies. This required some additional administration for the respondents. A few consent forms also disappeared in the mail and had to be sent to respondents several times. As backup to the written forms, all respondents also received the consent forms over email and gave their consent verbally in the interview recording.

4.4 Collecting and analysing the data

Previous sections in this chapter have outlined how and why the different research methods were chosen. This section will cover how the data was collected and analysed.

4.4.1 Collecting and analysing transaction logs

In order to gain access to logs detailing temporal aspects of audiobook use, it was imperative to find a subscription service willing to provide material for the study. The Swedish subscription service *BookBeat* proved interested in collaborating and a conversation was established in early 2018. Based on four questions posed by the author, *BookBeat* carried out searches within their logs in May 2018. The questions had to be developed with the existing logs in mind, and so had to be suitable for the type of search it was possible to perform. This meant that questions had to be fairly straightforward, and a couple of questions had to be adapted in order to enable *BookBeat* staff to perform the search. The most significant change was made to the first question, which initially was "how long (in minutes) is the average reading session?". However, when approaching *BookBeat* with this question, it became evident that a reading session is not easily quantifiable, for example, if a reader pauses the book for a minute and then possibly resumes listening, should that be considered part of the same session, or is it a new one? How long can a pause be before the session can be said to be over? It became obvious that such questions were not suited for this method and would fit better in a qualitative study. Instead, the question was changed into "how many minutes per day does the average *BookBeat* user read audiobooks?" The other three questions dealt with use on the platform during three different cycles of time: daytime, weektime and yeartime and how audiobook use was distributed during these times. The results of these searches were presented by *BookBeat* in the form of averages, divided into four different user groups, young female users aged between 18 and 20, young male users aged between 18 and 20, all female users as well as all male users. Initially, the ambition had been to study young users aged 16-19, the age group in upper secondary school in Sweden. However, *BookBeat* noted that it would be impossible to detect the 16-17 old users as subscribers need to be 18 to have their own account and younger users are likely borrow a parent's account. Therefore, it was decided to focus on the youngest users with their own accounts, those aged 18-20, and compare them with all other users.

During the time of the transaction log study, *BookBeat* had not yet introduced family subscriptions. This meant that it was only possible to create one user account for each subscription. However, this does not necessarily mean that only one person utilised that account. Possible multiple users of the same account could serve as a confounder in the data in two ways. First, the amount of time spent listening each day, and the distribution of listening over a day, week and year was regarded as use from one individual. If several people used the same account, this would not be accurate. Second, an unknown additional user might have belonged to a different user group than the account holder, meaning their use would be included in the wrong category. For example, partners sharing an account or a child borrowing a parent's account, can have confounded the data in such a way. This was acknowledged during the analysis, but as these aspects were impossible to investigate further, it was decided to assume that most of the listening was carried out by the account holder. It was only possible to play one book at a time on the single account, meaning at least multiple users could not have used the account simultaneously. However, the possible confounders should be considered when using this method. Another unknown issue was the number of subscribers included in the dataset. *BookBeat* was unwilling to share the exact number of subscribers during the time of data collection, probably because of the competitive market. This is a possible issue when

collaborating with industry, as they need to consider their business interests first. However, a few months after the transaction log study *BookBeat* went public with their number of subscribers, revealing that they had recently passed 100 000 paying users. Furthermore, a Swedish survey showed that 6 percent of the 10 million population subscribed to an audiobook subscription service at the time of the study (The media barometer, 2018). Together with information from other subscription services, it was therefore possible to estimate that the number of *BookBeat* subscribers at the time of the study was around 80 000. However, this figure is not definitive, and the number of users would not have been the same for the full year the data was based on. It was not possible to estimate the number of subscribers within the different user groups.

Usually, the researcher has control over the data collection process. However, with digital methods this kind of control is not always possible. As digital platforms reasonably will continue to play a significant role in the use and dissemination of information and media content, an increasing number of researchers are likely to use them for collecting data. Therefore, researchers' control of data will possibly become more difficult in the future, meaning that issues navigated in the transaction log study will become more common. In this study, the author did not gain access to the raw data, which means it was not possible to explore the dataset in full. As mentioned above, *BookBeat* staff performed searches within their logs and prepared statistical averages for the four user groups. As such, *BookBeat* staff alone had access to the raw data, which they cleaned and prepared before it was delivered. The four questions posed by the author guided this process, however, staff were in control of how data was delivered. Without researcher control over the data collection, it becomes important to have strategies for navigating such a collaboration. For this transaction log study, the following steps were taken: first, a context of trust was established, going both ways. Several conversations were had with the managing director of *BookBeat* to discuss the collaboration, spanning a few months before the data was collected. The author offered to sign a collaboration agreement regarding how the data could be used. However, this was not deemed necessary by *BookBeat*, possibly because a context of trust had been established and the author had clearly explained how the data would be used. Second, the seriousness of data collection was communicated to highlight the importance that those who provided the data did a professional and precise job. Third, ethical ground rules were established, including in relation to GDPR, so that both sides could feel comfortable, and that the privacy of users was respected (see more on ethics in 4.5.1).

Due to how these data were presented it was not possible to calculate median levels or standard deviation. In order to visualise the statistical averages, diagrams for each part of the dataset were created by the author. These offered an overview of the time related use of audiobooks on the platform, as well as the differences between the four user groups. The visualisations were used in article I for presenting and analysing the results with the help of practice theory and timespace theory in particular.

4.4.2. Collecting and analysing interview material

Parts of the process of recruiting interview respondents and adapting the interview study during the pandemic have been outlined in section 5.3. This section will cover the demarcations for the study and how the interview data was collected, transcribed and analysed.

Following on from the transaction log study, the choice was to continue to explore the user group of 18 to 20-year-olds in the interview study. However, in order to provide a context for understanding the findings of the study, it was decided to focus solely on young people who were students in upper secondary school. In Sweden, upper secondary school is voluntary, but attendance is very common. Students are typically between the ages of 16 to 19. Therefore, respondents were more likely to be 18 or 19 years of age, rather than 20. Another change for the interview study was to include users of all of the audiobook subscription services active in Sweden at the time of the study, rather than just one. Finally, in order to be able to thoroughly explore audiobook reading practices in the study, respondents needed to be frequent users of audiobooks.

As noted in section 5.3, finding respondents proved difficult. Although many of the complications were likely to do with the pandemic, it is also worth considering whether the group in focus for the interview study was too narrow. A few interested people got in touch who were between 15 and 17 years old, and one in their early 20's. Two of them used talking books from the Swedish agency for accessible media, rather than audiobooks. With the specific focus of this thesis on audiobooks used through subscription services, adding respondents who used talking books, or other audiobook formats, would not have been conducive with the study aims. However, expanding the age group was briefly considered. When writing the ethical review application, the choice was to continue with the 18 to 20-year-olds partly to enable a qualitative perspective on the same age group as in the transaction log study, and partly because at age 18, respondents would be able to give their own consent to participate. To later change the age-group to include under 18's would probably have required a supplemental ethical review application. Because of the pandemic, the Swedish Ethical Review Authority announced that they would focus first and foremost on studies about Covid-19, and that there could be a longer wait for other applications. With the time-restraints of a PhD project, this was not seen as an option. It could have been possible to extend the age group to young adults in their early 20's, for example university students. However, it was quickly decided to continue with the chosen group and the clear context of upper secondary school.

After receiving information about the interview study, individuals who were interested in participating contacted the author via email and were then asked to provide information regarding their age, programme of study[7] and which subscription service they used. They were then sent the consent form (appendix #2) and a time for interview was agreed on. In total, ten

[7] For Swedish upper secondary school, students choose a programme of study which is either academic and preparing for university studies, or vocational and preparing for entry into employment. There are a number of programmes, for example: the natural science programme (academic) and the hotel and tourism program (vocational).

young people participated in the interview study. An overview of the respondents is provided in table 4.

Table 4. Overview of interview respondents

Respondent	Age	Geographical location	Subscription service	Account type
P1	19	North Sweden	*Storytel*	Family subscription with individual profile
P2	18	East middle Sweden	*Storytel*	Shared account with parent
P3	19	East middle Sweden	*Storytel*	Shared account with parent
P4	18	East middle Sweden	*Nextory*	Individual subscription
P5	18	West Sweden	*Storytel*	Individual subscription
P6	18	West Sweden	*Storytel/Nextory*	Individual subscription
P7	18	West Sweden	*BookBeat*	Family subscription with individual profile
P8	18	South Sweden	*Storytel*	Individual subscription
P9	18	South Sweden	*Storytel /BookBeat*	Shared account with parent
P10	18	West Sweden	*Storytel*	Shared account with parent

The table shows their pseudonym, age at time of interview, location and subscription service used. A few respondents had used two subscription services, and the interview then covered the usage on both services' platforms. Common reasons for switching between services was either because they used the one with the best deal at the moment, or because particular book titles or series were only available through one service. In the interviews it also emerged that many shared subscriptions with family, they either shared the same account with a parent or had their own profile as part of a family subscription. This had an impact on their practices, and so information regarding account type is also included in the table.

In the beginning of the interview meeting, the consent form and purpose and outline of the interview was explained. Respondents were able to ask questions and opt out if they wished to, and the recording was started only after they had received all information and conveyed that they felt comfortable. The interviews followed an interview guide (appendix #1) which was divided thematically into four sections:

1. background questions
2. use of audiobooks (including how and when they started and which tools they used)
3. the time and place of audiobook use
4. other reading and media use in relation to audiobooks.

Every topic was explored in all interviews, however, sometimes the order of questions varied, for example if a respondent brought up a topic earlier of their own accord. Prompts were also used in some interviews to explain questions. The different questions were varyingly successful in prompting detailed answers. For example, questions on social aspects of audiobook use and the type of audiobooks they enjoyed incited the least detailed answers from the respondents. However, the respondents gave thorough answers to questions regarding the times and places of audiobook use, how they used the apps and described in detail their audiobook use during a typical day. The topics of articles III and IV reflect the most in-depth themes in the interview material. The only aspect not included in the articles which also provided rich material, was a question regarding how they viewed audiobook use in relation to reading. This theme is instead explored in section 5.5.1 in this summary essay.

The length of interviews varied, typically between 30-45 minutes. All interviews were carried out in Swedish, and quotes used in publication were translated into English by the author. The interview material was stored in accordance with university guidelines. Furthermore, in order to protect their identities, all respondents were given pseudonyms. After the interviews, the recordings were transcribed by the author. The transcription process was carried out in two parts, first, the author listened to the whole recording in full, and then wrote a summary of the key takeaways. Second, the interview was then transcribed almost in full, but personal details were anonymised, and occasional sentences were shortened for clarification. This was not done to change what respondents were saying, but only to make their meaning clearer. For example, when contemplating a question, some respondents would stop and start a sentence several times such as: "I'm like... Hmm... it's like... what I do is...right...". When it did not seem to change the meaning of their answer, such hesitations and false starts were removed in the transcription[8]. Respondents were sent the transcript from their interview and were asked to respond with any changes or clarifications they felt were needed. However, none of the respondents had any changes to make. After their interviews, all respondents received a nominal gift certificate to a film streaming service.

The transcripts were analysed using qualitative content analysis, which is a systematic and reductive analysis method focusing on the meaning of data (Schreier, 2014). However, the method was slightly adapted to suit the material and purpose of the articles. As mentioned previously, the material was divided into two parts and used for two different articles. For both articles, the analysis first focused on condensing the material and coding it thematically, to detect different practices. This was the reductive stage of analysis. After themes had been identified and the material from all respondents had been analysed, it was time to delve into the details of the accounts of the respondents and to analyse the material in relation to the theories

[8] Hesitations, false starts, repetitions or filler words can play an important role in spoken language to convey a message and is one of the ways spoken language differs from written language (Cameron, 2001). However, the purpose of the interview study was gaining understandings of how, when and where respondents listen to audiobooks, rather than studying their discourse as such. Therefore, removing words in transcription which blurred the description of activities supported the purpose of this study.

chosen for the different articles. This later stage therefore involved broadening the perspective again. For article III, which used the largest part of the material, the analysis involved more steps compared to article IV, which involved a simpler thematic analysis. The analytic process was carried out manually using word processing and spreadsheet programmes. For example, the reductive stage involved coding different activities into a spreadsheet with accompanying notes.

For article III, the first step of analysis involved examining the transcript from each interview respondent and coding every different audiobook reading activity which could be identified in each interview. For each mentioned activity, certain categories were marked up; the time and place for the reading, any combined activities, how often it occurred (daily, weekly, monthly and so on), the tools they used as well as whether it was mostly mobile or stationary in nature. A brief example from this analysis step can be seen in table 5, which shows one activity detailed by P1.

Table 5. Example from the first step of analysis

P1. Relevant quote	Time/place	Activity	Frequency	Tool used	Mobile/stationary
P1. ”When I go to make breakfast, I put my headphones on, it’s almost the first thing I do in the morning."	In the morning, at home	Making breakfast (and eating)	Everyday	Headphones	Mobile

When the material from each respondent had been explored in full, 18 pages of coding had been created with one to two pages for each respondent. In this first step, each respondent’s transcript had been coded individually, from the first interview to the last. The next step involved combining this at a group level to identify practices. The material was condensed further into different themes in order to identify common times, places, activities and tools. This was done in several stages for the different explored themes. An example can be seen in table 6, which focuses on the times of audiobook listening.

Table 6. Example from the second step of analysis

Times for listening	Respondent	No out of 10
Morning	P1, P2, P5, P6, P7, P8, P9, P10	8
At school	P5, P6, P7, P10	4
Afternoon	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10	10
Evening	P2, P4, P5, P7, P8, P9, P10	7
Night/bedtime	P1, P6, P7, P8	4

Table 6 shows how many respondents listened at different times during an average day, which helped identify which times were most common at a group level.

For article IV, all interview quotes which related to the audiobook apps were extracted into a separate document. This material was then coded into a spreadsheet according to the different features of the audiobook apps which were mentioned by the respondents. Table 7 shows an example relating to the app feature for adjusting the speed. Included in this stage of the analysis were the different features, how often they were used and relevant brief quotes or details from respondents regarding the feature.

Table 7. Example from interview analysis for article IV

App feature	Frequently	Occasionally	Comments
Adjusting the speed	P3, P4	P1, P5, P6, P7, P9	P3 always listens at 1.25 speed to "be more efficient" P1, P5, P6, P7 and P9 all adjust the speed for school-assigned books, to get through them faster. P4 always reads the book in print at the same time as listening to it and adjusts the audiobook speed so it fits with her reading by seeing speed (at 1.25 or 2). P6 has listened at 2.10, but then she ”really couldn’t do anything else at the same time”. P9 says he likes listening at regular speed as he remembers the books better, and that when he has listened at 1.5 for school novels, he did not remember them very well.

The analysis for both articles was supported by the theories at this stage, however, the theories were predominantly utilised in the writing-up stage which was the final part of analysis. As briefly mentioned earlier, the later stages of analysis involved probing into the respondent’s descriptions of their activities. This provided examples of the identified practices, and the material was then further connected to the theory. However, without condensing the material in the first stages of analysis, it would not have been possible to identify the practices, which were then analysed further while the results were written up and discussed in the articles.

4.4.3 Performing the app feature analysis

The app feature study was the final empirical study carried out for this PhD project. As mentioned in section 4.2, a feature analysis was chosen as method because it involved studying the interfaces and comparing the features of different apps. In this study, the apps from the three subscription services *Storytel*, *BookBeat* and *Nextory* were included because they were the three major subscription services in Sweden.

The author set up accounts with all three services and tested the apps in February 2021. The first step involved exploring the apps in full to gain an understanding of their functionalities. The layout and different functions were described in a spreadsheet. The focus for the article was on the audiobook player function of the apps, and the features found therein, as this was directly related to the user practices already seen in the preceding interview study. Therefore, the next stage involved an in-depth exploration of this part of the apps, and data collection was performed simultaneously with the analysis. Screen-shot photographs were taken of each feature in the audiobook player, and of every step in these features. These features were also described in detail in the spreadsheet. Based on Rogers (2013), the analysis focused on which features were available, the interactivity they allowed and what happened when a feature was used. In the writing up stage of this article, these aspects were analysed further using the concept of affordances.

To enable comparison, the apps from the three subscription services were described side by side. An example of these notes in relation to the feature of adjusting the speed can be seen in table 8.

Table 8. Example of notes taken during the app feature analysis

Feature/app	***Storytel* app**	***BookBeat* app**	***Nextory* app**
Adjust the speed of the narration	This symbol is at the top of the player screen, when you tap it, a new smaller screen appears on top of the player where you can choose from six listening speeds: 0,75, 1.0, 1.25, 1.5, 1.75, 2.0 If you tap a different speed, the page automatically closes and you get back to the original page, now the symbol shows the new speed.	Symbol in middle of screen, tapping leads to a screen where there are three suggested speeds: 0,85, 1.00 and 1.25. There is also a bar which you can adjust with your fingers, between 0,50 up to 2.00 with any .5 interval. If you choose a new speed, a bin symbol appears beneath it which you can tap if you want to go back the original setting. To leave this screen, you tap to the side of the bar, and return to the original page. The adjust speed symbol is now highlighted, showing the new speed.	Symbol at the bottom of the player screen, when you click it a new screen covers the previous one, titled ”ändra hastighet” (change speed). There is a scrolling function where you can choose any speed from 0.5 - 2.0. There are also four symbols below where you can click on four pre-suggested speeds: 0.5, 1.0, 1.5, and 2.0. you need to click on ”stäng” (close) to get back to the book and the player screen. The new speed is now visible in the symbol.

To ensure a similar experience, the same audiobook title[9] was used in each app for the feature analysis of the audiobook players. However, in order to explore and get a more comprehensive

[9] "Harry Potter and the Philosophers Stone" by J.K. Rowling, in English and narrated by Stephen Fry. This was chosen as it was mentioned by several of the respondents as a book they had listened to and enjoyed. The majority mentioned listening to it in English, hence the reason why the English version was chosen.

idea of these features, a few other audiobook titles were also accessed and partly listened to during the analysis process over a few weeks. This was done to ensure that a particular feature setting was not specific to a particular title. Accessing several audiobook titles proved to be informative, as the select track feature differed slightly between different audiobook recordings.

The app feature study was an iterative process, and the apps were returned to several times during February, 2021 for additional notes during the analysis and comparison. During the writing of the article, the photographs of the apps were also utilised continuously to clarify features and compare the three different apps. As the apps may be changed by the developers over time, the decision was made to do all data collection over a brief period and not return to the apps after that. This meant that there was a fixed dataset, and that all apps had received equal consideration during the data collection period. If one app change would have been considered during the writing up of the article, all apps would have needed to be explored again to ensure other changes were not overlooked.

4.5 Ethical considerations

During this project, research ethics have been considered in relation to the data collection methods which deal with people. In this section, ethical considerations for the transaction log study and interview study will be outlined.

4.5.1 Transaction log ethics and GDPR

The transaction log data was collected during the spring of 2018 just before the European General Data Protection Regulation [GDPR] was implemented. In the planning of the study, a dialogue was entered into with the university legal team to ensure that this project would adhere to GDPR. They advised that *BookBeat* should carry out searches within their data, and then only share clean and anonymous statistical data, rather than raw data. This recommendation was made to ensure that there would be no handling of personal data by the author. The implementation of GDPR and the guidelines set up by the university's legal team therefore had an impact on the type of questions it was possible to explore in the transaction log study. Furthermore, it meant that *BookBeat* staff had to carry out additional work to prepare the statistical averages for different user groups. However, an ethical concern common to transaction logs is that they may detail personal information, such as IP address, detailed search history or geographical information (Sheble et al., 2017). In this study, no personal information has been accessed or processed by the author.

Research involving people typically requires informed consent. However, according to the Swedish research council (2017), it is possible to conduct studies without individuals' informed consent if the collection of consent means the study would be severely hindered. In the case of this transaction log study, it would be highly difficult, if not impossible, to gather consent from all the tens of thousands of people who used the *BookBeat* service to listen to audiobooks during the time of the study. Importantly, as stated above, the study does not deal with personal information and has only processed user information on a group level. Therefore, it was deemed

unnecessary to collect consent from the individuals whose activities form the statistics of this dataset. Furthermore, at the time of data collection, it was stated within the *BookBeat* user agreements that the subscribers' usage of the platform would be documented, and that aside from being used for development, this information could be shared with collaborators.

4.5.2 The interview study ethical review

Research ethics were thoroughly considered during the planning of the interview study, both to avoid any emotional harm to respondents and ensure that their material would be handled according to ethical guidelines. Because sensitive personal information, such as relating to health and reading, could be collected with this method, an ethical review application was submitted to the Swedish Ethical Review Authority. The application consisted of eight documents, 54 pages in total, and covered the purpose and methods of the project, how ethical issues would be handled and how the collected material would be used and stored. Material used for recruiting respondents and gathering consent was also included. The ethical review application was submitted in December 2019, and it was approved with minor revisions in March 2020. The process of an ethical review meant that most aspects of the study were extensively considered and planned beforehand, except for the possibility of a pandemic and the difficulties that could bring.

4.6 Summary

This chapter has covered the methodological considerations of this project and the methods employed for data collection and analysis. Furthermore, the chapter has detailed various obstacles in data collection, such as the Covid-19 pandemic and a lack of researcher control over transaction log data, and how these have been navigated. Ethical considerations for the different studies have also been outlined here.

In line with the explorative approach of this thesis, a new method has been employed for each of the three empirical articles. The findings of the first study informed the focus and research method in the following studies. The thesis has utilised a mixed methods approach, where a digital quantitative method has been employed to discover user patterns, which have then been further explored through two studies using qualitative methods, one virtual and one digital. An explorative approach has been seen as a strength in this project, allowing for new methods to be employed or emphases to be added as unexpected results have emerged in the studies. Transaction logs, semi-structured interviews and a feature analysis have together enabled the collection of rich material which has brought insights into different aspects of audiobooks and reading practices. The next chapter will summarise the different articles and the findings of this thesis.

5. Summary of the articles

The four articles of this thesis are summarised in this chapter. They are presented in the order they were written within the PhD project. Furthermore, some unpublished material from the interview study is presented at the end of this chapter as it relates to the thesis aim. The publication data for the different articles can be seen in table 9.

Table 9. Overview of the articles

Article	Publication data	Study
I	Tattersall Wallin, E. & Nolin, J. (2020). Time to read: exploring the timespaces of subscription-based audiobooks. *New Media & Society, 22*(3), 470–488.	Transaction log study
II	Tattersall Wallin, E. (2021). Reading by listening: conceptualising audiobook practices in the age of streaming subscription services. *Journal of Documentation, 77*(2), 432–448.	Conceptual
III	Tattersall Wallin, E. (2022). Audiobook routines: identifying everyday reading by listening practices amongst young adults. *Journal of Documentation, 78(7), 266–281.*	Interview study
IV	Tattersall Wallin, E. (2022). Audiobook apps: exploring reading practices and technical affordances in the player features. *(Manuscript).*	App feature study Interview study

5.1 Time to read: exploring the timespaces of subscription-based audiobooks

This article was co-authored together with Jan Nolin, who provided input into the design of the study and contributed to the writing of the text. The author of this thesis created the visualisation of data, wrote the first draft and had primary responsibility for the final content. Both authors read and approved the final manuscript. The article was accepted for publication in *New Media & Society* in 2019 and published in issue 22 (3), p.470–488 in 2020.

5.1.1 Context and position of article

The aim of this study was to explore patterns of audiobook use on a large scale, in order to understand the daily, weekly and yearly temporal listening patterns of users of an audiobook subscription service. This was the first empirical study for the thesis and was intended to

provide a foundation of understanding from which to design future studies. Knowing when audiobook reading is carried out can also provide clues as to where and how the practices are performed, and therefore also whether these audiobook practices are engaged in at in different times and places compared to established understandings of traditional reading practices.

In 2018, after a dialogue was set up with the subscription service *BookBeat* they agreed to carry out searches in their transaction log data regarding the temporal use of audiobooks on their platform in Sweden. The data collection was completed just before the new European Data Protection Regulation (GDPR) was implemented in May 2018, so this informed the planning of the study as well as what type of data it would be possible to collect and analyse.

5.1.2 Results

The data revealed that the users of this subscription service spent a significant amount of time on audiobooks. The average user listened between 90-100 minutes per day. Although there was a similarity between the four studied user groups, it was striking that the group of young men on average listened the most each day (100 minutes), closely followed by the group of all men (98 minutes) and then all women (94 minutes). Young women spent the least amount of time listening to audiobooks each day (90 minutes). This finding was unexpected as traditionally women spend considerably more time on book reading, compared to men. This suggests that the gender gap in reading may be closing with the remediation from traditional forms of reading into reading by listening using audiobooks. Furthermore, this shows that the mobility of digital audiobooks may create more opportunities for book reading during an average day, as the users were able to spend considerable time listening to audiobooks each day.

Looking at distribution over an average day, there appeared to be a correlation between audiobook listening and the work or school day. There were increases in use during typical times for morning and afternoon commutes, but there was also a continuous use going on between 7 a.m. to about 4 or 5 p.m., indicating that listening was also carried out during the middle of the day. There was a decline in use in the late afternoon and early evening, before an increase between 10–11 p.m., assumedly bedtime reading. Similarly, over an average week, there was more listening carried out between Monday and Thursday, with a decline starting on Friday and continuing over the weekend. This indicates that many audiobook users listen in combination with activities carried out during the weekdays in relation to work or school, while activities over the weekend or weekday evenings are combined with audiobooks to a lesser extent. One possible explanation is that evenings and weekends are times when people do activities with others, implying they would not listen to audiobooks then. Due to the mobility of digital audiobooks, it is also possible that the users are primarily engaged with audiobooks in mobile situations, and that other book or media formats are used in more stationary situations.

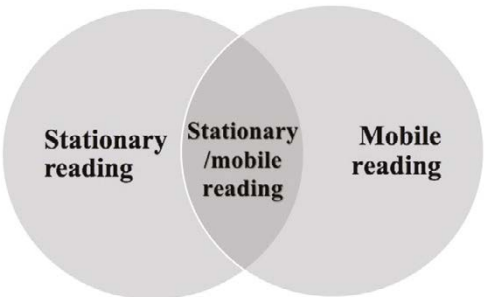
Contrary to the findings connecting audiobook use with the work week rather than the weekend, there was an increase in use for all groups during the summer months of July and August, when most people will have time off from work and school. The group of young women and young men increased their audiobook listening by roughly 12% during the summer compared to the

spring, while the summer increase for the group of all women and men was at about 5%. It is possible that the increase in listening during summer for young people could be linked with summer jobs, though this would need to be explored further. It is also possible that people change their practices during their summer leave and engage in more activities which are suitable for combining with audiobooks. Overall, the young users had more varied audiobook usage patterns over the whole year, compared to the groups of all women and men which had a more even distribution of usage over the twelve months.

5.1.3 Contribution to the thesis project

This study formed a foundation for the rest of the thesis. The dataset with reading patterns from the large number of users provided evidence of when people listen to audiobooks using a subscription service for digital books. This helped highlight emerging practices related to digital audiobooks and showed differences in audiobook reading practices in comparison to established traditional forms of reading. These differences relate to when and where reading can be carried out, and therefore also how much book reading it is possible to achieve during an average day. Noting these differences*, the mobility shift model* (figure 3) was created during the writing of the article. It highlights the differences in mobility when reading is carried out by listening compared to by seeing, which tends to be more stationary. Several concepts were introduced in this article which were then utilised in the rest of the thesis. The results were divided according to three units of time, and these were conceptualised as *daytime*, *weektime* and *yeartime*. The concept of daytime was then used in article III. Furthermore, the concepts of *reading by listening*, *reading by seeing* and *mobile* and *stationary reading* were introduced in this article, and then developed further in the conceptual article (II).

Figure 3. The reading mobility shift model



The surprising results related to the amount of time spent on audiobooks, and the relationship between audiobook reading and the work or school day, informed the design of the following interview study. Although the statistical data could provide strong evidence of when audiobooks were used, it could not answer why, how or in what places or situations the listening

was carried out. The transaction log study raised a number of questions to address in the following interview study, and, in particular, related to young people's audiobook use.

5.2 Reading by listening: conceptualising audiobook practices in the age of streaming subscription services

This article was accepted by *Journal of Documentation* in 2020 and published in issue 77(2). p. 432–448 in 2021.

5.2.1 Context and position of article

Conceptual complexities arise as an emerging phenomenon like audiobooks becomes the interest of research. The ambition for this article was to lay some groundwork for future research on audiobooks by identifying, clarifying and conceptualising four issues for audiobook researchers in the 2020s. The goal was not only to provide a foundation for the empirical research within this PhD project, but also to provide tools for researchers within different approaches interested in either audiobooks, reading practices or streaming and subscription services.

This article was written after the first empirical article, where some of these concepts were first introduced. In this conceptual article they were developed further and additional conceptual and clarifying work was carried out.

5.2.2 Summary of article

Four issues for audiobook researchers were explored in this article. The first issue concerned how it could be possible to understand and talk about the use of audiobooks in relation to reading. In this article it was suggested that reading can be understood as a form of practice and meaning-making process, which comprise of a multitude of activities carried out in time and space in particular situations, involving material tools or artefacts containing text. This broad starting point allows for numerous activities where a person creates meaning from text in different formats, using different senses, which can be studied as forms of reading practices. However, occasionally it is both useful and necessary to employ more focused concepts which highlight the specificity of particular practices. Therefore, *reading by listening* was suggested for discussing and understanding reading activities through the sense of hearing, such as listening to audiobooks. Furthermore, *reading by seeing* was suggested for reading text with the eyes, and *reading by touch* for the reading of braille through the help of fingers. In the article it was also emphasised how different reading activities have various levels of mobility, often related to the materiality of the book or text and the sense used to read it. This was highlighted with the concepts of *mobile reading, stationary reading* and *stationary/mobile reading*.

The audiobook as a format has gone through many changes since its inception over a century ago, and the difference in format also means it has a complex relationship to the printed book. The concept of remediation (Bolter & Grusin, 2000) was applied in this article to discuss these questions.

The second issue taken up in the article was to clarify the different remediations of the audiobook. It was suggested that the audiobook follows three forms of remediations, simultaneously building on traditions of reading aloud, remediating the printed book and remediating previous formats of the audiobook. Five iterations of audiobook remediations were discussed, moving from phonographic books, books on tape, CD-books, digital downloadable audiobooks and finally to the subscription-based audiobook.

In connection with this, the third issue taken up in the article was to discuss how the audiobook can be understood as a book. Traditionally, physical properties have been employed to define printed books as books, properties which the audiobook does not have. However, it was suggested that the content is the most important feature of a book, and that audiobooks can be categorised as books as they carry the same content as the printed or e-book version of the same title, only in audio-format instead.

The fourth issue pertained to the different audiobook services within the larger context of streaming and subscription services. The concepts of the *library model* and the *bookshop model* were introduced to discuss and understand how some audiobook services operate according to notions of access, similar to libraries, and others according to notions of ownership, similar to bookshops. The concept of streaming was explored, with the suggestion for audiobook services to generally be referred to as *subscription services* as they are all subscription-based, while only some are simultaneously streaming-based. *Streaming subscription service* was here recommended for general use as this covers the varying technical and economic aspects of different platform-based services offering access to digital media content.

5.2.3 Contribution to the thesis project

The conceptual and clarifying work carried out in this article has contributed to the thesis project in several ways. First, it clarified the context wherein the thesis is positioned, with audiobooks, contemporary reading practices and subscription services. Second, the concepts which were developed have been useful in the empirical articles, providing a language with which to present and discuss the studied audiobook reading practices. The concepts and clarifications have also functioned as a foundation for further conceptual and theoretical considerations carried out in relation to the empirical findings in the other articles.

5.3 Audiobook routines: identifying everyday reading by listening practices amongst young adults

This article was accepted by *Journal of Documentation* in 2021 and was published issue 78(7). p. 266–281 in 2022.

5.3.1 Context and position of article

Following the findings of the transaction log study and article I, semi-structured interviews were carried out with young people aged between 18–20 who were students in upper secondary school and frequent users of audiobooks through a subscription service. This group was chosen in order to narrow down the focus of the interview study and because young people's audiobook reading practices had not previously been studied qualitatively. In the interviews it emerged that the most common time for audiobook use in this group was weekdays, similar to the findings of the transaction log study. Therefore, the focus of this article was on audiobook reading practices during school days. The purpose of this article was to identify and conceptualise young adults' audiobook reading practices, as well as to explore how audiobooks fit into their everyday routines.

5.3.2 Results

From the analysis of the material, five timespaces emerged where routine audiobook practices were most prevalent: morning routines, commuting routines, school routines, after school routines and bedtime routines. Most of the audiobook practices were combined with other activities, and the five timespaces allow for different forms of activities. Several practices could be identified and conceptualised within these timespaces.

Three mobile audiobook practices were identified in the material. The first, *commute listening* involves listening to audiobooks while travelling between places, such as home and school. *Exercise listening* includes activities such as listening to audiobooks while lifting weights in a gym or going for a run. *Chore listening* is typically performed at home in relation to activities such as cooking, cleaning, doing laundry or tidying up. In all these practices, audiobook use appeared to provide enjoyment to the respondents in activities which are more or less necessary parts of everyday life. Three stationary audiobook practices were also identified, these were typically performed while the audiobook user was seated and using their hands and eyes. *Homework listening* involves listening to audiobooks while doing assignments for school, such as maths homework. Some respondents also occasionally used audiobooks to complete assigned reading, choosing to listen to novels in audio-format. Closely related to homework listening is *schoolwork listening*, this concept relates to the practice of listening to audiobooks during lessons at school, primarily while the listener performs individual work such as an art project. The third stationary practice is *leisure listening*, which includes audiobook use in conjunction with any type of leisure activities. Among the respondents in the study, some common leisure activities which were combined with audiobook listening were arts and crafts, playing computer games and checking social media. In several of these mobile and stationary practices, respondents sometimes alternated between listening to music, audiobooks and podcasts. This practice was conceptualised as *MAP-switching*, which is short for *Music, Audiobook and Podcast Switching*. Smartphone users have options and can listen to different types of content throughout their day, this choice can depend on the situation or their energy levels. Audiobooks were found to have more immersive qualities for the respondents, compared to the other media.

An unexpected finding was how audiobooks routinely were used to aid the respondents' wellbeing. This practice of *wellbeing listening* was made up of four subcategories, *de-stress listening* is listening to audiobooks to ease feelings of stress, *social substitute listening* is when audiobooks provide the listener company when they are alone, or for easing feelings of loneliness in a crowd. *Unwinding listening* is the practice of using audiobooks for relaxing and finally, *sleep-inducing listening*, to help the listener fall asleep. Some of these wellbeing practices overlapped, and some were also combined with the mobile and stationary practices outlined above.

5.3.3 Contribution to the thesis project

Based on ten interviews, the article has a limited dataset. However, the material is rich, and the respondents could provide ample descriptions of everyday audiobook practices. The article sheds light on how, when and where audiobook listening was carried out during an average day by these young people. It explores the tools used for audiobook reading, how audiobooks fit into everyday routines and what other activities the listening interweaves with. As such, the interview study was able to answer some questions raised in the transaction log study and article I.

Furthermore, the article identified and named emerging practices which had not been previously studied. This continues an important purpose of this thesis, namely, to conceptualise audiobook practices related to subscription services and lay a foundation for future research. Finally, the article also showed how audiobooks can play a significant role in listeners wellbeing routines.

5.4 Audiobook apps: exploring reading practices and technical affordances in the player features

Article manuscript

5.4.1 Context and position of article

From the interview study it emerged that some audiobook reading practices were closely linked with the affordances of the apps used for listening. Therefore, in order to understand these emerging reading practices, it became relevant to study audiobook apps. An exploration of the apps from the subscription services, *Storytel*, *BookBeat* and *Nextory* revealed three common functionalities: a library function, the subscription function and, finally, the player function. As the player function is what users interact with when they are actively engaging with an audiobook from the subscription service library, this became the focus of the app feature study and this article. The aim of this article was to explore features of the audiobook player in the three apps, and how these were used by young audiobook listeners, in order to identify affordances of the features and how they enable or constrict audiobook reading practices. This was carried out with the help of an interview study with ten young Swedish users of the

audiobook apps and a feature analysis of the three apps, focusing on the audiobook player function.

5.4.2 Results

The app feature study revealed that there were between ten to twelve features in each audiobook player function. Aside from expected features such as play and pause, features revolved around adjusting settings for different reading activities as well as for creating bookmarks to mark interesting passages.

From the interview material, four reading practices were especially prominent, and each of these were afforded by features in the apps. The first, *Adjusting the speed* was primarily performed when respondents read school assigned novels as audiobooks, either because they were short of time or because they did not find the novels enjoyable. This was also a feature used for listening at a quicker pace in order to be efficient. The adjust speed feature was mostly similar across the different apps, and easy to use according to the respondents. The *Storytel* app had six pre-set speeds to choose from, while the *BookBeat* and *Nextory* apps allowed users to manually adjust the speed from anywhere between 0.5 - 2.0, with 1.0 being the regular speed.

As audiobook recordings consist of a number of timestamped audio-tracks, the *select track* feature allows the user to navigate between different parts of an audiobook. In the *Storytel* and *BookBeat* app, users could access a list of tracks and choose to move to another track. The *BookBeat* app also had a switch track symbol next to the play symbol, for skipping to the previous or next track. There was no select track feature in the *Nextory* app. *Selecting a track* was used by respondents who alternated between audiobooks and the printed or e-book version of the same title, choosing the format which suited them most in the moment. However, some respondents found this feature confusing and difficult to navigate as the track numbers did not always correlate with chapter numbers.

All three apps had a *sleep timer* feature which enabled the user to set a timer for how long they wanted the book to be playing. Once the timer ran out, the book would automatically stop. This feature was used by respondents at bedtime, primarily to make sure that the book did not play the whole night after the listener had fallen asleep, but also to put a limit on bedtime reading. In all three apps it was possible to manually set a timer, and to choose from pre-set timers. However, in the *Storytel* and *Nextory* apps it was possible to set timers for up to 24 hours, while *BookBeat* timers ran up to 120 minutes at most. After a timer stopped it was possible to set a new timer.

Finally, *rewinding the audiobook* was used when respondents had missed parts of the book, either because they had fallen asleep or become distracted. In all three apps the rewind and fast forward symbols were next to the play symbol. The *BookBeat* app was the only one which had adjustable settings for this feature, where users could set it from anywhere from 15 seconds up to 30 minutes, depending on how much they needed to rewind. Meanwhile, this feature was set permanently to 15 seconds in the *Storytel* and *Nextory* apps.

The findings suggest that the distinct design features of the apps play a significant part in audiobook practices today. Most of these features afford users more control over their interacting with the audiobook, compared to what was possible with previous audiobook formats. However, while some app features support desired reading practices, some also create hindrances.

5.4.3 Contribution to the thesis project

The article provides insight into what features are available in the different audiobook player functions as well as what types of activities are afforded by the audiobook apps, and which practices may be hindered. It also explores how the apps are used by young audiobook readers and their reading practices related to the apps. Understanding the affordances of the features in the apps is important in order to better understand audiobook practices today. As the focus for this thesis project is audiobook listening via subscription services, exploring the apps provided by the services also provides further understanding of the phenomena.

5.5 Unpublished materials

Some of the material collected and analysed in the interview study did not fit into the articles. However, this material is still of relevance for the thesis purpose and is therefore presented in this section instead.

5.5.1 Talking about audiobooks and reading

The last question of the interview guide was "When you listen to audiobooks, do you think about it as reading or as something else?". This question was inspired by a research project exploring reading the practices of people who are blind or vision impaired, where the respondents were asked whether they considered listening to literature or other written information to be reading (see Lundh, 2022).

The question was put to all ten respondents in the interview study after they had answered questions relating to how, when and where they listen to audiobooks. As noted above, this material did not fit into any of the two articles utilising the interview material, as they were about reading practices and audiobook apps. However, the responses are interesting and can be of relevance for this thesis, especially relating to RQ4, about how audiobook use can be understood and conceptualised.

Although all of these young adults were avid audiobook users, their thoughts about audiobooks and reading varied greatly across the group. Five responses will be explored here in order to showcase the range of different answers, from those for whom audiobook use felt like reading, to those for whom it did not. On one end of the spectrum was P2, who said:

> Yes, I think about it as reading. It's just as if someone would read a book aloud for me. And that would also be reading a book. My eyes haven't done the reading, but my head has. (P2)

For this respondent, the key aspect is that she has engaged with the content of a book with her brain. This is what determines it as reading for her. P2's quote is in line with the conceptualisation of reading practices created in the conceptual article of this thesis, which highlights the meaning-making aspect rather than the sense used to engage with the text. Another respondent who was of a similar opinion has dyslexia and did most of her reading in audio-formats:

> Well, it's *my* kind of reading. I still say that I've read the book even though I've listened to it. (P6)

By saying that this is her kind of reading, P6 highlights that it may not be reading for other people. She explained that because of her dyslexia it takes a long time to read in print, but that she has become highly skilled in quickly processing information using her sense of hearing. When they are assigned a book in school, it is natural for her to read it in audiobook format. As visible in her quote, P6 always says that she has read a book, and does not feel the need to specify she has read it by listening. The quote from P6 notes an important aspect for understanding reading, which is that readers are different, and what is reading for one person may not be reading for another.

The respondents' perception of audiobooks and reading was also affected by other people's opinions. Some, like P9, had adults in their lives who clearly stated that audiobooks counted as reading, and this seemed to have an impact on their decision to listen to audiobooks and their perception of it as a valid type of reading. Others felt aware that audiobooks had a lower status in society. When asked whether he felt that audiobook use was reading, P3 reflected like this:

> Yes and no. I think audiobooks are books, but at the same time if someone had listened to 100 audiobooks compared to someone who'd like held and read 100 books, then I think I'd have more respect for the person who read [traditionally]. It's strange because I *have* read the books [that I've listened to in audio]. It is the same material, and the same content has entered my head, so really there's no difference. So, I don't know! (P3)

P3 voices the complexity of audiobooks being considered reading or not, and his reflection touches upon the high status that printed books and reading by seeing has in society. For many, reading printed books is seen as more impressive compared to listening to audiobooks. At the same time, while considering, P3 wondered why he felt this way, and noted that he could remember audiobooks he had listened to as well as, if not better, than printed books he had read. He noted that this was a complex question which was difficult to answer.

A few respondents felt firmly that audiobook listening was something different than reading. P1 explains:

> It's a bit more like watching a film for me. Reading and listening to an audiobook are for me two different things. When you read, you have to make the voices yourself in your head and it becomes more personal. With an audiobook it's the narrator who decides how they sound. (P1)

For P1, the extra work she associated with reading by seeing, such as using her imagination for creating different voices for the characters, distinguished reading for her. As with other respondents who did not view audiobook use as reading, P1 notes that the narrator does a lot of the work for her as a listener, which makes it different from reading. However, while P1 compared it to watching a film, this was not something everyone agreed on, such as P7:

> I wouldn't think of it as reading, no. But there are qualities that are like reading. But I wouldn't put it in the category of watching a film. It's something in between, you can hear the sound, but you don't see any pictures. (P7)

While these two respondents, P7 and P1, agreed that it did not feel like reading for them, what audiobook use did feel like was different for the individual respondents. For P7, audiobook listening had some similarities to reading, but she considered it as something else. However, because there were no images to be seen, it was not comparable to watching a film for P7. It seems that for those for whom audiobook use does not feel like reading, the sound and the narrator play a part in making the audiobook experience different from what they associate with reading.

The five responses outlined here exemplify how varied readers are. It could be argued that one cannot judge all readers based on one, or decide what feels like reading for one person, based on another. Rather, all experiences ought to be understood as valid.

5.5.2 Mobile everyday audiobook practices

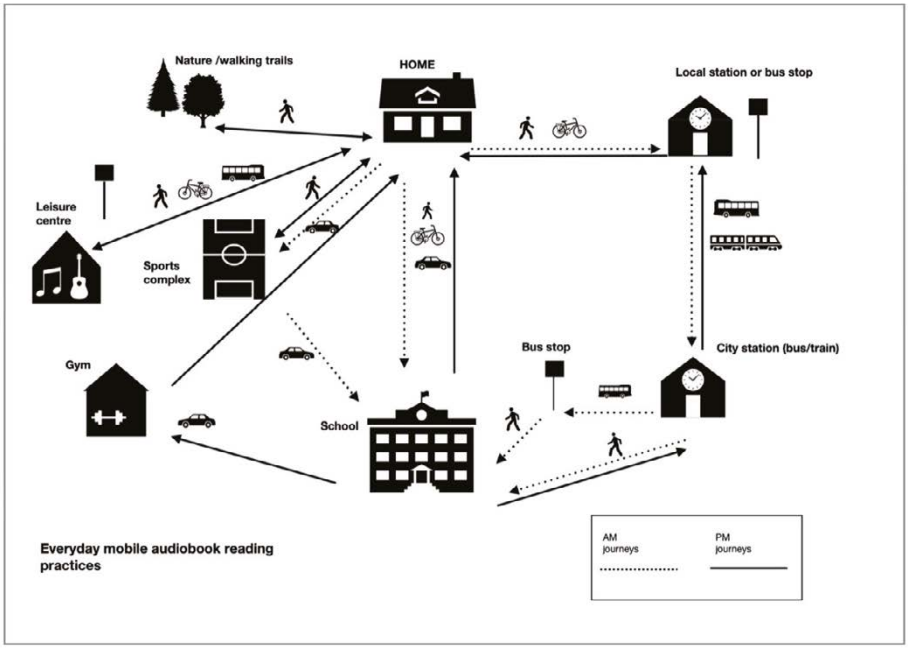
As noted in section 5.3.2, several of the audiobook practices identified in the interview study were mobile in nature. This mobility can also partly explain considerable length time subscribers spent listening to audiobooks on a daily basis, as identified in the transaction log study (see section 5.1.3). As it is possible to use audiobooks in mobile situations, they can also extend the length of time spent reading books during an average day.

During the analysis of the interview material for article III, two figures were created to visualise the respondent's mobile audiobook reading practices outside the home. There was no room for these visualisations in the article, however, they are included here to illustrate the range of different mobile situations where audiobooks are used during an average weekday. Material from all ten respondents has been summarised for the figures. This material is primarily related to RQ2.

As revealed in article III, the most common activity respondents combined with audiobook use was commuting. Figure 4 shows the different journeys taken during an average day, where audiobooks were listened to. For most respondents, audiobooks were listened to throughout the duration of the whole journey outlined here. As becomes visible, some journeys were more complex than others, involving several modes of transport. For example, some respondents had to walk or cycle to a local station, catch the bus or train into the city and then either take another bus to the school or walk the duration of the journey. That meant that before reaching school in the morning, some respondents had travelled by, for example, bike, train and bus. Other

respondents were able to simply walk, cycle or drive straight to school from their home. In many of these journeys it would have been difficult, if not impossible, to read in any other book format. For example, it would not have been possible to read a printed book while cycling or driving, or while changing forms of transport. Audiobooks therefore made reading easier in these intricate commute situations.

Figure 4. Everyday mobile audiobook reading practices

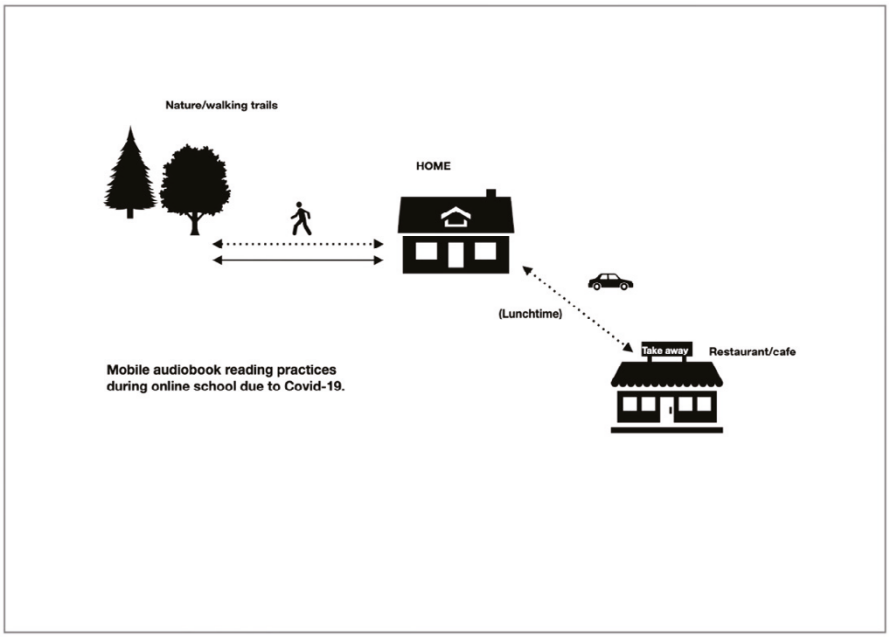


In the figures, journeys taken in the morning are shown with dotted lines while afternoon and evening journeys are marked with full black lines. As shown, some journeys, or some listening, were only either performed in the morning or the afternoon. In some situations, this was because they only engaged certain activities after school, such as visiting the gym or going to choir or sports practice. For some respondents, choosing not to listen at certain times could also have other reasons, such as being too tired in the morning to concentrate on the audiobook, or because they travelled with friends. Aside from being used between places on different modes of transport, audiobooks were occasionally also listened to at the destination, such as at the gym or school.

As the interviews were carried out during the Covid-19 pandemic, most participants were able to reflect on the differences that occurred in their audiobook routines in the time before and during the pandemic. When their schooling moved online at critical points in the pandemic, they lost their everyday commute as well as many other weekly scheduled activities. This cancelled some activities which they normally combined with audiobooks, while opening up for new practices instead. Figure 5 visualises the few mobile practices left when they were in

isolation because of the pandemic. The figure shows how most of the mobile and commuting related audiobook practices disappeared while they had online school. However, instead of listening to audiobooks on the way to school or other activities, some respondents began listening during the school day between lessons, which they had not done before, as revealed in article III. They would lie down on their beds to rest their eyes and relax before they needed to get back to their laptops for the next virtual lesson. One respondent explained how he started going for walks on sunny mornings, listening to audiobooks then.

Figure 5. Mobile reading during Covid-19



Several respondents also began listening during lunchtime, either while going to pick up lunch or preparing their food at home. In all Swedish schools, a free cooked lunch is provided daily to all students. During the pandemic, some municipalities came to agreements with local restaurants, which allowed students to pick up a takeaway lunch for free. This was undertaken both to make sure that students were given a solid lunch, and to support the restaurant business which was struggling when most people were isolating at home. Later on in the pandemic, some schools also opened up their kitchens again, allowing students to pick up meal packages. Therefore, some respondents in this study travelled to a restaurant to collect lunch during online school. Others prepared lunch at home during their lunch break. Before the pandemic, breaks and lunch were times when most would have spent time with friends at school. During online school, these respondents listened to audiobooks during those times instead, a form of social substitute reading, as conceptualised in article III.

The differences between these two figures show how dependant everyday routine is on societal rhythms. When something happens which affects a society as a whole, this also affects how individuals carry out their days, and the activities they engage in in different situations.

5.6 Summary

The four articles have contributed to the aim of this thesis in different ways. Article I explored the temporal listening patterns of a large group of users of an audiobook subscription service. By providing an understanding of emerging contemporary audiobook practices, the dataset provided a foundation for the thesis project and informed the topics explored in following studies. Article II developed and clarified concepts relating to reading practices, audiobooks, streaming and subscription services. This built on some initial conceptual work in the first article. The second article therefore helped define the context of the thesis and provided a language with which to present and discuss the thesis findings. Article III provided insight into how, when and where audiobook listening was carried out during an average day by a small group of young adults. The article explored how audiobook practices related to everyday routines as well as identifying and naming emerging practices visible in the material. Article IV analysed the affordances of the different features available in the player function of the apps from three audiobook subscription services. Furthermore, the article explored user practices related to the features. It also considered how features afford or hinder reading practices. Aside from the four articles, this chapter also covered some unpublished results from the interview study. This material was included here as it contributes to different aspects of the aim, with one part relating to the conceptualisation of audiobook reading practices and the other part showing mobile situations where audiobook use occurs. The contributions of this thesis will be discussed in the next chapter.

6. Discussion

This is an explorative PhD project conducted within the early days of contemporary audiobook research. While this means that there has been less previous work to utilise and build on, it is also an opportunity to contribute with new knowledge and lay some conceptual groundwork. An important aspect of this thesis has been to study audiobook use as a reading practice, acknowledging that practices are open-ended, and that reading is ever evolving. This amounts to studying reading as it is carried out by a number of readers, thereby avoiding preconceived notions about how it *should* be done. With the practice approach, a particular focus has been placed on temporal and spatial aspects of audiobook use. Furthermore, the thesis has also considered the listening devices and platforms, subscription services and apps whose affordances facilitate practices, and which have become part of contemporary audiobook reading practices.

The aim of this thesis was to develop knowledge and conceptualisations of audiobook reading practices in the context of subscription services and apps, this was achieved by exploring young people's audiobook use, with a particular emphasis on the temporal and spatial aspects of the practices and the tools used.

This thesis has been guided by four research questions, each relating to one of the articles:

- RQ1: What are the daily, weekly and yearly temporal listening patterns of users of an audiobook subscription service? How do the patterns of young people differ from those of all other users? (Article I)
- RQ2: Which everyday audiobook practices can be identified among a group of Swedish young adults? How do these practices interweave with other routinised practices? (Article III)
- RQ3: How do player features in the subscription service apps afford audiobook reading practices among a group of young audiobook listeners? (Article IV)
- RQ4: Given the pioneering stage of contemporary audiobook research, how can audiobooks, subscription services for these, and audiobook listening be conceptualised? (Article II)

The findings relating to the research questions have been discussed in each corresponding article. In this chapter, the scope is broadened in relation to the thesis aim, and the contributions will be discussed with the help of the following three themes:

- Conceptualising audiobook(s), reading and listening practices

- The timespaces of audiobook reading practices
- Subscriptions, platforms and apps

The discussions will also utilise practice theory and connect back to some of the research presented in the background. The chapter will then conclude with a section on additional thesis contributions beyond its aim.

6.1 Conceptualising audiobook(s), reading and listening practices

Early on in this thesis project it became clear that developing concepts would be imperative in order to carry out research on audiobook reading practices. A sophisticated vocabulary was needed in order provide a language with which to present and discuss the findings of the empirical studies. Throughout the history of audiobooks, the medium has gone through continuous changes both in relation to format and user practices. Therefore, understandings and conceptualisations regarding audiobooks have also been evolving. This thesis has been written during a time of considerable development for audiobook technology and a simultaneous increase in users. Part of the aim of this thesis has therefore been to develop concepts and to re-evaluate and clarify existing conceptualisations of relevance for contemporary audiobook research. The conceptual work is not only of relevance in the context of this thesis project but can also be advantageous to other researchers exploring these topics. Furthermore, broadening the understanding of reading in relation to audiobooks can also have societal implications. With the increasing number of audiobook users, how audiobook listening can be understood is a subject matter of interest today in media and public debate.

In this thesis, reading is approached from a practice theory perspective and is understood as open-ended, consisting of a multitude of activities carried out in time and space in particular situations, which involve material tools and text in some form. A variety of different activities involving text can be studied as reading with such a broad understanding. Several concepts have been developed which are more focused and which apply to different types of activities. Reading activities using the sense of hearing, such as audiobook use, are here conceptualised as *reading by listening*, different to the type of reading engaged in by seeing or by touch. Furthermore, it is noted in chapter three of this thesis that in order for an activity to be understood as reading, there needs to be meaning-making and engagement with the text. It is simply not enough to have an audiobook playing in the background, or indeed to be holding or looking at a printed book, without creating meaning from the text.

Studying audiobook use as reading allows for the exploration of emerging reading practices, as well as for new perspectives on traditional reading. As different types of activities are understood as reading, it becomes apparent that these are both similar and different. Therefore, established reading practices involving printed texts and the sense of seeing become possible to understand in a new light. This has also been noted by audiobook researchers Have & Stougaard Pedersen (2016), who suggest that by understanding audiobook use as reading, new

perspectives can be provided on other types of reading. In this thesis, one aspect which has been noted is the difference in mobility. While reading by listening using subscription-based audiobooks can be highly mobile, reading by seeing a printed book is, by necessity, a more stationary activity, due to the materiality of the book format. This has been visualised with the reading mobility shift model (section 5.1.3) and concepts *mobile reading* and *stationary reading*. Reflecting on audiobook reading practices in this thesis has therefore also resulted in concepts of relevance for the study of other types or reading. Furthermore, users' perspectives on reading can also be broadened as they themselves find new ways of creating meaning when interacting with text. The interview respondents' reflections on audiobook use and reading, explored in section 5.5.1, are sophisticated and contemplative. While the opinions of the respondents differed, they were all able to reflect on audiobook use and compare it to their experiences and notions of reading in general. By being avid audiobook users, they seemingly gained additional insights into traditional reading as well as other media use.

Ostensibly, this thesis is primarily about *reading practices*. However, in chapter three, it was suggested that it was also highly relevant to consider and understand *audiobook practices* and *listening practices* in the context of this thesis. It is worth revisiting these three practices and how they relate to each other. It can be held that these three types of practices are of equal importance here. They also overlap and interweave in different ways. As discussed above, reading practices are understood as a range of activities where a person creates meaning from text. Meanwhile, listening practices consist of a variety of activities involving the human sense of hearing, such as listening to any type of media delivered through sound. These two practices overlap as some listening practices are also reading practices, such as listening to audiobooks or someone reading aloud. Because of this, audiobook practices are clearly connected to reading and listening practices, and this is especially worth considering in the context of this thesis. It is suggested that audiobook practices comprise of roughly three categories of activities: first, the previously mentioned audiobook reading activity where the user is listening to and creating meaning from the text in an audiobook. Second, in chapter three it was noted how there may also be audiobook listening activities which are not reading. That is, the book may be playing but the user is not actively engaging with the content, perhaps because they are dozing off or becoming distracted by something else. As indicated in the conceptualisation of reading used in this thesis, there ought to be some meaning-making of the text for an activity to be understood as reading. The third category includes audiobook activities which are neither reading nor listening, but which relate to audiobook use in various ways, for example, changing app settings or browsing for new books. When considering these three categories of audiobook practices, it becomes clear that these are all in focus in this thesis. It is therefore possible that the thesis is first and foremost about audiobook practices, rather than simply about reading practices. The thesis of course explores and conceptualises reading practices and listening practices, but it is always in connection with audiobooks.

Podcasts are an audio medium which has gained popularity simultaneously with digital audiobooks and which are listened to via similar platforms and with the same devices. Podcast use is therefore an example of another contemporary listening practice. As audiobook listening is here conceptualised as a type of reading practice, it could be questioned whether podcast use

could also be understood as reading by listening. To reflect on such a query, it is relevant to consider the two mediums in themselves. Podcasts are digital audio files which can be streamed or downloaded and listened to via devices such as smartphones or computers. While native to web, they also remediate traditional radio and television broadcasting practices, with series made up of seasons, and episodes released according to predictable scheduling (Bottomley, 2015). Following the platformisation of digital media content, podcasts are a key type of content on streaming platforms such as *Spotify* (best known for music) and *Audible* (best known for audiobooks) as well as specific podcast platforms like *Apple Podcasts* and *Google Podcasts*. While there are some similarities with audiobooks, there are also many differences. Podcasting as a phenomenon is born digital, made for streaming or downloading.

Like podcasts, contemporary audiobooks are accessed by streaming or downloading through the internet. However, audiobooks have been remediated in several iterations, and the digital subscription-based audiobook is simply the latest format. Another aspect to consider is that podcast users subscribe to specific series, unlike today's audiobooks, where users instead typically subscribe to a service to access all audiobook content on the platform app. There is therefore a difference between podcasts and audiobooks in how subscriptions are used and organised. The most crucial difference between them is that podcasts do not need to have a relationship with text. Some podcasts are based on scripts, but these are presumably written for the presenter rather than the user. Many podcasts are primarily based on conversations, such as between presenters and guests. Meanwhile, the text is a fundamental part of audiobooks. In article II of this thesis, audiobooks were conceptualised as recorded books where words existing on a page or screen have been turned into a commercial spoken word recording with the help of one or several narrators, for instance an actor or the author. Hence, audiobooks are understood as a book format, and the text is an intrinsic part. This difference constitutes the reason for conceptualising audiobook use as reading by listening, but not podcast use.

In previous research, audiobooks have been defined as "a single speaker's word-for-word recording of a book originally published in print" (Rubery, 2016, p. 3) and "a sound recording of a book read aloud by a performing narrator" (Have & Stougaard Pedersen, 2016, p. 154). Both these earlier definitions highlight the relationship between audiobooks and books, particularly printed books. Indeed, the main difference between these book formats is that in audiobooks the text is delivered through sound instead of on a page. Furthermore, Have and Stougaard Pedersen's definition points to the narrator and their performance of the text while Rubery highlights the word-for-word aspect of recording. These are vital aspects in understanding audiobooks, one, that they are read by a narrator who *performs* the text, and that this text is a crucial part. These prior understandings of audiobooks highlight important aspects. However, during the work with this project, it was found that some additional aspects needed to be added to a contemporary conceptualisation of audiobooks. For example, there can be several narrators who read different characters. Furthermore, audiobooks are today often released at the same time as the print and e-book format. In this way, audiobooks are not necessarily recordings of books previously published in print. There are now also books written specifically for audio, such as *Audible* and *Storytel* originals. Moreover, it is important to highlight that audiobooks are commercial products, which make them different from talking

books created for people with print disabilities. Therefore, developing a working conceptualisation of audiobooks was found to be a necessary part of this thesis project. However, due to the constant development of audiobook technology and use, it is likely that many of the concepts suggested here will need to be further developed as time goes on. These concepts should be understood as open-ended rather than fixed, just like practices that involve them (Schatzki, 2005)

6.2 The timespaces of audiobook reading practices

There is an increasing interest in time and temporality in library and information science research (for example, Haider et al., 2022), including in studies on reading (Rothbauer & Cedeira Serantes, 2022). In a proposed conceptual framework on reading and time, Rothbauer and Cedeira Serantes (2022) highlight that time and temporality is closely connected to reading in a variety of ways, such as reading being a temporalised practice. They suggest that temporal aspects relating to reading play a part in how everyday life is organised, which is also seen in this thesis, particularly in articles I and III. In this thesis about audiobook practices there is a particular focus placed both on the temporal and the spatial aspects of audiobook reading. The practice theory of timespace (Schatzki, 2009; 2010) has been utilised here to consider time and space in relation to activities and to note how these are central characteristics in activity.

Like any activity, reading takes time. In studies on young people and reading, a common finding is that respondents experience a *lack* of time for leisure reading (See Cedeira Serantes, 2014; Hedemark, 2021; Rothbauer, 2009; Sellers, 2019). Such a time scarcity was not found in relation to audiobook reading in the empirical studies of this thesis. The findings from the transaction log study (article I) showed how audiobook users of all ages spent a significant amount of time listening to audiobooks each day. The interview study (article III) showed that finding time for audiobook reading was easier than finding time for traditional reading by seeing. These two studies imply that the affordances of audiobooks *create* time for reading. The audiobook format, and especially as it has been remediated into its digital subscription-based form, affords a different kind of use compared to printed books. It is possible to listen to audiobooks while simultaneously doing other things. Therefore, it becomes possible to free up, or perhaps find, time for reading in moments which were previously occupied. Indeed, most audiobook practices identified in the interview study were interwoven with other activities. Similarly, the adult audiobook users in Have and Stougaard Pedersens (2016) study also primarily used audiobooks in combination with other tasks.

In contemporary society, emphasis is often placed on productivity and so taking the time for leisure activities can be difficult to motivate when there are chores that need to be done. Engaging in several activities at once can therefore appear efficient. One example seen in the interview study is combining a leisure activity (audiobook reading) with things that must get done, such as commuting, household chores, schoolwork or exercise. There were also examples where audiobook use was combined with other enjoyable activities, such as drawing or playing video games. It would seem that people strive for efficiency even in leisure. This is perhaps in stark contrast to traditional reading by seeing practices. Rothbauer and Cedeira Serantes (2022)

note how reading is a way of slowing down time. A reader getting immersed in a story may experience that they lose track of time and space. Furthermore, in a busy life, actively choosing to take time out to read for leisure is a way of slowing down in itself. Interestingly, while audiobook use can be understood as a way of speeding up and being efficient by doing several things at once, it could also be seen as a way of slowing down. As in with traditional reading, audiobook readers can become equally immersed in their books. This may be why the experience of time can change. Choosing to listen to audiobooks can be a way of taking control of time, simultaneously pressing pause, and accelerating.

As audiobook use is possible to combine with other activities, there is a change in the times and places reading is carried out. As seen in both articles I and III, audiobook listening is performed to a higher extent on weekdays compared to weekends, and more during daytime than evenings (with the exception of bedtime reading). Audiobook use therefore not only opens up for more reading time in everyday life, but it also shifts the timespaces of reading and incorporates times and places previously not associated with reading. As noted in timespace theory, how an activity is carried out relates both to specific sequential time and objective space, and the unified timespaces in which they occur (Schatzki, 2009; 2010). Furthermore, the materiality of tools and objects also play a part in how practices can be carried out (Schatzki, 2002; 2010). Digital subscription-based audiobooks are used with digital devices which are highly mobile and afford reading on the go, as well as combining with other activities. The emerging audiobook practices identified in this thesis are therefore related both to the timespaces in which they are increasingly enacted, as well as the smartphones and apps with which they are used. These developments also illustrate how practices are open-ended (Schatzki, 2005), and how changes in society, such as the emergence of subscription-based audiobooks, can open up to new routinised practices.

Audiobook listeners can also adjust the timespaces and temporality of their reading using features in the audiobook apps, which were explored in article IV. By adjusting the speed of the audiobook, the user not only adjusts their reading experience, but they also change time. With previous audiobook formats, adjusting the speed was difficult and so users were enforced to listen at the reading pace of the narrator in the recording. Now, listening at a higher speed is another way of being efficient as the user will read the book faster. However, while speeding up the book makes the reading activity go by quicker, it can also have an impact on the other types of activities it is possible to do at the same time. Listening at a much higher pace means it takes more effort to create meaning from the text, perhaps making it harder to combine audiobook listening with other activities. This can change the timespaces of audiobook listening, as it is usually carried out in mobile situations in combination with other activities. Furthermore, in using the rewind, fast forward or select track features, the user shifts the otherwise sequential temporal constraints of the recorded book. The linearity as well as the temporality of the book is altered. Another example of how audiobook users can adjust time is through the sleep timer. This feature sets a limit on their reading, making the book stop automatically after a chosen length of time. When listening at bedtime, the purpose is usually both to make sure the users do not read all night, and to ensure that if they fall asleep while listening, the book will not continue playing for long. When setting a sleep timer, the listeners

can also be understood to set a timer on adjusting their timespace, because although they may stay in the same objective time and place, the activity changes as the users shifts from audiobook reading to resting or sleeping. These examples highlight that audiobook reading is not only carried out at different times and places compared to traditional reading, but users also adapt time in different ways with the app features. Therefore, considering the temporal and spatial aspects of audiobook practices has been fruitful.

The mobility of the book format is related to the time and space where audiobook reading occurs. Previous researchers have reflected on the mobility of audiobooks and how this may change users' experiences as well as where listening is carried out (for eg., Koepnick, 2013; Tanderup Linkis, 2021a; 2021b). However, this thesis has contributed by empirically exploring the time and space where audiobooks are used, as well as visualising the mobility of practices (see section, 5.5.2). The findings of the different studies highlight the added mobility of this current remediation of the audiobook format. Listening to audiobooks removes the need to use eyes and hands to engage with the text, which allows users to engage in other tasks. With this current iteration, audiobooks are also used through apps accessed via smartphones and listened to using earbuds or headphones, often wireless. This adds another dimension of mobility and allows for the shifting of timespaces associated with reading, as discussed in this section.

6.3 Subscription services, platforms and apps

Having both a user and system perspective can provide a more well-rounded picture of a phenomenon. This thesis contributes to audiobook research by both exploring the accounts of users and use and considering the framework wherein practices are shaped.

In 2015, Helmond suggested that platforms have become a "dominant infrastructural and economic model of the social web" (Helmond, 2015, p. 5). Related to this platformisation is surveillance capitalism, collecting and selling user data for economic gain (Zuboff, 2019). There is also a trade in user attention, and impact tracking is carried out on most digital content platforms, to show the use and impact of specific content, creators or platforms (Floegel, 2021a). With more usage of the platform, more user data can be collected. Some platforms are open and funded by advertising, while others are closed and paid for by subscriptions. However, it is likely that user data is of high value for most platforms. A sign that user data is collected is when something on the web becomes personalised, such as personal recommendation systems suggesting content on a personal start screen on a platform (Zuboff, 2019). Personalisation is intended to make the platforms feel more relevant to users, thus increasing the time they spend on them. In order to do this, the platform algorithms process the user's personal information along with the content they have consumed. This input then determines the output of the algorithmic recommendation systems (van Dijck, 2013). With subscription services for digital books, audiobooks have become part of this platformisation.

The audiobook is not a new invention, but rather a book format which has gone through several remediations during the previous century. During these developments, audiobooks have always been at the forefront of technological innovation (Colbjørnsen, 2015b). This makes the

technological aspects of the format worth consideration. Currently, the commercial subscription service platforms, streaming, apps and content playing tools are the context wherein contemporary audiobook practices develop. These are at once informing audiobook practices and have become part of practices. This thesis has contributed with an understanding of the economic models of the subscription services and by exploring features of the apps and how these relate to user practices. Moreover, there are also other aspects to acknowledge.

Previously in this thesis it has been noted how remediations of the audiobook moved through various physical containers, such as cassette tapes and CDs, to become digital files for streaming or downloading. This has for example contributed to reading practices becoming more mobile. However, what has not been previously reflected on here is how the current subscription-based iteration has a *digital container*, from which the audiobook cannot be separated. This container is the apps from the subscription services, wherein users both browse for and listen to audiobooks. With this technology and business model, books are intrinsically connected to the apps. Just as any previous material casing, these apps afford and constrain user practices. Furthermore, while the apps do not come with any bulky physical baggage, the subscription service platforms are worth considering in relation to how subscribers' information and personal data may be collected and used, how platforms may apply nudging or employ dark patterns in the design to urge users to spend more time on platforms and share more data, as well as the social implications of algorithms. This broadens the context of audiobooks considerably. While this discussion section cannot cover all dimensions, it is of interest to briefly consider where audiobooks, and therefore also users, are now situated. Remediation into subscription-based audiobooks is clearly significant in more ways than one.

While it is known that free online platforms such as social media sites collect and profit from user information (for example, van Dijck, 2013; Zuboff, 2019), it is less clear with services that are hidden behind paywalls. Most subscription services do not have advertising on their platforms and so may be less likely to sell user data for that purpose. However, exploring the audiobook apps it becomes clear that the subscription services have access to a range of user data. A large amount of diverse information is likely collected, for example regarding when, where and how much subscribers listen, as well as which titles and genres they prefer. Furthermore, there are also features in the studied apps which encourage users to contribute to the app or share information in various ways. In all three apps explored for article IV, users are invited to provide reviews or ratings of finished books, which become visible to other users. Some apps also invite users to share more personal information which will be visible along with their reviews. One app suggests that subscribers add information about themselves to their profiles, while another app has a feature for setting personal reading challenges. All these features nudge users to share more information. However, it is unclear why users are encouraged to add to their profiles or share personal information with their book reviews. It is also uncertain what the subscription services do with the information they collect and are privy to, such as user locations. It is stated in user agreements that such information is employed for development and advertising, however it is not detailed further. One possible reason for collecting user data is to develop the apps and enhance personal algorithmic recommendations which filter and suggest books. Probably, the logic behind the idea is that if the algorithms can

recommend reading material which interest individuals, they are likely to listen more, and therefore spend more time on the apps. This can be similar to social media platforms such as *Facebook* where the most fundamental design strategy is to use all resources available to make the user extend their session on the platform (Frenkel & Kang, 2021). The more active the user is, the more likely they are to continue using the platform. Furthermore, the more the platform is used, the more user data can be collected. For the audiobook subscription services, another motivation may be to increase audiobook use in order to nudge users on lower priced subscriptions to change to a premium subscription. While some of the collected user information may support subscribers in the end, for instance by adapting features to their reading practices, it is also clear that it always is useful for the subscription service. It is worth considering what information users would have to share in order to listen to audiobooks, and what is unnecessary for the functionality of the app.

Article IV showed how the apps and their features play a significant role in contemporary audiobook reading practices. Another aspect worth attention is whether the business models of the subscription services have implications for users. The user is locked to the platforms in different ways. With subscription services following the *library model*, users will need to continue subscribing in order to have access to the books saved in their personal bookshelf. It is only through paying the monthly subscription fee that users can use the apps and listen to the books in the catalogue. This is the main difference between the *library* and *bookshop models*. Meanwhile, while users of subscription services with the *bookshop model* can keep the audiobooks they download, it is a restricted kind of ownership as books are tied to the platform app. Furthermore, another way subscription models can have an impact on users is how personal information is available to other users on shared accounts. An example is the family subscriptions, where several people can have profiles on one account for a lower cost. The holder of the main profile of the account can access the other profiles and see what they are reading. For a young person sharing an account with their parents, this can have an impact on the type of audiobooks they choose to listen to, as they will be aware that their parents can access this information. It is possible that this can be a constraint to reading practices. These are just some examples of how subscription services, platforms and apps relate to users and their practices.

6.4 Thesis contributions

In addition to contributions related to the three themes discussed above, the thesis can also be said to have made theoretical and methodological contributions of relevance to library and information science and reading research. These possible contributions will be discussed in this section.

Theoretically, the thesis can be said to contribute in several ways. One type of theoretical contribution is concept development, which has been carried out in three ways within this project. First, new concepts have been developed for recent aspects relating to audiobooks and reading. Second, distinctions have been made between existing concepts to separate the dimensions of similar phenomena. Third, some existing concepts have been developed. One

example is the concept of reading practices, which has needed a theoretical foundation. By operationalising practice theory to conceptualise reading practices, this thesis takes reading practice research a step forward. *Reading practices* has been employed as a concept in reading research without a theoretical positioning within practice theory (for example, Cavallo & Chartier, 1999; Dolatkhah, 2011; Stougaard Pedersen & Have, 2012). Furthermore, the project has operationalised practice theory and the reading practice concept within new types of empirical phenomena, namely audiobook use. In this way, it contributes by showing that the practice approach is useful and distinctive from other approaches in reading research. It could be argued that the reading practice concept is becoming even more relevant as reading is shifting from a predominantly stationary practice involving printed books, to various mobile practices involving digital audiobooks and other texts. Reading has always been carried out in various ways, but with the diversifying of formats, it becomes highly relevant to explore how reading is carried out in different situations. The mobility of reading also becomes interesting to consider with the material changes to the book, this aspect is highlighted with the reading mobility shift model developed in article I.

The practice approach utilised here also incorporates timespace theory and the focus on the temporality and spatiality of practices. This becomes highly relevant as the times and places for reading are changing with the latest audiobook remediations. The reading practices identified here are almost a reversal of traditional reading practices, both in regard to the times and places for reading activities, as well as how reading is now interwoven with other activities in new ways. By applying Schatzki's timespace theory, the thesis develops and opens this theory up for a new empirical area. This can emphasise the usability of this practice theory for library and information science and reading research.

Because the phenomenon in focus here is new and in constant change, a flexible methodological approach has been needed. Methodologically, the thesis contributes with an explorative approach where research methods have been identified over time and adjusted to suit the project, the character of material and specific situations. This has enabled a continuous exploration of this evolving phenomenon and suitable methodologies. Therefore, a compilation thesis has been a useful format for this project.

As a result of this approach, the PhD project has employed mixed methods. While transaction log studies have been carried out in library and information science before, this was a new approach for studying reading practices. Reading is a topic often explored with qualitative approaches, i.e., interviewing readers about their activities. Being able to access log data contributes with knowledge about what is done by users on such platforms. The transaction log study formed a vital foundation for the rest of the thesis. An unintended methodological development also occurred because of the pandemic. This made the interview study more difficult to carry out and meant it had to be adapted into a virtual study. The pandemic had additional empirical consequences as well, as the studied reading practices changed in relation to societal changes. Furthermore, the pandemic-related difficulties in recruiting respondents also partly opened up the idea of an additional study. More importantly, findings of the interview study highlighted the need to explore audiobook apps. The thesis contributes to

developing the method of feature analysis in the app feature study by employing it to explore a new empirical phenomenon. The method was also adjusted for this project to build on the interview study findings and to suit the study of these specific apps. The explorative approach created the opportunity to identify new topics and to develop new methodologies for each study.

Furthermore, the thesis contributes by concretely exploring the material aspects of reading. An issue for library and information science is that studying information is complex. To navigate this, concepts such as information behaviour and information practices have emerged to access and understand information use in different ways. There is a possibility for information research to further consider the material framework wherein information is situated, as has been done here for reading. This thesis shows how it is possible to develop a broad understanding of reading practices by looking at users and systems. Mixing methods and using both quantitative and qualitative approaches to study users and the material framework can give a more comprehensive understanding of information practices as well.

To summarise, the thesis has contributed by applying practice theory in relation to reading practice research and by incorporating and developing timespace theory. Another theoretical contribution has been the conceptual work carried out throughout the project. Furthermore, the explorative project has employed different methodological approaches, studying a developing phenomenon by identifying and adjusting research methods along the way. The next chapter will present the conclusions.

7. Conclusions

In this final chapter, the main findings and contributions of this thesis will be concluded.

First, this thesis explored temporal listening patterns from an audiobook subscription service, in order to contribute with new knowledge about when contemporary audiobooks are generally used. The most striking finding from the transaction log study was that subscription service users spent a significant length of time listening to audiobooks each day. Although there was a similarity between the user groups, it was surprising to find that young men listened most out of all groups, closely followed by the group all men. This suggests that the established gender gap in reading may be closing with the remediation from traditional reading to reading by listening using audiobooks.

There appeared to be correlation between audiobook listening and the work or school day, with more listening carried out during daytime on weekdays. A peak in use at night-time also suggests that audiobooks are used as bedtime reading. During an average week, there was more listening carried out between Monday and Thursday, with a decline in use starting on Friday and continuing over the weekend. Furthermore, over the year, an increase in use could be seen during the summer months of July and August, a period when many have time off from school or work. While the findings indicate that audiobook use is typically linked to the working week, it also shows that people appear to adjust their reading by listening practices as they go on holiday and their everyday routines change.

When comparing young adults with the group of all other users, it becomes clear that young people had more varied usage patterns. For example, the young adults had a much higher increase during the summer months and, especially young men, had a more pronounced decline in use over weekends and evenings.

The findings from the transaction log study are interesting because they suggest that possibilities to read on a daily basis increase through the use of subscription-based audiobooks. The patterns also suggest that the times and places where reading is carried out also changes, probably due to the mobility of audiobooks and how they can be combined with other activities. These findings therefore indicate changes in reading practices.

Second, this thesis explored the everyday audiobook practices of young adults. In the interview study it was possible to identify audiobook practices during five everyday timespaces, in the mornings, while commuting, at school, after school and at bedtime. Most of the audiobook use was combined with other activities, and these differed depending on the situation. For example, the same activities were not typically performed during morning routines and school routines.

Three of the identified audiobook practices were generally mobile in nature, namely: *commute listening*, *exercise listening* and *chore listening.* Meanwhile, another three practices were more stationary in nature: *leisure listening*, *homework listening*, that is doing school assignments at home, and *schoolwork listening*, carrying out work while in class. A common characteristic was that many of these were activities which were more or less obligatory. Combining audiobook listening with tasks such as doing the dishes or completing maths homework meant that these activities became more enjoyable. Many respondents had built up routines where they utilised audiobooks in situations of negative emotions, or to otherwise aid their wellbeing. This was conceptualised as *wellbeing listening* and made up of four subcategories, *de-stress listening*, *social substitute listening*, *unwinding listening* and *sleep-listening*. Several of these practices were carried out daily. For example, listening to audiobooks in the afternoon to unwind after school while simultaneously doing chores, having a snack or doing a leisure activity like playing a computer game. This illustrates how interwoven the audiobook practices had become with everyday routines. Audiobooks were predominantly listened to in conjunction with other daily activities, and the use had become routinised for specific purposes, such as increasing the enjoyment or supporting the user's wellbeing.

Third, features of the audiobook player in three subscription service apps were explored in order to identify app-related reading practices and affordances of the apps. The app feature analysis showed that there were between ten and twelve features in the audiobook player function in the different apps. This includes features such as play and pause, features for adjusting the settings for different reading activities and for creating bookmarks for interesting passages in the books. Four of these features were especially prominent among the interviewed young audiobook users, namely adjusting the speed, selecting a track, setting a sleep timer, and finally, rewinding the audiobook. The use of these features can be related to different user practices. Interestingly, the select track feature was used for alternating between the audiobook and printed version of a book title, where a format was chosen depending on the situation. This is an emerging reading practice and suggests that readers are adaptable and identify which format suits them best at different times. It also indicates that many value their reading time and are trying to increase it. Simultaneously, increasing the speed suggests that some audiobook listeners try to be efficient by getting through books faster. Furthermore, the use of the sleep timer and rewind feature indicates that users do not want to lose track of the story, and that being able to engage with the book fully is important to them. The findings of the app feature analysis suggest that the features in the apps play a significant part in audiobook practices today. Some of the features make certain reading practices easier, while others create hindrances.

Fourth, the thesis contributed by developing concepts related to audiobooks, subscription services and audiobook use. This conceptual work included developing new concepts, expanding existing concepts and clarifying and distinguishing between similar activities. A range of concepts have therefore been developed in this thesis.

It was suggested that reading can be understood as a form of practice which consists of a multitude of activities carried out in time and space in particular situations, involving material

tools and text. For it to be reading, a meaning-making process is needed. In order to distinguish between reading practices, several more focused concepts were developed which highlight the specificity of particular practices. For example, it was noted how different practices incorporate specific human senses; sight, hearing or touch. The concept of *reading by listening* was suggested for activities carried out with the sense of hearing, such as listening to audiobooks or to someone reading aloud. Concepts which specify different levels of mobility were also developed, such as *mobile reading* and *stationary reading*. Another important contribution was conceptualising audiobooks as recorded books where words existing on a page or screen have been turned into a commercial spoken word recording with the help of one or several narrators, for instance an actor or the author. This built on existing understandings but added important aspects to make this relevant for contemporary audiobooks.

It was also suggested that the audiobook services should be referred to as *subscription services*, as they are all currently subscription-based, while only some are simultaneously streaming-based. The concepts *library model* and *bookshop model* were introduced to clarify different business models of audiobook subscription services.

This conceptual work created a vocabulary with which to report the findings of the empirical studies. Hopefully, the concepts developed here may also be of use in future audiobook research.

7.1 Future research

Building on the findings of this thesis, several further studies can be suggested. The user group in focus here were young adults, however it would be highly interesting to explore the audiobook practices of additional user groups. For example, the transaction log study found that men spend more time on audiobook reading compared to women, and this could be explored further. Audiobook reading and the use of audiobook apps during the workday could also be studied in future research, building on the findings of the transaction log study and the interview study.

The context of this thesis has been Sweden. This is a distinct example, as this is a country at the forefront of audiobook innovation with early adopters of audiobooks, subscription services and digital technology. There are also high levels of education and literacy in Sweden. Future audiobook research should explore audiobooks and audiobook reading in other cultures.

The app feature study focused on the player function, it would also be of interest to study other aspects, such as the library function, the algorithmic recommendation systems and the functionality of the search features. Related to this, it could also be relevant to further consider the platform context of contemporary audiobooks and the consequences this can have for users, as touched upon briefly in the discussion. This includes aspects such as surveillance economy and the collection of user data, as well as the evolving business models and the rise of subscription-based services compared with the dominating ad-based revenue stream of many

platforms. Furthermore, it could be of interest to compare subscription services from small countries such as Sweden with US-based giants.

Additional reading and audiobook research could also benefit from applying a practice theory approach, as employed here. This has been a highly useful perspective with which to explore this evolving phenomenon. The concepts developed here could also be of relevance in such research.

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Appendices

Appendix 1: Interview guide

To go through with respondent before starting the interview:

- Thank you for participating in this study. This interview will be about how you listen to audiobooks. There are no right or wrong answers, rather I want to know how *you* do it. You will receive a gift card after as a thank you for your participation.
- Have you looked at the consent form that I sent to you? Do you have any questions? Remember:
- Your name or other identifying information about you will not be used.
- It is completely voluntary to participate in this interview, if these are questions you do not want to answer, you do not have to do so. You can also ask to take a break or end the interview at any time, you don't have to explain why.
- The interviews will be recorded, and the material will be transcribed. I'm going to send you the transcripts after the interview, and you can let me know if I have misunderstood anything.
- Any questions?
- Is it ok to start the interview? Then we'll start the recording.
- Ok, the recording has started. My first question is, do you consent to participate in this study and that we record this interview?

Background questions

- Can you begin by telling me a little about yourself?
    - For example, how old are you?
    - What are you studying?
    - What do you do outside of school?

Use of audiobooks

- Can you tell me about when you started using audiobooks?
    - In what context?
    - Do you remember what it was that made you want to start listening to audiobooks?
    - When you started, was it using a subscription service or app, or was it on CD?
    - (When did you start with subscription-based audiobooks?)

- How often do you listen to audiobooks (Every day/week/once in a while?)

- Which audiobook service do you use?
    - What type of account (your own, family, restricted?)
    - How have you experienced this service?
    - Have you used any of the other services (If so, were there any differences?)

- What do you use to listen?
    - Smartphone/tablet/e-reader/computer/smart watch?
    - Do you use different tools at different times?

- Do you use headphones/earbuds? (With cord or wireless?)
- Do you use headphones at certain times, and not at others?
- Which functions in the app do you use? (Sleep timer? change speed? bookmarks? rewind or fast forward?)

- Can you tell me a little about the type of audiobooks you tend to listen to?
  - Are some types of books better as audiobooks than others?
  - What makes a good audiobook?

- Do you know other people who listen to audiobooks?
  - Do you listen together with others?
  - Do you talk about audiobooks with others? (Or listen to the same book and talk about it?)
  - Does it ever happen that someone sees that you are wearing headphones, and they ask" what are you listening to?" (What do you answer then?)

The time and place of audiobook use

- Can you tell me about the times and places you listen to audiobooks?
  - When do you listen the most?
  - Do you listen more at certain times during the year or during a regular week?
  - At what places do you listen the most?
  - Are there times and places you wouldn't listen to an audiobook?

- Do you do other things at the same time as listening to audiobooks? Tell me, what do you do?
  - Are you in motion at the same time? (Exercising or on the way somewhere?)
  - Use your hands?
  - Do other things on your phone at the same time?
  - Do you ever pause your audiobook to do other things on your phone/the internet?
  - Do you always do other things, or do you ever just sit or lie down and listen?
  - Do you listen when you are about to go to sleep?
  - Have you ever slept with the audiobook playing?

- Can you tell me about a regular day when you listen to audiobooks, what is that day like? (What about a regular day before Covid?)
  - When during the day do you start the book?
  - When do you pause, and when do you turn it off completely?
  - Do you listen during several shorter sessions, or one longer? A combination?
  - Do you move between places/activities at the same time as your book is playing in your ear?
  - Have you considered whether you do things differently when you listen to an audiobook, compared to when you don't?

Audiobooks and other media use

- Do you listen to other things besides audiobooks? (Like music or podcasts?)
    - If you are going to listen to something, how do you decide between audiobooks/music or pod?
    - Do you think about it as different things, listening to audiobooks, music and podcast? (If so in what way?)

- What about things you watch, like film/tv/YouTube/Netflix etc. Do you choose between listening to an audiobook and watching something?

- Do you read in other ways too?
    - Do you ever choose between reading a regular book with your eyes and listening to an audiobook? (Or do you do both at the same time?) If so, what decides which format you choose?

- When you listen to audiobooks, do you think about it as reading or as something else?

- I've now asked all my questions, is there anything you would like to add? Is there anything you thought I would ask about, which I didn't?

- Then I will end the recording now

Appendix 2: Interview study consent form

UNIVERSITY OF BORÅS
Faculty of Librarianship, Information, Education and IT
/ Swedish school of Library and Information Science

Information for research participants
We would like to ask you if you want to participate in a research project. This document provides information about the project and what it means to participate. If, after receiving this information, you choose to participate, you may give consent by signing below.

What is the project and why do you want me to participate?
The purpose of the study is to investigate through interviews when, where and how young adults listen to audiobooks using subscription/streaming services for digital books. You are receiving this form because you have expressed an interest in participating in the study and meet the criteria for participation, i.e. you are a student in upper secondary school between the ages of 18 and 20 who listens to audiobooks through a subscription service several times a week. The research head for the project is the University of Borås. The research head means the organisation responsible for the study.

How will the study work?
If you participate in the study, you will take part in an interview where you will answer questions about how you listen to audiobooks. The interview takes about 45 – 60 minutes and the audio from the interview will be recorded and then transcribed, i.e., written in text. After the interview, you may read the transcription and approve it.

Possible consequences and risks with participating in the study
Due to the current situation with the coronavirus (Covid-19), you are given the opportunity to participate in the study remotely via video call. We also have the utmost respect of your privacy and any data you provide to us will be handled and stored securely under the EU Data Protection Regulation, see more information below. Otherwise, we do not assess that there are any risks for you as a participant in the interview study.

What happens with my data?
The project will collect and handle information about you. In addition to your accounts on how you use audiobooks, we will also need to process some other information about you such as

your name, contact details, education, age, gender and make an audio recording of our interview. In some cases, data relating to health and reading, such as dyslexia or other reading impairments, may also be mentioned in the interview and then treated as part of the material.

The data will be used to investigate when, where and how the study participants listen to audiobooks. Your name and contact details are saved separately so that we can reach you if, for example, we need to confirm any information later on. The results of the research will be compiled in de-identified form and presented so that no data can be traced to you. The University of Borås is the data controller for this processing, which is carried out on the basis of Article 6(1)(a) of the General Data Protection Regulation (consent). The information about you and the transcription from the interview will be pseudonymized, which means that the data cannot be linked to you without a so-called code key. The data, transcriptions and recordings will be stored securely, separate from the code key. The data will only be used by the participating researchers (see below). However, the information is a public document that may be disclosed in the event that someone requests this in accordance with the principle of public access. The data will be stored within the EU/EEA and kept indefinitely in the university's archives.

According to the EU Data Protection Regulation, you have the right to access the data about you which is handled in the study free of charge and, if necessary, to have any errors corrected. You can also request that data about you be deleted and that the processing of your personal data be restricted. If you want to access the data, please contact the participating researchers, whose contact details you see below. Data protection officers at the University of Borås can be reached on dataskydd@hb.se. If you are dissatisfied with how your personal data is processed, you have the right to lodge a complaint with the Swedish Data Protection Authority, which is the supervisory authority.

How can I get information about the results of the study?
You are welcome to take part of the research publications where the material collected with your help is used. You can notify Elisa Tattersall Wallin (see contact details below) if you want publications sent to you.

Insurance and compensation
As a thank you for your participation you will receive a gift certificate to the film streaming service *SfAnytime* for a value of up to 99 SEK. This compensation is not taxable.

As a participant in this interview study, you are not covered by any particular insurance, as a general insurance coverage is deemed sufficient.

Participation is voluntary
Your participation is voluntary, and you may choose to cancel participation at any time without any reasons or consequences. If you choose not to participate or want to cancel your participation, you do not have to state why. If, after the interview has been conducted, you wish to cancel your participation, please contact those responsible for the study (see below). We will

not continue to use your data. However, due to legal requirements, we may be prevented from immediately deleting the data. Material that has already been published is generally not affected by a withdrawal of consent

Researchers responsible for the study
The study is carried out by Elisa Tattersall Wallin, who is a doctoral student at the Swedish School of Library and Information Science, University of Borås. The supervisors for this PhD project are Anna Lundh, associate professor and lead researcher for this study, and Jan Nolin, professor, both at the Swedish School of Library and Information Science, University of Borås.

Elisa Tattersall Wallin, doctoral student
[contact details have been removed from this version]

Anna Lundh, associate professor
[contact details have been removed from this version]

Jan Nolin, professor
[contact details have been removed from this version]

Consent to participate in the study
I have received oral and written information about the study and have had the opportunity to ask questions. I can keep the written information.

☐ I consent to participate in the study *Young adults' use of subscription-based audiobooks*

☐ I agree that data about me can be processed by the University of Borås in the manner described above

Place and date	Signature

Part II – The four articles

The following four articles are part of this thesis[10]:

I. Tattersall Wallin, E. & Nolin, J. (2020). Time to read: exploring the timespaces of subscription-based audiobooks. *New Media & Society, 2*2(3), 470-488.

II. Tattersall Wallin, E. (2021). Reading by listening: conceptualising audiobook practices in the age of streaming subscription services. *Journal of Documentation, 77*(2), 432-448.

III. Tattersall Wallin, E. (2022). Audiobook routines: identifying everyday reading by listening practices amongst young adults. *Journal of Documentation, 78*(7), 266–281.

IV. Tattersall Wallin, E. (2022). Audiobook apps: exploring reading practices and technical affordances in the player features. *(Manuscript).*

[10] Due to copyright reasons, the articles are not available in the digital version of the thesis.

Publications in the series *Skrifter från VALFRID*

Enmark, Romulo (red.) (1990). *Biblioteksstudier. Folkbibliotek i flervetenskaplig belysning*. (ISBN 91-971457-0-X) Skriftserien; 1

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Eliasson, Anette, Lööf Staffan, Rydsjö, Kerstin (red.) (1997). *Barnbibliotek och informationsteknik: elektroniska medier för barn och ungdomar på folkbibliotek*. (ISBN 91-973090-2-8) Skriftserien; 12

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Eklund, Pieta (2022). *Academic librarianship in flux: The dynamics of negotiating professional jurisdiction.* (ISBN 978-91-983397-3-4) Skriftserien: 72

Audiobooks and subscription services have been increasing in popularity in recent years. Yet, little research exists on how contemporary audiobooks are used. In this PhD thesis, audiobook listening is studied as a reading practice. Focus is placed on the temporal and spatial aspects of audiobook reading practices, as well as on the tools with which practices are carried out and shaped. This includes subscription services, platforms, apps, user interfaces and the devices used for listening, such as smartphones, speakers, headphones and earbuds. The context of the project is Sweden and the user group chosen for exploring these reading practices is young adults aged between 18 and 20.

The thesis takes an explorative approach, where several theories and research methods are operationalised in four scholarly articles. Schatzki's practice theory forms a foundation for the thesis, with the theory of timespace applied to consider temporal and spatial aspects of activities. Furthermore, the theories of remediation and affordances have been included to examine the digital technology related to contemporary audiobooks. Different aspects of audiobook practices have been explored in three empirical studies, first, a transaction log study with temporal user patterns from a subscription service. Second, an interview study with ten young audiobook users, and third, an app feature study focusing on the features of the player function in three audiobook apps. As such, the approaches are both qualitative and quantitative, and digital methods are employed together with more traditional research methods in virtual forms. Moreover, the thesis also develops and clarifies concepts relating to audiobooks, subscription services and reading.

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