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Cybrarian - The New Digital Librarianship

Serving digital natives in hybrid libraries

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Tämä opinnäytetyö on tehty Oulun ammattikorkeakoulun toimeksiantona. Opinnäytetyön aiheena on digitaalinen kirjastonhoitajuus, Cybrarian, cyber-kirjastonhoitajuuden käsitteen määrittely. Tutkimuskysymyksenä olikin, mikä tämä Cybrarian on ja mitä hän tekee työssään? Valittu tutkimusmenetelmä oli narratiivinen, kuvaileva kirjallisuuskatsaus.

Kirjasto kentällä on paljon keskustelua kirjastoalan tittleistä. Aiheesta Cybrarian tai digitaalinen kirjastonhoitajuus ei ole paljon tutkimusta tai muuta kirjallista tuotantoa saatavilla. Aihe oli kuitenkin selvästi kirjastomaailmassa tärkeä, koska tittleitä mietittiin läpi 2000- luvun (osin aiemminkin) Suomessa. Osa kirjastoista ryhtyi niitä kehittämään ja ohjaamaan tiettyyn suuntaan.

Digitalisaation keskellä kirjastossa työskentelevien roolit ja tittelit eivät kuitenkaan aina täsmää. Tutkimuksessani tärkeä oli luoda yhteys tutkimuskysymykseni avulla digitaalisen kirjastonhoitajan, Cybrarian-nimikkeen todellisuuden ja tittleiden välille.

Tutustuin kirjastoalan tietolähteisiin alan laadukkaan kirjallisuuden ja täydentävien artikkeleiden avulla. Vahvaksi pohjaksi tuli kirjasto tieteen lait ja periaatteet. Tutkimuskysymykseni vastaukseen pääsin muodostamalla digiajasta kokonaiskäsityksen kirjasto kentällä.

Tutkimuksessani osoitin digitalisaation kirjastoissa synnyttäneen Cybrarianin, cyber-kirjastonhoitajuuden, digitaalisen kirjastonhoitajuuden, monissa muodoissaan ja tehtävätyypeissä. Rohkeutta käyttää moninaisia tittleitä havaitsin puutteeksi. Digitaalisen kirjastonhoitajan työnkuvassa perinteet ohjaavat työtä, jossa teknologian käyttö on tehokasta. Se ei ole pääasia työssä, vaan antaa työkaluja rakentaa uutta. Tutkimukseni osoitti myös, että tärkeimpinä ominaisuuksina digitaalisessa kirjastonhoitajuudessa on tulevaisuuteen orientoitunut mieli, joka yhdessä perinteeseen nojaamisen ja vaalimisen kanssa hyödyntää teknologiaa ja kykenee hiomaan työtään paremmaksi. Tutkimuksessani tein johtopäätöksen, että digitaalinen kirjastonhoitaja (Cybrarian) on oikea titteli tutkimuksessa esitettyihin työtehtäviin ja tehtäväkenttään ja sitä tulisi sen eri muodoissa osoittaa ammattilaisille näillä työskentelykentillä.

Asiasanat: Digitaalinen kirjastonhoitaja, virtuaalikirjastot, kirjastotiede.

ABSTRACT

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This thesis is written on assignment for the Oulu University of applied sciences. The subject of this thesis is defining the concept of digital librarianship, Cybrarian, cyber-librarianship. My research question was, what is this Cybrarian and what do they do? The chosen method was a narrative literacy review.

In the library field, there is a lot of discussion about titles. On the subject of Cybrarian or digital librarianship there where not much research or literature accessible. The topic was important in the library world because the titles were taught over in the 21st century (even earlier) in Finland. Some libraries began to improve and direct these titles in a certain direction.

The roles and the titles among librarians, who work in the middle of digitization do not always match. In my research, it was important to create a bridge between my research question to the reality and the title of the Cybrarian, the digital librarian.

I became acquainted with quality information sources from the library field and completed these with current articles. As a strong foundation in my research were library science laws and principles. The answer to my research question was found by constituting a big picture of the digital age in the library field.

In my research, I indicated that digitalization gave birth to Cybrarian, cyber-librarianship, digital librarianship, in many forms and work assignments. The courage to use the multiple titles I saw as a deficiency. In the work description of a digital librarian, traditions guide the work, in which the use of technology is efficient. It is not the main thing in the work but gives tools to build new. The most important qualities in the digital librarianship are the future-oriented mind, together with leaning to and fostering tradition, ability to utilize technology and to be able to hone the work better. In my research, I concluded that digital librarianship (Cybrarian) is the right title in the shown working assignments and landscape. Because of this, the title Cybrarian should be used for professionals in the given work areas.

Keywords: Cybrarian, digital librarian, virtual libraries, librarianship.

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1 PREFACE

The world has experienced vast transformation through WWW and digital technology, that is why the image of a librarian is relevant to address. There are needs to seize the past in the library world, the state it is now and visualizes the future. Altering libraries and professionalism to the point of reality is crucial. The audience needs to see the modern library as a whole and the Cybrarians as digital professionals. This all serves the digital generation, the digital natives that have become a vast part of the customer segments in the information services. Our digitally oriented society puts pressure on the public, demanding more focus on skills in the digital area. This reflects the librarians. Demands of the public have been met in many library services of the modern organization, where delivering tailored and targeted services constantly advance.

The thesis explains and defines modern library patrons, as digital natives and the information age generation as the collective digital generation. The term hybrid audience is used, when referring to library patrons of diverse service forms; digital and physical, where the customer may also be the creator, publisher and end-user of the documents in question.

Digital natives, being part of the digital generation are very different from the audience library has had before this time of information age. Leaps in technology have altered the behaviour and needs of library customer segments and libraries in totality. This alteration demands attention. According to Michael Lesk, looking at the historical phases of libraries, "technology is not always the catalyst to change how information is handled " (Lesk 2013, 4). Technology itself is nothing without the operator. Digital natives are discussed more in chapter 2.2.

Hybrid libraries are necessary to take in this big picture, to show the working environment of the Cybrarian. Hybrid libraries are all over the world, but the customers or professionals don't generally acknowledge they are in hybrid facilities and services. It is too close to realize this. Libraries are more in the jungle of technology than we could imagine.

Values in the library field must be noted. In every strategy in the professional library world, it is supported to address new thinking, implement ideas of fresh nature. Library field thinks of the core content of the library world being innovative, trustworthy, thrilling and valuable to the public.

Equality (The council of public libraries 2013, cited September 12.2019) has risen in the information age. The council for public libraries produced a strategy for 2016-2020, presenting values, goals, emphasis, and actions designed to meet the ideas.

The strategy explains the goals of equality are:

- everyone has the rights and skills to use the information resources
- everyone can Access Digital information and literature
- everyone has the right to participate and influence the society and living environment
- everyone has the opportunity to visit the library
- library collections are easily found and combined with other information

The whole digital age in libraries has risen equality (nationally). The values guide libraries through their actions and implementations. They need to be pointed out, as they guide the services of the whole organization. I will return to this strategy (ibid.) in chapter 3. regarding hybrid libraries.

If we look at a patron segment, which has benefited from new technology, this is disabled. Digitalization has increased the possibilities of disabled persons engaging in activities, in a community-centred and personal frame¹ (Eriksson 2019, 6. Cited September 12., 2019). World of libraries has come closer to the public. Digital libraries are run by Cybrarians and together are key to the accessibility of information.

Worries about the “digital divide” are still relevant. “This phrase refers to the lack of access to modern technology among the poor” (Lesk 2005, 362). Bridging the digital divide was also on the United Nations “Achieving the millennium goals” list (IFLA/ UNESCO 2010). Libraries offer computers, tablets and other devices for the public to use. If we think about rich vs. poor countries it is true, that the gap is huge according to Lesk. Fortunately, actions have been taken to narrow this gap. As an example of this, the Finnish library association has been working with Namibia’s and Tanzanian’s library faculties. The project in Tanzania continues with the title “Libraries for all” for 2019-2022 (Suomen kirjastoseura 2017, cited September 16., 2019). The projects targeted patrons are visually impaired and the focus is to build inclusive library services for all.

¹ Sari Hongisto’s translation.

On the process of this digital evolution, there is something that is forgotten - the image of a librarian. Image is important, as one presents and sees librarians work through titles. Librarians usually disappear in the library world. They are the customer serving, clever professionals that enjoy their work, but as librarians need to be seen proudly in the public eye, let's start by giving them the proper titles – matching the competence already exists!

Does the public, realize the value, competence needed and content of the professional librarian's work? These days the progress is slow in this field. Librarians as they are called... well, their titles say a lot. They have been the same as long as I can remember, and I have been a customer of library services for over 30 years now. We call them "only" librarians. Also, as the library is a largely estrogenic organization, since, women have invaded the positions there, this thesis is crucial to the whole field. How will the library – and information professionals get appreciated, if we don't value the library as an organization and librarians as the catalyst that makes it run. The field is narrow if it is seen only for women and only as librarians.

The library work has changed in many forms from the '90s, but how do we acknowledge that in the public eye: education, public and academic libraries, the identities of librarians? To the stakeholders, partners, customer segments?

It is a matter to be addressed and to examine. The libraries must fight for their space and role in society continuously. The workforce, the librarians, must fight to get recognition, as well as better salary for the demanding work they are delighted to do like chameleons. They too have 360-degree vision, are clever and do their "hunting" of documents quickly. They need to be seen in the work as it is today, get appreciation as professionals and boost education to the direction it needs to be or become at this time in the digital, or should I call Cyber-age in the libraries.

In the concerns of the trade, in my topic are the fact that not much information on this matter has been published in Finnish, about professional librarianship, the image of a librarian. The professionalism has gone through such a big shift, that librarians should have a new title because the content they process is different from ever before in libraries. In the digital information age, the technical development has brought new devices to the work that were not there as the web came to the libraries of Finland. If then there were pressure about computers and learning "the web", today the same comes with social media, reading devices, tablets and smart shelves in every day

of the library professional. Altogether, my thesis will give the picture of a Cybrarian and the working field of that modern librarian. The term Cybrarian is discussed more widely in chapter 4.2.

This thesis leans strongly on Finnish and Foreign professional scientific publications, delivering relevant information from the publication years 1971-2019.

1.1 Research task

The thesis focus is the digital age or the cyber age librarian, Cybrarian. I will research this library profession and define the meaning behind the title in the working environment of a Cybrarian. This thesis will update the library professional's picture and deliver answers to the question: What is a Cybrarian and what do they do?

My thesis examines the role of the digital age librarian – Cybrarian in the subjects working landscape. I will look at other titles suggested in the library field, compare and evaluate them accordingly.

This modern title, Cybrarian could be used today by several professionals in the field working closely with information technology in the digitally-oriented environment of libraries. The role of this important professional has not been updated to the reality of the professional.

1.2 Research methods

This is a narrative literacy review of the subject: digital librarianship, Cybrarian. This is a good, reflecting viewpoint to support this thesis. The chosen research method, narrative research gives insight into the language used in the professional field, the titles as well as focus on how it reflects the digitally-oriented workplace of the Cybrarian.

Narrative literacy review is a method of study, where the study focuses on what is told about the core of the research in literacy and how the subject obtains itself in the culture and society. The

basics of this strategy are first and foremost see the language and the use of language as the producers of meanings.² (University of Jyväskylä 2019, cited September 10, 2019.)

Narrative literacy review describes or explains the earlier research of the subject, the quantity, and quality of the research³ (Jyväskylä University of applied sciences 2019, cited September 10, 2019).

These research methods give the researcher a wide range of means, how to collect and approach the subject. This can, for example, mean, the references being personal, public, short or long⁴ (Saaranen-Kauppinen & Puusniekka 2006, cited September 10, 2019).

Research in a narrative way gives a loose framework for research, where one can apply many kinds of research methods, the acquisition of reference material and several ways to utilize it. Although the method is not straight-forward, it involves the narrative nature as the core.⁵ (Löytönen 2019, cited September 10, 2019). As my thesis focuses on a change in society – the becoming & exploration of the Cybrarian and the working field – the narrative approach supports this type of study involving change.

1.3 Framework

The thesis is written from the basis of Ranganathan's laws. The idea of this statement is the fifth law, that explains the library is a growing organism. That in mind: the change of the documents, patrons and the professionals serving the public is the reality. Timo Kuronen explains these laws in his study: The five laws of Ranganathan and the Virtual Library. This study Kuronen conducted in 1996, with a clear view of the two topics grown together. Historically, Ranganathan's laws came to daylight in 1928, with the catalyst help of a supporter of his, professor Edward B. Ross. (Kuronen 1996, 8.)

The five laws of Ranganathan include:

- I. Books are for use
- II. Every reader his/her book

² Sari Hongisto's translation.

³ ”

⁴ ”

⁵ ”

- III. Every book Its reader
- IV. Save the time of the reader
- V. The library is a growing organism. (ibid.)

Simple but precise, these laws were almost too easy to discover. Most important, they are still relevant in the library world. In my study, the focus is especially on the fifth law, looking at the library as a growing organism. In this frame, the support to librarianship comes from the thoughts of our Finnish library matriarch, Helle Kannila. Without her work librarianship would not have been evolved to this stage.

The pace of change in libraries is much faster as technologies evolve. This requires libraries to adapt to the new, especially in the work that involves information and technology together. This does not suggest, there are no ground rules in library science. Quite the opposite. The grounds of library science lay on these laws of library science (ibid.), even after the change in society, customs and spaces – virtual or not.

The informational framework of this narrative literacy review is also based on the books: *Jumpstart your career as a Digital Librarian* (Monson, 2013), which is published by the American Library Association, the many publications of Finnish library developer Päivi Jokitalo - such as *tiedon talot* (Jokitalo 1996) , Michael Lesks *Understanding Digital Libraries* (Lesk 2005), which has guided me to the digital library world for the benefit of my research. Lastly, I want to mention Kalevi Tomperis research from 1971: *kirjastonhoitajan ammattikuva*.

In my references, there are mostly professional library field publications. I have included The Finnish Research Library associations and The Finnish Library Associations journals into my research material, because of the many current topics they have published through professionals in the field. Some of these publications include very futuristic thoughts from as old as 1996, but as freshly served as they were from 2019. There are respectively several professionals in the library field that are either time-travellers or can see clearly in the future.

What is written in the scientific publications in the information- and library field, gives insight to the core of this professional subject. The references include recent plans or strategies, with a spark of hope that these plans will begin new actions in libraries in Finland and abroad.

In my references, there are professional Finnish library field books from the publisher “key” (fin. transl. “Avain”) by multiple Finnish, known library professionals like Päivi Jokitalo, Päivi Almgren, Jukka Relander and Jarmo Saarti.

In the process of writing my thesis in English as a non-native, I have used Liisa Junno’s Library dictionary Finnish-English-Finnish from “key” (“fin. “again”) publications and the Online Merriam-Webster dictionary, the Cambridge dictionary and as well as the Finnish www.sanakirja.org to help translate punctually.

2 DIGIMODERNISM & THE DIGITAL ERA IN LIBRARIES

First, about the term digimodernism. The information age has brought many new terms to understand. Digimodernism is one of them. Olga Einasto from the University of Tartu (Estonia) library covers many of the digital age concepts in her “Time is out of joint” publication (Einasto 2017.) Einasto quotes Kirby by describing, that “Digimodernism is the new cultural climate thrown up by digitalization” (Einasto 2017,2). In this thesis, as new terms appear, they will be explained accordingly.

Päivi Jokitalo’s research report “*Tiedon talo*” (Jokitalo, 1996) studies the arrival of the web era in Finland. It was conducted in the middle of the 90s, describing widely the situation in our information and library field. This report was based on the project in Finland, that was implemented by The Finnish library association and the Finnish ministry of education. It was titled as “Tiedon talo -plan” (House of information – plan) and the project began in the 90s with the hope of building the whole web structure solid and functioning in libraries. The scope was to expect and learn new technologies and to educate librarians right down to customers. It was total learning and supporting the project of new libraries, how to utilize the services in a digital landscape.

There were struggles in this process, but the patrons still had a grip on these hybrid libraries, because “the old way” was still there without the compulsory progress to rapidly become a digital native. This was the fear of the customers and the professionals as Jokitalo describes in her report (ibid.).

In the process, libraries may have lost some customers and professionals may have lost their good attitude towards the work, before the adjustment to the new situation. This was valid with any profession in those times of digital transformation. All the information that went digital left the professionals uncertain of what they were dealing with. Insecure, if they could learn all the new things that were now the competence to do the job.

Finnish libraries were not being equal as a whole and librarian’s attitude towards the age of the world wide web and the change in their jobs were uncertain. This report is a base for us to understand what was happening in Finland in this age of massive change and on the other hand, how

big of a gap we had in Finland oppose to the world of the library on the other side of the Atlantic Ocean.

What happened after this wave of technology, was an expansion of the library in different directions, expansion of the services and documents offered to the public. The pace was fast, and the whole society was on a journey to the digital, information age. Jokitalo wrote her report in the middle of vast digital transformation and she punctually describes how the public, as well as professionals, should act towards the new: "Virtual libraries should be born inside the modern library, not to the side"⁶(Jokitalo 1996, 106). Michael Lesk adds the advantages and purposes of digital libraries:

The overall message is "even more": more users, more information and a greater role for online digital libraries in all forms of intellectual life. If we do this right, we should have a better educated and more productive society as a result. (Lesk 2005, 361).

Jokitalo makes interesting remarks about the ideology of the library, is it all different in the information society? (Jokitalo, 1996,106). Continuing this idea, one could ask is the cyber-age library ideology, different that of 20 years ago? Change and growth, that is necessary for any field.

We liked the idea of Finland being on the top of technical evolution, but in the library field, we didn't dare to take those steps to evolve with the technology. It did not serve the professionals in this field to be so modest, because now we have an ever-expanding world of technology and not enough courage to fully utilize it. According to Lesk, most wired countries were the Scandinavian countries in 2005. A few years earlier the US was the giant on the web (Lesk 2005, 25). Professionalism demands to speak for the field one works for and give the field value in actions.

2.1 Digital culture

Digital Culture today involves ubiquitous computing, that is everywhere we humans are. Customer behaviour changes are quickly seen, and the services demand change. 3D-printing in libraries (Helmet 2018, cited September 16., 2019) is a good example of this, new services or appliances of the libraries. In this way digital culture changes the working environment of the librarian, as many

⁶ Sari Hongisto's translation.

new technological services, appliances and demands of competence grow in the working environment. Libraries are, more and more coming to fuse with machines and computer science. At the same time trying to solve how they can operate different services together and stay dedicated to their principles as a library.



FIGURE 1. Examples of 3D-printing in Helmet libraries. (Helmet. Cited September 16., 2019.)

It cannot be denied, that technology has always been a fascinating subject the humankind is mystified with. We have an idea of revolutionary technology, that will somehow overcome us and take the lead. It almost meets the idea of an artificially conducted man-robot, Schwarzenegger in the movie Terminator from the '80s. This dream stage has come a little bit of reality in libraries and new technology has become helpful in the working environment of the librarian. Robots have become a useful help in the daily businesses of the library. This genuine idea of helping the library staff to concentrate on other tasks instead has many opinions as library work evolves.

There is a strange breeze of ideas about humans being replaced in libraries totally by robotization. Robots lack presence⁷ (Vaarne 2018, 6) goes the title on an article about a discussion robot, Erica. These robots have been designed in Japan. Erica became famous after the picture of this robot was entered into a portrait contest of the national portrait gallery by Maija Tammi (ibid.). The director of Helsinki library services, Katri Vääntinen states “it would be hard to visualize having a robot in the story hour”⁸ (Baer 2017, cited September 12., 2019). The discussion between human and technology continues. “Katri Vääntinen is intrigued by robots, artificial intelligence, user data and the

⁷ Sari Hongisto's translation.

⁸ ”

analysis of this data”⁹ (ibid.). “Technology is at our hands, but all technology will just come to assist in the library duties”¹⁰ (ibid.). Smart shelf called Labyrinth from Automation Atp LTD oy is a good example of library technology (Atp Automation LTD oy, 2017). These shelves are based on widening the timeframe libraries are open for self-service. This could also mean services could spread outside of these libraries.

2.2 Digital natives

What are digital natives? The digital natives are the mainstream now. As Digi modern users, they control most of the services provided to the public, including libraries.

We have come to realize that many of library user-co-creators, patrons of the libraries have born with technology in their hands long before pre-school. Technologies, the earlier generations have struggled with, are easily absorbed by this new generation, the digital natives. They are well adjusted to technology, have a wide sense of it and feel natural using new technology. They obtain an attitude towards new technology, where technologies have great value in their lives as they use them in the most personalized ways ever before.

2.2.1 Digital dreaming & reality

The everyday consumption - referring to these digital gadgets - of the digital natives, is well over the time the earlier generations use of these technologies. They have evolved with these modern age devices into the point, that it is normal, usable, every day – as in nothing "extra" to their lives. It has come to the point some digital natives think of these technologies as the focus in their whole life. Some might even have the idea of a robot as a partner or a maid as normal and excepted. Some might use an app to discover their health issues with the help of diagnostics taken from their heart rate and sleeping patterns from data gathered with another device. The Nordic invention from Oulu, The Oura-smart ring is the newest new in this topic (Toivonen 2019, cited September 16., 2019). These are merely examples from the extreme to the more common usage of technology.

⁹ Sari Hongisto’s translation.

¹⁰ ”

Modern technology can be used in many aspects of libraries. The idea of a human-like robot performing customer service is still something not easy to expect but thinking of this idea the use of a robot performing in multiple languages in customer service would be useful. Artist Maija Tammi explored robots through her photo session in Japan and her thoughts are that “the time is ripe to think about the differences between being human and robot”¹¹ (Vaarne 2018, cited September 16., 2019). Artists reflect the nature of reality and are a huge repository of clever thinking. Maija Tammi could not be more on the wave in this age.

Digital natives need the guidance of information- and library professional to help navigate in the web surroundings. There have been many difficulties with privacy and legal issues with this rapid, continuous use of technology in this digitally comprehensive generation. The speed of the progress in technologies has somewhat blurred the sense of reason, in the use of these new alluring platforms. The trap in this generation is there, it may be hard to know what to be aware of. They may not even be aware of the laws and restriction of their actions. This kind of virtual reality “dreaming” is common to the digital native among adolescents and unfortunately with the older population too. They may not realize the world wide web as WORLDWIDE and know how to operate there.

2.2.2 Media literacy education

In Finland, we have wide media teachings in our schools and libraries. Many topics are taking into consideration when talking to children, teens, and adults. The overall understanding of our actions on the web has increased, because of learning and practice we understand this world better than before. Schools, Teachers, and other parties have great resources to work with media education, such as Finnish society on media educations resources online (Suomen media kasvatus seura 2019, Cited September 16., 2019) In the following picture is presented the wide media literacy education in Finland (ibid.).

¹¹ Sari Hongisto’s translation.

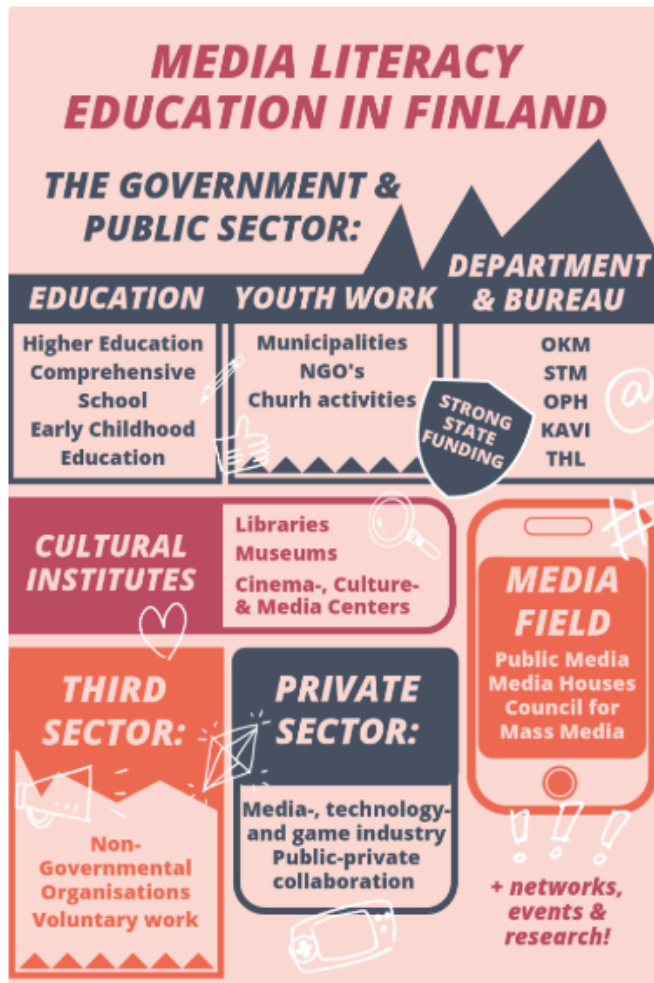


FIGURE 2. Media literacy education in Finland. (The Finnish Media education association. Cited September 16.,2019)

2.2.3 Digital janitors

Earlier generations try their best of narrowing that gap they have of dealing with all this digital world of knowing how to handle it but have a hard time keeping up with that. Oulu city has established new Digi-janitor services for the public in every trouble they have using services (Valkonen 2018, cited September 16., 2019). This is the part where information- and library professionals stand out and get their credit from. The world of information, the documents, devices, applications, and programs are a daily business for the modern age, the digital age cybrarian.

These days it would be more likely to call this age the cyber age, as we live in the cyber reality in our “hybrid” lives as the technology as come close to personal lives, that it is no longer apart from

daily actions. This is the librarian's main working landscape in which they have been educated and trained to handle. Therefore, digital natives, who may be still quite young of an age, need the support of these professionals in many stages of their usage of today's applications, programs, and devices. Librarians, digital librarians, Cybrarians can see the whole picture from an objective point of view.

In the following chapters 2.2.1 and 2.2.2 I will describe the topics of today: data mining, cybersecurity, and copyright, that, again and again, rise in the headlines and our digitally oriented, cyber lives.

2.2.4 Data mining & cybersecurity

Talking about data collecting, according to Vääntinen, collected data is what it can tell us about our customer behaviour in libraries. Collection of this information develops libraries more to answer the needs of the patrons. ¹²(Baer, 2017,7).

The concept of data mining is relevantly vague to the public. It is about collecting information, that the users give in activities they perform in the virtual world. Through their actions, data is formed which can be processed and analyzed for the use of libraries (in this case). Data mining is also privacy- and security threat and hard for the public to understand as a concept. Researcher of Tampere University, Esa Virkkunen addresses this topic in the article "*Säilytä yksityisyys verkossa*" (*Keep privacy in the web*)¹³. Esa Studies privacy and data-control and he state, that "the danger is becoming the resources of the data miners in the web"¹⁴ (Baer, 2019,19).

This is a reality now, because how we use technology by acting before getting to know what we have agreed on this and that website or service. It is not all on our shoulders as users. The web involves large service providers, whose services people use daily. It is hard to change habits, because of customs created or social connections, referring here as an example to Facebook as a social-community service provider. The service providers use this for their advantage.

¹² Sari Hongisto's translation.

¹³ ”

¹⁴ ”

The law in data collection and including matters come way after the troubles arise in the web. According to Lesk, Europe is stricter by law in data collection and privacy, than the US (Lesk 2005, 182). Awareness of the public is something Cybrarians could lift with media education in libraries. This is something Esa Virkkunen agrees that libraries could be involved working with (ibid.).

Data mining works for the better of large companies and (they) might suggest for the better of the user as well. A basic example of mining is when one is browsing through shoes of a kind and later finds the same products in adverts all over the pages one is currently scrolling through. This makes some uncomfortable and some are delighted, that these smart devices and web understands them, personally serving them. People give a lot of data when using different services. This area is something Cybrarians could help understand and manage for the patrons' privacy and security protection and awareness.

In the figure below, data mining is explained stage by stage. All of these stages are important, as is the outcome – knowledge from that information. This information is used to build better library services.

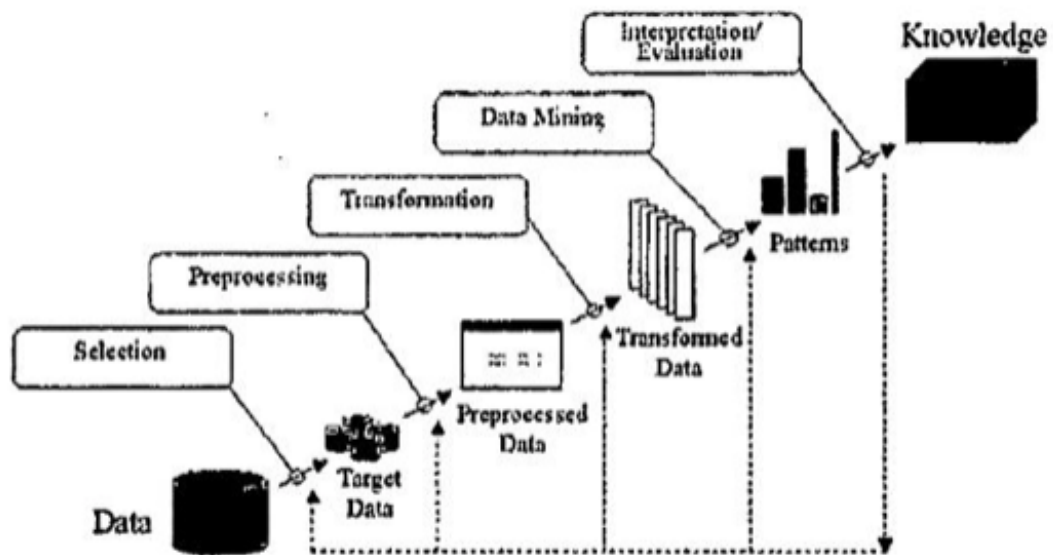


Figure 1.1. Steps of the KDD process

FIGURE 3. Knowledge discovery in databases(KDD). (Md. Ashikuzzaman. Library- and information science academic blog, 2019. Cited September 17., 2019.)

2.2.5 Copyright

Copyright composes of two different parts: moral and financial rights (Poroila2006, 23).

Financial rights involve two sections: manufacturing a piece of work and the part, where the piece is presented for the public, or given to the public available for use.

Moral rights are a tricky one to understand. The basics in this are the point that they protect the piece of work and the persona. Moral rights make sure the piece of work is not presented in an offensive means. The persona, name of that rights owner should always be mentioned if, in the controlled frames of copyrights, the piece of work is lent (text, pictures, artefacts and other included in copyright law). Copyright gives the right to lend parts of the piece of work in making a new piece of work. This might mean a painting resembling another painting, music sampled with old vinyl's or in literature, writing poems that are close in style and resemble someone else's writings.¹⁵ (Tekijänoikeus.fi 2019, Cited September 17., 2019.) It is difficult to know when one is on the right side of copyright in these loose rules. The moral rights guide in this matter in great value. The new piece cannot be offensive to the original piece of work.

Copyright is a mystified matter in many ways. There are misconceptions on rights of usage in every kind of library-material there is. People rarely know their basic, lawful rights as consumers and users of culture and entertainment. The regulations may also seem hard to understand and there are many side notes to these regulations. The first rule to legally act is that as a consumer in Finland, one has the right to make copies (for personal use, 2-4 copies) of almost any other document there are – except computer programs and games (ibid). One has also the right to take pieces of works, to make a new piece, but if we lent something like pictures, figures, etc. one must remember always to mention the persona, the rights owner and the source of this piece of work in detail. This thesis also has copyrights automatically, any party planning to cite a part of this thesis, should work according to copyright rules and mention the rights owner.

The theses get copyright protection of the same rights as any other literacy products. The law in copyright (404/1961 1:1.1 §) states that he/she/it who has created a literary or artistic product has the rights for that piece of work. ¹⁶(Oulun ammattikorkeakoulu 2016, 17)

¹⁵ Sari Hongisto's translation.

¹⁶ ”

For the copyright, new directions are coming (Hakala & Paksuniemi 2019, cited September 17., 2019), to fit the digital world. The idea of a new partial renovation of copyright law is to suit the law better to fit the European Union's digitally oriented market. The law has been approved in the European parliament and will be implemented at the latest 2021 In Finland¹⁷ (ibid.).

¹⁷ Sari Hongisto's translation.

3 LIBRARY AS A HYBRID ORGANIZATION: HYBRID LIBRARIES

In this chapter, I will describe the space – virtual or not - Cybrarians works, as this is key to understand the modern library. The term “hybrid” is known to the automobile industry, but not commonly used in the library field. Hybrid is a term that tells there are two, totally different kinds of resources that are being used side by side, with synergy to fulfil the same task. (The Merriam-Webster dictionary: “having two types of components performing essentially the same function”.) Hybrid libraries offer physical and digital collections and services. There are differences between institutions of the accentuation of either document form. The following statistics tell the directions collections are headed in Finland in 2000-2017.

E-AINEISTOT	Koko maa, 2000	Koko maa, 2007	Koko maa, 2014	Koko maa, 2017
E-kirjakokoelma	*	*	72 018,67	73 480,93
E-kirjojen hankinnat	*	*	46 903,41	39 244,11
E-kirjojen käyttökerrat (lainaus)	*	*	151 082	561 792,13
E-musiikin kirjautumiset	*	*	75 360,55	49 078,67
E-musiikin käyttökerrat (lainaus)	*	*	629 867,15	465 633,98
E-lehtien käyttökerrat (lainaus)	*	*	372 896,19	1 221 243,48
E-tietokantojen käyttökerrat	*	*	202 347,90	178 102
E-kuvatallenteiden käyttökerrat (lainaus)	*	*	12 985,87	7 688

FIGURE 4. Statistics of E-resources in Finnish libraries in 2000-2017. (Kirjastot.fi. Cited September 16., 2019.)

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What the statistics tell is the progress of physical collections getting smaller. This is understandable through these years in question, where libraries have also been put down. E-materials, especially the lending of e-books has exploded in this frame, looking at the other figures. E-magazines have also become something people are utilizing very much.

These figures are astonishing as we can see, that the collections have not grown so much from 2014-2017. E-books are easily lent online and returned automatically after the lending period. This may be the reason for the popularity and the collection may be adequate in this age for the public. “The old will survive, but the new will be dominant”, as Lesk states (Lesk 2005, 375) and continues that future sets artefacts on the not so important list.

¹⁸ Appendix 1. English translation of Statistics of E-resources in Finnish libraries in 2000-2017.

Digitization has caused a massive collection of heritage being virtually possible to counter, even from the privacy of our homes. The good thing is, these rarest objects can be seen virtually, but the physical importance shatters in this digitality.

KOKOELMAT	Koko maa, 2000	Koko maa, 2007	Koko maa, 2014	Koko maa, 2017
Kokoelmat	40 897 245	40 478 167	37 427 120	35 193 917
Kokoelmat: Kirjat yhteensä	37 013 045	35 901 166	32 361 406	30 149 217
Kokoelmat: Suomenkieliset kirjat	*	31 581 145	28 560 509	26 611 688
Kokoelmat: Ruotsinkieliset kirjat	*	2 507 592	2 229 987	2 103 443
Kokoelmat: Muunkieliset kirjat	*	1 812 429	1 570 910	1 434 086
Kokoelmat: Kaunokirjat, aikuiset	*	11 389 150	10 064 227	9 197 666
Kokoelmat: Kaunokirjat, lapset	*	8 644 335	8 513 908	8 254 040
Kokoelmat: Tietokirjat, aikuiset	*	14 451 011	12 446 503	11 355 221
Kokoelmat: Tietokirjat, lapset	*	1 416 670	1 336 768	1 338 782
Kokoelmat: Nuotit ja partituurit	*	852 168	856 019	822 653
Kokoelmat: Musiikkiäänitteet	*	2 075 848	2 335 301	2 201 863
Kokoelmat: Muut äänitteet	*	581 430	549 280	585 429
Kokoelmat: Videotallenteet (2018-)	N/A	N/A	N/A	N/A
Kokoelmat: Muut aineistot	3 884 200	261 502	281 162	306 972
Kokoelmat: Videot (-2017)	*	429 558	94 115	36 976
Kokoelmat: CD-Rom-levyt (-2017)	*	95 119	61 721	37 188
Kokoelmat: DVD ja Blue-ray -levyt (-2017)	*	281 376	888 116	1 053 619

FIGURE 5. Statistics of library collections in Finnish libraries in 2000-2017. (Kirjastot.fi. Cited September 16., 2019)

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The term hybrid also gives an idea of a library as an organization, that is ever-expanding and changing. One could almost hear Ranganathan speak out these five laws in the library field. Most importantly seeing the library as a growing organism.

In the figure below, Ranganathan's five laws have been modernized to the date (Alchetron, 2019).

¹⁹ Appendix 1. English translation of Statistics of library collections 2000-2017.

Ranganathan's five laws: Original vs. new conceptions				
	Ranganathan's Original Conception	New Conceptions in the Current Environment		
First Law	Books are for use.	E-books are for reading.	Netflix is for watching.	Blackboard is for studying.
Second Law	Every person his or her book.	Every listener her iTunes.	Every artist his Photoshop.	Every student her EasyBib.
Third Law	Every book its reader.	Every blog its reader.	Every Google Map, its traveler.	Every digital repository its researcher.
Fourth Law	Save the time of the reader.	Save the time of the listener.	Save the time of the traveler.	Save the time of the researcher.
Fifth Law	A library is a growing organism.			

FIGURE 6. Comparison: Ranganathan's five laws and the modern aspect. (Alcetron. 2019. Cited September 17., 2019.)

From the hybrid audience's point of view, forms of documents have changed as have the usage of library facilities. There is more room for people, on the spot or virtually in these institutions. The fifth law remains the same after all these changes in decades in the library field. That gives power to the library. Library stands on stable ground.

Hybrid libraries are all over the world (Teclaw 2010; Teclaw 2012, Cited September 17., 2019) without us being acquainted with the term widely in Finland or even Europe. It recognizes us as multidimensional library customers and professionals and describes the content of these libraries very well.

3.1 Digital collections fuse with libraries

Libraries became hybrid as the resources began to vary, there were suddenly physical books, electronic material, and e-resources to offer to the customers, all in harmony. Largely e-resources were offered to the academic students at first hand, but as the libraries grew into the digital age, they started to answer to the demand and usage of digital devices of their other customer segments. This change in people's consumption, usage of the modern, digital era devices gave the libraries a new challenge to bring up in the development of their actions. They needed to respond to the new habits of the people wanting to use different types of documents. First, it was the basic e-books to be offered and then became other materials. There were thoughts about if they are all going to be e-resources in the future.

Digital collections bring up a few questions in the air. Collections and management.

Collection management is an important task of the digital librarian and it should be conducted by an objective librarian in the library, who can see the collections core value, structure, and idea – to serve the customer. Librarians may see our favourite books being in the poor group of books getting sold on that special day in the library, but this is not the librarian's shelf of treasures.

The hoarder-minded librarian actually destroys the library work in many different ways: They let their objectivity gets blurred by personal preference, they hold on to documents with no value to the customer – or collection, the books they hoard take up space in the shelves and storages of the library – which is an enormous matter, as a hundred books takes up some space but a thousand – that is in another scale than.

How will the collections be managed in the digital age? One of the assets have been the preservation of digital collection as they do not take space physically, on the other hand, the amounts of documents to search through might be too much for the user. All of this requires patrons to understand and learn new ways to use the library.

3.2 Value implementation in hybrid libraries

As my research is based on fundamental library science laws, principles and values, it is important to open the strategy: *The way forward for public libraries for 2016-2020* (The council of public libraries 2019, cited September 12., 2019) by the council for public libraries. These are general guidelines, for all public libraries.

The values include:

- Equality – as expressed in chapter 1.
- Responsibility
 - customers will get the expertise and know-how of all libraries from their own library
 - customers can trust libraries' knowledge of content also in the future
 - the library is an effective part of the municipality
 - library data protection can be depended on both online and in physical space
- Sense of community
 - the library participates in the community on-line
 - library goes to places where things happen
 - Citizens participate in the planning of library services
 - library space open for diverse use
 - libraries cooperate with businesses for the benefit of the community
- Courage
 - library questions its own actions
 - library domesticates technology to be part of customer service
 - the library promotes a good life for citizens
 - professional know-how changes as the environment changes
- Freedom of speech
 - the library becomes an advocate in public debate
 - the library promotes citizens' open access to information
 - the library helps citizens to get their voice heard
 - the library respects the customer's choices (The council of public libraries 2019, cited September 12., 2019)

These values hold the library functions partially together. Sense of community and courage are something not used to identify libraries. Sense of community shows the ways library facilities are used, more like living rooms than book depositories.

Courage can be seen in the ways libraries include migrants in their actions. Responsibility goes together in this theme, to make a few pointers about how these values are implemented. This is how strategies should become living, functioning, something that guides and moves the libraries.

4 NEW DIGITAL LIBRARIANSHIP – CYBRARIAN

4.1 Qualities of a good librarian

It is remarkable, that even today in the year 2019, it can strongly be agreed with the Grand old lady of the library field in Finland, Helle Kannila in her speech in the Finnish library associations yearly meeting in the year 1919; (Sallmèn 2007,15)

Us, working in the library field must see further in the future, dare to think big and brave, maybe then believing we can come to a small step forward to the great ideal destination. Unless all others don't yet see it as clearly as we do, they will do it once more and then realize our persistence and innovative nature. ²⁰(From the speech of Helle Kannila, our Finnish matriarch of the library field)

This idealism that Kannila preserved throughout her career as a devoted library enthusiast, lives in that strong statement that can be used to identify the core of the librarianship implemented in different libraries. Librarians need to acknowledge this profession as never stable, but ever-changing and evolving.

This was especially clear in Päivi Jokitalo' s research of the project "*the house of information*"²¹ in her alike named book. "*houses of information*" was a project from the year 1995 in Finland, that brought the internet with all technological devices to the working- and user-environment in the libraries. As this happened at the same time in many Finnish libraries, the librarians studied at the same time with the customers, to gain knowledge of this new technology. They had education, but generally, learning happened through error, trial, and repeat. This made a gap between the old practice in libraries and the new age of the library. Some had resistance to new ways and found it harder to achieve results as easy as before. For example, it was commented that you could more easily find that unknown English word from the dictionary behind your back, than from the internet.²² (Jokitalo, 1996, 82).

²⁰ Sari Hongisto's translation.

²¹ ”

²² ”

The technology was also underrated. It was commented that if not talking about the newest information, the internet is only one source of information, not always the best, quickest and efficient²³ (ibid.). This resistance was in attitudes towards technology, which was understandable at that time. In Jokitalo 's research questionnaire (ibid.) to the libraries about the usage of internet, 26% of the responded commented that a large amount of information is an advantage and 18% thought it was also a problem. This large amount of information, that was up to date was the big magnet around the internet. It was said in Jokitalo' s questionnaire as an advantage, the knowledge of today which we have not had access before (ibid.).²⁴ All together this project was the big leap in librarianship in Finland and therefore an important project to mention.

Some resist change in the working environment. They want to do what they are used to and be in the comfort zone. The trouble is if we work on the comfort zone, the library goes to the danger zone – or to the no-zone, where the library does not exist anymore. Librarians must have the correct attitude for the profession and know the value of implementing that attitude into the work with quality.

It is not without reason libraries have ethical considerations. Where is ethic involved in the core job of the library profession? The Finnish library association has published the ethical principles of library work (Suomen kirjastoseura 2019, Cited September15., 2019).

The principles (in short) include (followed by a few chosen pointers included in this thesis):

- Duties of library professionals – offer free access to information
- Impartiality – professionalism in collections, freedom of speech
- Libraries for a good life – public venue (+virtual), safe, open for all, non-commercial
- Work community – a collaboration with information service providers, maintain professional expertise (ibid.).

The principles support the modern librarian and library. The aspect of the work community is one to take focus on, in this age of educational changes in the library field in Finland²⁵ (Elenius 2017,4). Maintaining professional expertise needs education. Library- and information science education should be taking a new lead, new directions in the digital field in Finnish library- and information science degree programs. Tallinn University and Parma University have collaborated in this educational challenge and offer a Digitally oriented degree program for the library field, offering Digital

²³ Sari Hongisto's translation.

²⁴ ”

²⁵ ”

library learning as a two-year master's degree program (Virkus 2016, cited September 16., 2019). In Europe, not many educations of this kind exist. This program sets an example of a new way to establish a library- and information science education.

It is not often people come to the library counter to ask for advice. It may be the mystery behind the role: what are the librarians exactly? The customers tend to be in the library premises in quiet mode, almost too shy to ask anything or make a sound or gesture of needing something, as we think the "warden" is watching us every second as if the library was a librarian's castle. On the other hand, people seem to find some subjects even too private to ask the librarian. This is based on my experiences in customer service in my training period in a public library.

How could this thinking be changed? There are many customer-friendly ideas, how the library could welcome the information craving person to our advice-giving, friendly atmosphere. But the biggest transformation comes within the library, librarians need to change the image of themselves: librarians to library professionals.

For librarians, the need to have control over everything comes in the way of customer relations. If librarians see collections or the premises in the library as "ours" it is very difficult to serve and give to the public. Sometimes it includes the library policies as restrictions. In my training period in a library in Lapland, I found that every library has its unique customer relations and the ways they are nurtured the best way possible. Library as an organization benefits from this perspective seeing every library unique in their area, not every method can be implemented everywhere. If the needs and the ways of the customers are not met the appropriate way, this might take the patrons away from library services. The customer services of the library facility and the atmosphere of the library might become too rigid and there is no room for casual and friendly conversation. How in the world could customers want to approach the staff?

Helle Kannila states in her later public appearances that the field does not much enjoy librarians, that just conduct the role of a librarian and are against every bit of new breezes there might come to the library organization and not truly are interested in the library matter itself ²⁶ (Sallmén, 2007, 15). This is also the core of problems in libraries. Some of the workers are not truly aware of the nature of the library as a growing organism. It is impossible to have an institution, that does not

²⁶ Sari Hongisto's translation.

change and evolve. This problem lies on the shoulders of the whole working team and gives something to argue about.

Pirjo Sallmén represents in her writing in the Librarian in the future, "why is there still a stereotype of a librarian? Why is the field seen so narrow?"²⁷ (ibid.) It was seen, that the library had huffed and puffed some new thinking on their ships sails and new aspects were brought into action.

Sallmén takes upon Kannila's words from the past the library field needed "always self-evolving, action-oriented, organizers that were not afraid to take responsibility."²⁸ (ibid.) This wraps up partly the best qualities of the librarians. Librarians don't fully know what exciting the future brings in our profession but are still bravely looking forward to it.

4.2 Cybrarians

The concept of a Cybrarian is not widely known in Finland. Signum, a Finnish scientific magazine of the library- and information field took this matter in daylight in the no 5 issues of the 1996 magazine in Saalasvuo's article. Silja Saalasvuo – at the time the Haga institutes Informatic - represented the new names for the profession in her article titled: Cybrarian, information therapist, information-concierge - what are we? (Saalasvuo 1996, p. 110-112).

She took part in a 1996 worldwide library congress in Kuala Lumpur, which made a big impression on her through the professional speakers of the congress. One speech especially made an impact on her. It was the speech of Singapore's travel promotion centre's director Mr Tan Chim Nam, who spoke about the library profession reflecting the needs of the digital era. He saw the professionals as key to the public. As the new technology brought improvement in peoples' lives, the quantity of the information would need a professional to swim through. Technology would not decrease the need for information professional, hence opposite of that. The overwhelming amount of digital communication and information in the information age would need people, who can ease the feeling of anxiety, overwhelm and help navigate in that cyberspace. Mr Nam uplifted the importance, dignity, and worth of a professional, with quality titles. In his speech, he stated:

²⁷ Sari Hongisto's translation.

²⁸ „

Libraries are no longer mere depositories of books and journals. In the new digital context, libraries are also storehouses of databases and online services. They are cybraries. And you are Cybrarians or new age librarians in the cyberspace or marketspace. As a Cybrarian, I would suggest that your key role is to reduce the information anxieties of all the people around you. (Saalasvuori 1996, p. 110-112).

This speech warms the heart of any information professional. The field cannot forget, the essence of the work librarians accomplish. The importance of titles was also addressed, as it is important, it gives the right to correct salary, attitude, and information of what it's all about. The title says it all. I would not disagree, neither would Mr Nam I would think, except for what he suggested in the congress, that information therapist would be possibly the proper title for the new age professionals (ibid.). The idea comes with the point of view. Calling one Information therapist would be on the total wrong side of the fence for libraries 2019. Therapy is a strong word, not taken easily from another professional. Let's stay on the right professional ground.

Ubiquitous computing gives us many challenges now and to come, this is more than good for hybrid libraries and Cybrarians at this age. Whoever thought libraries could disappear? Never- the- less librarians? The digital age is here, cyberage is here and now we live in a firmly grounded ubiquitous environment, where technology is always present (Ahtela, 2006 Cited September 11., 2019).

In the kirjasto 2011 publication by Almgren and Jokitalo, they refer library professionals as the virtual librarians²⁹, which is another shout out to the subject (Almgren & Jokitalo 2010, 245). Ristikartano (Ristikartano 2015, Cited June 21., 2019) also mentions virtual library librarians³⁰, but the titles are not as bold. Information specialist is the title mentioned in this case. Jokitalo and Almgren also make a point, that virtual libraries are also something to make note of. Virtual spaces – are they designed with detail to help the customer find material from the database? Or fulfil other informational needs? When talking about titles such as Cybrarian, it is needed to look through the working environment.

10 years is a long road in concepts. Virtual librarianship is somewhat of an old-fashioned title these days. As the virtual world in libraries has become complex, these two library worlds – physical and virtual - are not that easily separated from one another. The term hybrid serves well in this position

²⁹ Sari Hongisto's translation.

³⁰ „

to describe the spaces and functions, but as we see the actual librarian working, the tasks involve a lot of technology and digital work. Therefore, the title falls to the digital- and cyber-area.

When trying to find definitions to titles, as Cybrarian, it is an interesting path. The modern library profession is seen in many ways. Looking for the answers to define the title Cybrarian brought this search to the Merriam-Webster dictionary.

The Merriam-Webster dictionary gives the following definition of the word Cybrarian: “a person whose job is to find, collect and manage information that is available on the World Wide Web”. On the other hand, the dictionary informs that this is a fusion of the word librarian and cyber, to describe the work of those old librarians > new Cybrarians who actively use computers and other modern digital devices in their work and the internet with the traditional work they have done before. (Merriam-Webster 2019, Cited June 21., 2019). According to these explanations, only using the computer does not give you the title digital librarian or Cybrarian.

When it comes to the whole world "librarian" it comes from liber which means book in Latin (Merriam-Webster dictionary 2019, Cited September 16., 2019) and has no reference to anything to electronic resources. Electronic resources are huge in libraries, mostly in academic, but nowadays in the overall field of our libraries. That should be taken into consideration when forming titles in our professions. As we don't work only with books, we are not only librarians. Digital age librarians don't work only in libraries, but hybrid libraries, digital libraries.

Delrosso and Lampert (Delrosso & Lampert 2013, 5) have made this fog clearer, as they explain, that one of the easiest ways to define if you are a digital librarian/Cybrarian is if practically all of your work would not have existed before the information age. That is only one point to consider, to define this professional. There are several kinds of digital librarians, Cybrarians and the work involved varies. Mainly the work of a Cybrarian involves multiple digital tasks, know-hows, that one needs to fulfil. These professionals are usually on the upfront of any digital focus, projects, development and are future-oriented. Everything a library could ask for.

In their article “So you want to be a digital librarian, what does that mean?” DelRosso and Lampert (Delrosso & Lampert 2013, 3-19) paint a picture of a digital librarian, who knows to complete working tasks widely in a digital environment. It is not all coding and cataloguing, though that can be part of a digital librarian's work content. They give credit to every professional, who uses these

Digi-modern devices and have the knowledge to do the job. The titles can also be a variety of these: “digital projects librarian, digital initiatives librarian, digital collections coordinator, metadata librarian, digital archivist, digital preservationist, emerging technologies librarian, scholarly communications librarian, digital resources librarian, etc.” (Delrosso & Lampert, 2013, p. 6). The qualities and tasks of a modern librarian involve: honing the information principle (e.g. organization, dissemination, evaluation, etc.), identifies the challenges of technology (e.g. retrieving relevant search results, delivering content to online users or providing online tools to help sort through a large amount of information to get to what they won't), and works to brainstorm innovative, creative resolutions. (Delrosso & Lampert 2013, 8).

This professional growth happens over time in libraries in a way of experimentation. Libraries with people of far-reaching ideas, insights, and dreams have accomplished new practices and services for the people. Libraries are futuristic, always a step ahead in progress.

The professional image of the librarian has tampered the thoughts of science long before this time. Kalevi Tomperi from the Finnish Institute of Occupational health researched this field in 1969-1971, with his research report “the professional image of the librarian”.³¹ (Tomperi, 1971). This study was published by the Finnish library association and it answered quite clearly to the questions of LIS-education, the training and informing of newcomers in the field and the financial politics in the profession. This information was gathered through questionnaires (in 1969) and gave the relevant answers to create a librarian’s professional profile.

In the 70s the libraries had already informatics or documentalists on their payroll. The link in history between the role of a librarian and a Cybrarian is here, in the work this group of informatics/documentalists have done before. In scientific libraries, the retrieval of information, recording of information, literature and magazine reviews, reports and distribution and informing researchers was their daily routine. Comparing the Informatics today, it has been relevant to the field, that as the role of the librarian varies, so does the competencies in today’s digitally oriented society. Like the generations before taking care of their professional space, matching the titles to their tasks, it should be so in this time.

³¹ Sari Hongisto’s translation.

This demand for growing one's competence has led to the change of the whole librarianship. There have not been many changes in the professional titles though. There are changes in some libraries in Finland, drastically changing their professional titles. The Espoo city library took on a large-scale title shift in 2017 (Miettunen 2018,46) and they narrowed titles to these two: library advisors or library pedagogues. These new titles came with the pay raise.

It is clear, that a gap between different professionals has grown. Other see library work from a whole different perspective, some want to embrace "teacher-librarian"-the type of image in the profession. Advisors seem like someone not been so long on the job and pedagogues sound something close to the kindergarten and school. This is somewhat a worrying matter. The nature of advising can be seen in the library work with patrons, teaching them research methods and library use in general, but are we pedagogues? Librarians are not teachers, nor pedagogues. Our society has professionals with those titles in the society elsewhere and it is stepping on some other field when librarians are called library pedagogues.

The explanation in the Espoo-case (ibid.) was the fact, that the whole organization would be led pedagogically, but rather than becoming teachers, it is wanted that the staff reinforces their pedagogic abilities. The head of library services, Katariina Lauronen explains this as a strategy for the entire institution's goal of building a working environment for learning, both the staff and the customers. Although explained, not a convincing strategy for all these professionals. There were fifteen different titles on the field in Espoo, now only two remain. That shift was not a job well done, although Miettunen explains, that the title change was to make clear of all titles and it was rightful for the field.³² (Miettunen, 2018, 46) For the Informatics in Espoo city library: they are called library advisors today.³³ If we look at Tomperis (Tomperi, 1971) study today, the advisors of the library field had been in 1971. Should we look in the future?

This is not everyone's idea of the future of these professionals, the head of library services, Katariina Lauronen follows through this idea of librarians as library pedagogues and the whole organization would be seen pedagogically.³⁴ It can be that this is a risky change in the organization. The field can't all identify as pedagogues. It can be agreed with Lauronen, that the library is a place to

³² Sari Hongisto's translation.

³³ ”

³⁴ ”

serve and guide but calling many librarians in the same library as library pedagogues are exaggerating. (Miettunen 2018).

To give another example, it was 6 years ago, the field talked about data informatics, which was and would be needed more and more in the field³⁵ (Laitinen & Putous, 2013, cited September 16., 2019). Does this make an impression of the field going through different ages of trends and point of views, maybe also generation gaps between colleagues? Many ideas on titles have been said, but hopefully, the field stays on its ground, trusting the library itself as an organization, not spreading everywhere and becoming everything.

The following figure explains some of the modern digital librarians, Cybrarians tasks and the working environment. The figure is to clear the working landscape of the digital librarian, Cybrarian.

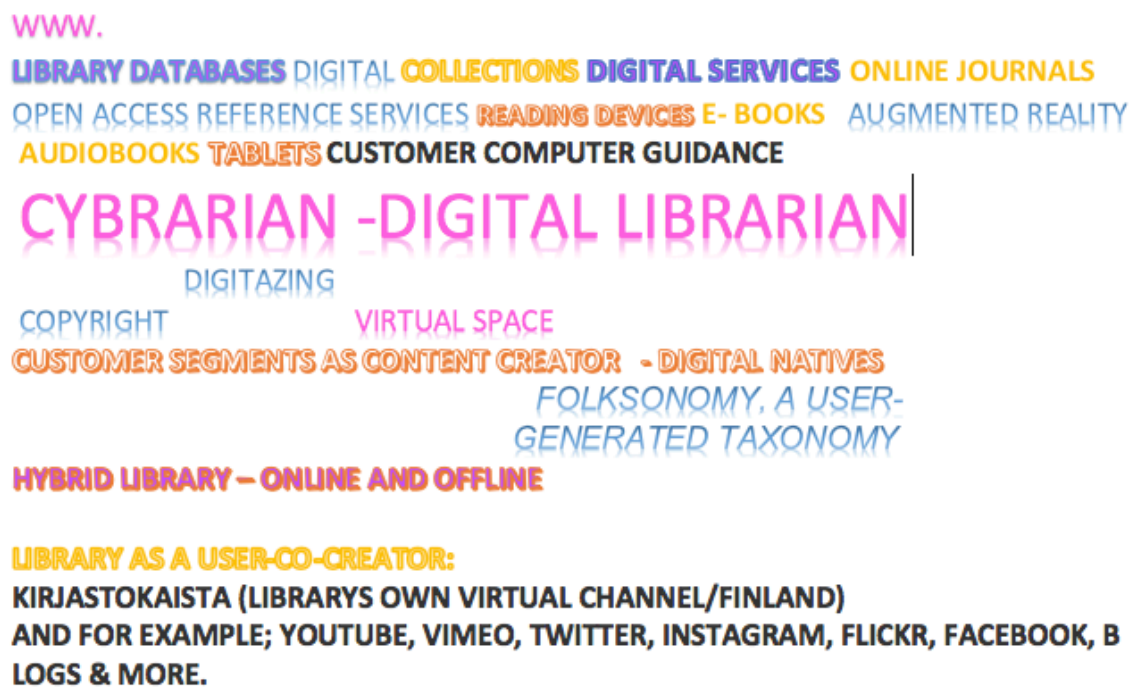


FIGURE 7. Cybrarians working field. (Sari Hongisto. 2019 cited September 17., 2019)

The Cybrarians – digital librarians working environment includes the facilities of the library, the services provided and the qualities of these services, as they refer to the digital nature in the professional duties. The figure also includes the users and the functions of the library, which are also described, to clear the state and the relations of libraries and their patrons. The library and the user

³⁵ Sari Hongisto's translation.

are sometimes both creators and users of documents. In this context it can be referred to for example online comics created, blogs written as book reviews or videos created to be informed about a subject in YouTube or Vimeo or related service provider. The figure is meant to help identify the Cybrarians title, to see how it is important and why the tasks in the library profession relate to this title. The library work involves many other duties, but these pictured in the figure have come to many librarians daily or weekly duties. In figure 7., taxonomy and folksonomy are mentioned. To get a clearer view of these terms quoting Einasto "uncontrolled vocabulary as the result of collaborative tagging is known folksonomy" (Einasto 2017, 7). Taxonomy, with strict rules and norms, is opposed to folksonomy - a controlled vocabulary (ibid).

The title is something important that tells us, what is involved with a person 's working environment. The content and the demand for the job is often seen from the professional title. In the library work, this has not been seen developing. What this means is that the field is something that has not been nurtured with. There may not be any educated library professionals in the future of Finland if the development we see today becomes the mainstream way of thinking about the profession.

The new library law of 2017 (Elenius 2017; Finlex.fi Law about public libraries 1492/2016 17§ 2016, cited September 17., 2019) broke the spell on libraries having to hire only candidates with a library- and information science – degrees in their back pocket. This was a gamechanger for the field, as it would not be an asset anymore to be a LIS-graduate. Turku University professor Ritva Hyttinen states, that the most stupid thing libraries could do, watch nearby as the education weakens ³⁶(Hyttinen 2017,9).

In libraries we can see different professionals, that work with information, databases, media, schools of different kinds, teaching, etc. engaging with the different customer segments as a specific area they focus on. Why should we have only two or three general titles, that do not appreciate much of the profession? The use of librarian and information specialist – as these titles we widely use in Finland - is too narrow of a description of our clever workers (some exceptions may have better titles, but that is not common).

³⁶ Sari Hongisto's translation.

Emily Kolvitz gives an idea of the many hats of the librarian in her article on Information today, Europe: the many hats of the digital librarian (Kolvitz 2017, cited September 17., 2019). "It is important for the librarian to develop a broad range of skills and to take on a variety of roles in the workplace", she states. The following roles sample the digital librarians working field. Digital librarians could be taxonomist or metadata analyst, competitive intelligence researcher, archivist, scholar writer or content producer, instructor, self-advocate or the choice of putting all unique combinations together, in an individual way. (ibid.). Digital age needs more, specifically oriented people, who can still jump from role to another one.

The field is much wider than those titles or qualities of jobs. The working environment among the library workers is as wide as the sky. Some of us have work dealing with the academic side with reference, some use their skills more in cataloguing or social media work in their library. The work is different in every workstation. We can say that loans and returns are the basis of the work, but not at all for everyone on the job. Librarians are unique, and libraries deserve a title that describes the unique work they do. That's a challenge for the organization!

An increasing number of libraries have got shut down since these decades (Kirjastot.fi, 2018) and therefore an increasing number of professional librarians in the field has been lost in the process. This is an economic and value matter, that politicians have led the way to, by not giving the financial resources needed to build up services, update them and keep up with the public need for libraries. For facts, here are statistics of the number of libraries in Finland in 2000, 2007 and 2017.

It is important to realize, that the change is quite drastic in 17 years and means fewer library professionals on the market guiding patrons to the sources of information.

TOIMIPISTEET	Koko maa, 2000	Koko maa, 2007	Koko maa, 2017
Pääkirjastoja	436	386	282
Sivukirjastoja	401	451	437
Laitoskirjastoja	99	58	18
Kirjastoautoja	201	166	134
Kirjastoautojen lainat	*	*	6 445 646
Kirjastoauton pysäkkejä	16 960	13 598	10 244
Kirjastoveneitä	1	1	0
Kirjastoveneiden pysäkkejä	10	11	0
Kirjastoveneiden lainat	*	*	0
Aukiolotunteja yhteensä	1 507 104	1 404 357	1 647 087,68
Aukiolotunnit, jolloin henkilökunta paikalla	1 507 104	1 404 357	1 285 761,18
Aukiolotunnit: omatoimikirjaston aukioloajat	*	*	361 326,50
Muita palvelupaikkoja	849	596	414
Hyötypinta-ala neliömetreinä	*	*	498 002

FIGURE 8. Finnish statistics of the number of libraries in Finland 2000,2007 and 2017. (Cited December 5. 2018.)

37

From 2000, the public libraries have gone down from 436 libraries in the whole country and 7 years later they had vanished to 386 and 10 years later, in 2017 the whole measure of public libraries in Finland has gone down to 282. It is a value matter.

Sari Feldman, former president of the American Library Association puts this aspect into one sentence:

“Libraries of all kinds are neither obsolete nor nice to have; libraries are essential” (Feldman 2016, cited June 21., 2018).

On the other hand, there was a worry in the upcoming digital age, that all this digitality would remarkably destroy the library profession and would be the end of libraries.³⁸ The thoughts of libraries dying were presented by Relander and Saarti in their book *Kirjaston kuolema* eng. transl. *Library's death* (Relander & Saarti, 2015, page 7). But it is the digital age that bounds our importance in libraries. As physical libraries have vanished in this scale, the meaning, and importance of virtual space, virtual libraries grow. Continuing this thought: the value of digital librarians, Cybrarians grow.

³⁷ Appendix 2. Finnish statistics of the number of libraries in Finland.

³⁸ Sari Hongisto's translation.

5 DIGITAL SLAVERY, DIGITAL DREAM: CHALLENGES IN THE DIGITAL FRAME

Artists describe and reflect our reality in society in detail. They can process themes of different natures and look deep within. In the 80s the digital age was apparent because the computers came to the households in Finland. It was not for everybody's entertainment or usage. The prices were high and the Commodores and Atari's did not get the attention of the whole society.

Ahead of her time was The Doctor of Political Sciences and visual artist Soile Yli-Mäyry who could see the future in this subject (Yle, 2018. Cited August 29.,2019). She is a Finnish born artist, mainly known abroad through her aspiring art: glass artwork, paintings and other interesting sculptures of modern nature. She has brought to life, the concept of digital slavery through her artwork and interview on the matter. Digital slavery was the name of her oil painting in 1985 that was presented as the main piece in Oulu art museums prime exhibition in 1985 - talking about future predictions!

At the time, nobody else talked about these themes in the art field. In the picture below her painting is presented as a screen capture from her social media account on Instagram. The other picture below is her 2013 glass artwork with the same title.

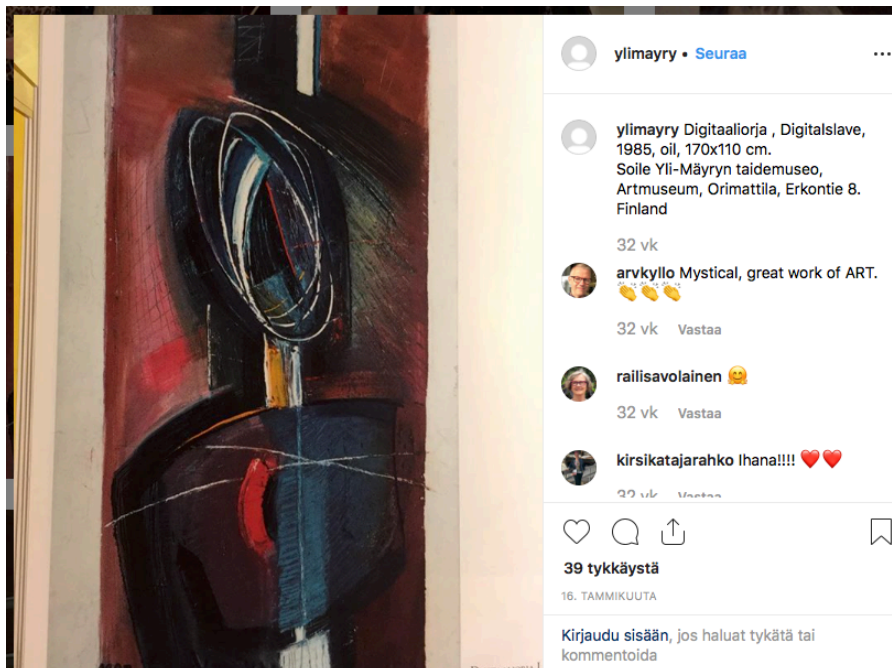


FIGURE 9. Digital slave by visual artist Soile Yli-Mäyry.(Soile Yli-Mäyry Instagram 2019. Cited September 16., 2019.)

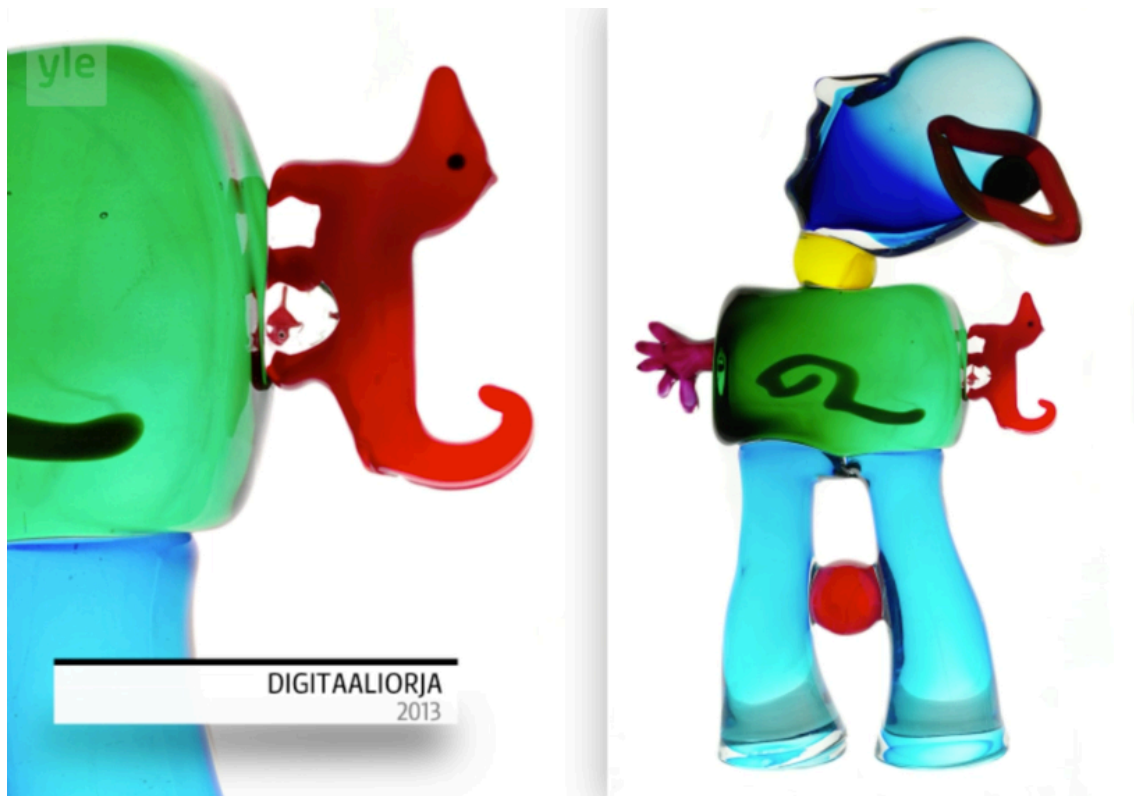


FIGURE 10. Digital slave 2013 by visual artist Soile Yli-Mäyry. You. 2018. (Cited September 16., 2019.)

In Her recent (2018) interviews about the concepts of digital slavery, Yli-Mäyry states that there has been a quiet revolution through digitality, where information is delivered in massive quantities, but where the experience of human life has pressed inside under all this information flood. Global loneliness has become sad trouble in this social connecting environment, the web.³⁹ (Yle 2018, cited August 29., 2019).

What this means for art and culture, the meaning of the fields has become more valuable, because the public need to be present as humans, to feel their lives and experience their lives says Yli-Mäyry (ibid.). Art can show us concepts of things or the state of our society. This is how art can be used to describe, reflect and understand this reality we live in. Digitalization is such a strong force in our lives today, that we should become more aware of the impacts it has on us on the deeper, humane level. It is dangerous only to look at technological improvements with a positive attitude. This is how we should implement technology in libraries.

³⁹ Sari Hongisto's translation.

This link to the library field is wonderful because libraries deliver culture, art, and information, it is merely to think what kind of concepts libraries should establish to fulfil these needs. Digital slavery is a real threat, so is digital dreaming. In libraries, we can express more empathetic actions toward the society with the help of digitality. We need to master this digital age and see that all of that is just a tool. There is a place for libraries to deepen the experience of being human and preserving that with great care. Knowing digital slavery lurking behind the corner, the library and patrons need to look at the big picture wiser than ever before.

6 RESULTS & CONCLUSIONS

The centre in my research was to answer my research question: What is a Cybrarian and what do they do? In this included to look at other titles in the library field and compare and evaluate the professional's tasks compared with these titles. It was needed to look at the working landscape as well as the customer segments, especially the digital collective generation.

My research found many titles, other than what looked for, such as digital resources librarian, scholarly communications librarian, digital collections coordinator to mention a few. This was great for this thesis because of the variety of digital librarians support the overall research question and the title digital librarian. This matter gave the research reassurance of the fact, that this topic is something important to research.

When at first hearing the word Cybrarian, it gave the idea of a technologically advanced person at work. This thesis gave another, more powerful quality of a Cybrarian and it is the future-oriented mind. No matter what kind of tools the Cybrarian works within libraries, something new is evolved. The professional still was more.

Helle Kannila led to good librarianship and ethical considerations of libraries. The road to Cybrarian was complex as all these things bound together with digitization and library as an organization with values, principles, and laws to consider. This kept me grounded to the library matter inside all of this technology and other fogs of the modern age with floods of information.

In my research, I had to paint the picture of the digital librarians working environment, the facilities, the duties, customer segments and the qualities of the professional. This path led to simulations of the digital age forming in front of my eyes through the different publications I read along the way, Finnish and foreign. It also gave me worries about equality and the amount of technology used.

I learned how technology has quietly come everywhere. This is why my topic was important: it is like looking at the reflection of this age and believing that, instead of the first truth that is in front of us: the reality of digitization. But let's start from the beginning.

When this thesis began to form, the atmosphere around the working was full of energy of new technologies in library work. The fascination of progressive working environments, future-oriented thinking and the need to evolve thinking, working and the service of libraries, in general, was there. The titles were pondered back and forth to have a whole picture of the reasons behind those valid, chosen titles for the library field. Why not choose a digital librarian or Cybrarian? The library institutions seemed as old of age, because of titles. The question arose: why hybrid libraries and digital natives aren't often mentioned here in Finland.

With Päivi Jokitalo and Michael Lesk, it was easy to imagine the information age forming and to think about how it must have felt in libraries. Some of the librarians knew the history was made that time, some just conducted the role of the librarian, which Helle Kannila would not much be proud of. The librarians who could see further, continued to work with the new technology, even if it was new and hard. It is because of these people in libraries, one can even suggest the digital librarian, Cybrarian title today.

The change made this thesis look for statistics in this matter, how have libraries changed through their existence and what kind of collections in quality and quantity they have acquired.

The research benefit about painting a picture of this digital environment, where all the pieces had to be discovered, to understand the big picture. This search went through digital culture to the digital natives and in more detailed things like data mining and copyright.

The thesis grounded in the fundamentals of library science, once again through Ranganathan and Helle Kannila. It was like looking at artefacts, that seem fragile or forgotten but are always there to remind where we have come. This is what these laws and Kannila's guidance in good librarianship mean to this research and libraries. It is like two feet stable on the ground, no matter what happens in the society reflecting the library, they do not move. They merely evolve to meet the present time and conditions.

In the middle of this thesis, there was some trouble wondering who the experts of this field of digital librarianship are, that probably have talked about these modern concepts and titles. First, I felt quite lost. There was almost nothing in Finnish in the topics of the digital librarian, Cybrarians, digital

natives, hybrid libraries, etc. This I found odd, because we use a lot of English origin words, everywhere today. My search led to Päivi Jokitalo and Michael Lesk and Delrosso & Lampert, whose article was published in Jane D. Monson's book.

I was pleased to find articles in Finnish Library associations magazine Kirjastolehti and The Finnish Scientific library associations magazine Signum. This was a struggle though. Databases in my hometown of Oulu did not show every year or copy of Signum. These years before 2005, could not be read as e-magazines from the website like newer copies of the same magazine. I had to call the library, ask them if they had the 1996 signum, they had to go to storage to look for them, I had to call back and check if they had any, I had to wait for the magazines to the following day with a reservation for them, they had to label the whole years magazines, I had to go to the library, ask for the magazines, borrow them and go home to my computer and my research and after that this all could be used for the benefit of my thesis! Saalavuo's article was all worth that!

Describing this process has a relatively important message and meaning in my work and that is, that all that can be, should be digitized for the use of the public. For example, these magazines offer a wide range of information of the library field from the 60's that many of us studying could have used. E-libraries for easy access, equality, and information!

Coming back to the article in Signum, in which Silja Saalasvuo (in 1996!) took the title of Cybrarian and few others in the open. I was surprised by this but still felt disappointed that this was the few writings in Finnish I could find that confronted these concepts in some way. The surrounding titles were also something missing in the publications and overall discussion. Hybrid libraries were hard to find in library field discussions in Finnish, digital natives were not common in the publications and digital slavery and digital dream were not something addressed.

This search made me think about the attitude, change resistance and the reality of things. Is the library field living in reality now, or simulating something, that is not there?

To the research question, the answer was found through this journey from the newest technology to the five laws. Cybrarians connect things in libraries. They use old-school methods to their best at work, but they make the technology useful in the different ways they can and evolve everything everywhere. A Cybrarian is technology-oriented but may have tasks of a traditional librarian. Cybrarians move libraries: library duties, strategies, new ideas, implementations, and facilities.

Cybrarian is future-oriented, in the cyber-age exactly. The futuristic thinking makes Cybrarians excellent designers and bosses. This is because they can drive things with patience and look somewhere, where nobody else dares.

The research continued based on this thesis could be about discovering more deeply the digital librarianship, modern librarianship to meet the reality of today's library world. The society needs to hear the library world in public conversation and through research to keep educational matters in the library field important.

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APPENDIX

- APPENDIX 1 - Kirjastot.fi. 2019. Statistics of E-resources in Finnish libraries in 2000-2017.
- Kirjastot.fi. 2019. Statistics of library collections in Finnish libraries in 2000-2017.
- APPENDIX 2 - Kirjastot.fi. 2018. Finnish Statistics of the number of libraries in Finland 2000-2017.

E-RESOURCES, the whole country 2000 2007 2014 2017

E-book collection	*	*	72 018,67	73 480,93
E-books, acquisitions	*	*	46 903, 41	39 244, 11
E- books, times of usage (lending)	*	*	151 082	561 792,13
E-music, entries	*	*	75 360,55	49 078,67
E-music,times of usage (lending)	*	*	629 867,15	465 633,98
E-magazines, times of usage (lending)	*	*	372 896,19	1 221 243,48
E- databases, times of usage	*	*	202 347,90	178 102
E-photo documents, times of usage (lending)	*	*	12 985,87	7 688

COLLECTIONS whole country 2000 2007 2014 2017

Collections	40 897 245	40 478 167	37 427 120	35 193 917
Books altogether		35 901 166	32 361 406	30 149 217
Finnish books	*	31 581 145	28 560 509	26 611 688
Swedish books	*	2 507 592	2 229 987	2 103 443
Books, Other languages	*	1 812 429	1 570 910	1 434 086
Fiction, adults	*	11 389 150	10 064 227	9 197 666
Fiction, children	*	8 644 335	8 513 908	8 254 040
Non-fiction, adults	*	14 451 011	12 446 503	11 355 221
Non-fiction, children	*	1 416 670	1 336 768	1 338 782
Printed music and scores	*	852 168	856 019	822 653
Music recordings	*	2 075 848	2 335 301	2 201 863
Other recordings	*	581 430	549 280	585 429
Video recordings (2018-)	N/A	N/A	N/A	N/A
Other documents	3 884 200	261 502	281 162	306 972
videos (-2017)	*	429 558	94 115	36 976

Cd-Rom-disks (-2017)	*	95 119	61 721	37 188
DVD and Blue-ray-disks (-2017)	*	281 376	888 116	1 053 619

FINNISH STATISTICS OF THE NUMBER OF LIBRARIES IN FINLAND 2000-2017. APPENDIX 2

Library units, the whole country	2000	2007	2017
Main libraries	436	386	282
Branch libraries	401	451	437
Institutional libraries	99	58	18
Mobile libraries	201	166	134
Mobile libraries' loans	*	*	6 445 646
Mobile library stops	16 960	13 598	10 244
Library boats	1	1	0
Library boat stops	10	11	0
Library boats' loans	*	*	0
Opening hours altogether	1 507 104	1 404 357	1 647 087,68
Opening hours, staff present	1 507 104	1 404	1 285 761,18
Opening hours, self-service	*	357	361 326,50
Other service units	849	596	414
Useful floor-area In Square meters (m ²)	*	*	498 002