NATIONAL LIBRARIES: PAST, PRESENT AND FUTURE PERSPECTIVES

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Abstract

National libraries are the most famous libraries in the world. Everyone has heard of the Library of Congress and the British Library. They are cultural institutions, treated almost as monuments, as still and old representatives of their country. This paper will challenge this perspective and explain how and why national libraries came into existence, their primary function of preserving cultural heritage but specifically the challenges they historically have had to face and the new ones they are facing now. Since they are usually dependent upon their government the recent economic crisis has seen a diminishing of funds which could ultimately lead to the end of national libraries. A greater use of technology is the only way option and an expensive endeavour. There will be a short overview of the national libraries of the world and a small study based upon three European national libraries, the Spanish, French and Italian national libraries. Finally we will come to understand that the only way forward is by embracing technology and increased cooperation to achieve new opportunities and reach new goals.

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CONTENTS

Introduction

National libraries are varied and diverse. They all have different ethos, different aims and different roles but they do have something in common - every single national library in the world feels it is their mission to preserve knowledge for the future generations. Nowadays this knowledge can come in many types of formats such as sound, videos and digital documents. The book is not the only treasured item we can find in libraries any more. The aim of this dissertation is to illustrate how national libraries work and how they choose to differ amongst themselves, by making different choices. These differences may be down to various reasons such as historical past or low budgets. It will be interesting to see the main challenges which national libraries have been facing in the past and those they are still facing now. While in the fifties Francis talked about the impossibility of collecting all the knowledge of the world under one roof, today it is more about making all this knowledge accessible to as many people as possible. We will go over the choices national libraries had to make, such as collecting national material or also including foreign items, along with the choice of giving prevalence to humanities instead of sciences. Later we will look at preservation and how it is becoming increasingly difficult to cover every base since the items keep changing, the climate conditions keep being altered and not surprisingly people keep touching books. Automation is another challenge that libraries have gone through. Librarians are famous for being much attached to the traditional book but nowadays it is very different because technology is as much part of the library as books. Line (2006) remembers how when he first started trying to introduce computers in libraries an older colleague librarian drew up a list of services she would like to have and that he happily replied that all could be done much more easily with technological help (Line, 2006, p118). The final challenge that needs to be analysed is digitisation. This is the future for libraries and most national libraries have some kind of project in place, but it is undeniably expensive. The last question we want to answer with this dissertation is what are the future chances of survival for national libraries? Are they a dying breed or will they manage to overcome these challenges and more, conforming to the new style of knowledge we have today?

1. What is a national library?

It seems impossible to find a steady and fully accepted definition for a national library. Most scholars refer to the definition developed by UNESCO during the Vienna Symposium, but it is not incredibly specific and only describes it in generic terms - it states that a national library is the library in charge of acquiring and preserving all the material published in a country and additionally has the duty to act as a legal deposit. It is a broad definition which may exclude libraries such as the National Library of Medicine of the US, but also include the University Library of Helsinki because it too acts as a legal deposit. It is undeniable that in some countries - especially developing countries – the national library may often be combined with a university library. (Sylvestre, 1987). While Burston (1973) prefers to separate the idea of national libraries from the others and call the rest thematic libraries, Sylvestre's definition is based upon their duties and their tasks. He concludes by saying that a national library is a necessity for a country because it helps progress through knowledge and also helps provide information and material to the great minds of their country (Idem, p.76). It seems that a common way of reaching agreement on the definition of national library is by passing through its functions. There are certain functions common only to national libraries and these can be used to define them. We will talk about the role and the functions of a national library later and focus now on those few definitions found in literature. Bourgeois was the director of the Vienna symposium in 1958 and he admits that the world is lacking a proper definition for a national library and feels that it is incredibly important to solve this specific problem. Library Trends in 1955 observed that national libraries were indeed "an important phenomenon of librarianship" but they did not feel capable of giving a proper definition because national libraries were just beginning to evolve and there was no way to define them at the time. The famous director of the National Library of France felt that Europe, the land of old culture and of Royal libraries was the perfect place to start this search for the perfect definition; or at least for an agreed statement about these institutions. (Bourgeois, 1958).

It was up to Francis, the then director of the British Library, to explain as simply as possible the concept of national libraries. A national library is in charge of collecting everything

which is written and more often published within a certain country. This is the main duty of a national library and it is safe to say that it is something common to national libraries all over the world. Everything else, from the size of their collections, the amount of services they provide and their different stances on various challenges such as technology and foreign literature vary from library to library. Panizzi, one the most revered library directors of Britain felt that a national library had to provide knowledge about all kinds of subjects and also in every language possible. Panizzi lived in a time when maybe this vision was feasible but nowadays there is no way of keeping that much information under one roof. Indeed Francis, after only a few decades, found this a great challenge.

About twenty years later the duty to define national libraries fell to another scholar, David Mearns. He also admitted that this was a momentous time for national libraries but he based his definition on more practical information. He said that most national libraries were publicly funded, usually by the Treasury of their own country and were often part of the ministry of education – then, they were almost part of government. As Francis he also mentions the main duty of a national library, which is to keep record of "their people's genius however expressed…" (Mearns, 1979, p.10). He includes manuscript, film, music and everything produced by the mind.

Liebaers on the other hand stated that the principal characteristic of a national library is the kind of collection it has. It does not focus on any subject in particular but strives to provide an all-around knowledge and to be a leader amongst other libraries in their own country (Liebaers, 1958). It is their duty to continue research into library science and to set an example for the rest of the libraries. IFLA instead simply says that a national library may be any kind of institution which is involved in national and international tasks and this is what distinguishes them from public and university libraries (Burston,1973, p.87) Line agrees with this view. He has a more flexible idea of definition of a national library because he is aware of the many differences between them and the influence that history, economy and even geography have upon this huge institution. He sees close ties between what a national library is and the actual information needs of the country. In Western countries, which have a very long tradition of the written word, preservation may be one of their main tasks but in developing countries on the

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other hand sight and sound may be just as important because they rely on oral tradition (Line, 1987, p.6).

The definitions examined above are all relatively old and dated but in substance manage to describe what a national library is. In later literature the definition of national library has found it impossible to extricate itself from its functions and from its role. Everyone agrees that a national library is in charge of storing all published material in its country, but since all countries are different every national library has diverse duties and responsibilities. Scholar such as Poll and Mejier still cite the UNESCO definition as the basic example of a national library. Cornish (1991) also agrees but he admits there is more to it. A national library is usually publicly funded, it is open to the public and is obviously the archive for the material published in its country.

1.1 The aim and functions of national libraries

A national library usually acquires its material through legal deposit. The first instance of legal deposit occurred in France and perhaps not by chance, since one of the oldest national libraries in the world is the Bibliothèque de France. In 1537 by The Montpelier Ordinance, every printer and publisher was obliged to send a work's copy to the Royal Library at Blois (Humphreys, 1979, p.66). Britain followed and soon enough most countries had a legal deposit law. In Britain it is strictly tied to the copyright law so that the protection of the author's rights are first on the agenda. One of the issues though with legal deposit is that it can be a slow process. If a national library decides to buy an item, which may happen because not everything is covered by legal deposit, the item will arrive relatively quickly but if it needs to wait for the publishers it might take some time. This is actually not irrelevant because it delays the publishing of the national bibliography, which is another of the main functions of a national library. Nowadays it is incredibly hard to decide where to stop with acquisitions. A national library is charged with preserving the culture of a country and in the last twenty years this may include software programmes, films of all kinds. The question is: when do we stop collecting?

Osipova (1987) decided to question some big eastern European national libraries to investigate their main functions and how they were coping with changes. All agreed that the role of national depository was one of the main functions of a national library but they were also struggling to make a decision on what kind of material to store. Ninety per cent of the librarians admitted it was necessary to focus on domestic literature. This may include printed items but also non-published material, older manuscripts, films and audio. Almost unanimously they also agreed that foreign literature should be acquired by selectivity. Whilst it would be wonderful to be able to provide its public with material from all over the world, practically speaking it is impossible and so choices need to be made. It could be foreign material about their own country or material published elsewhere but written in their own language. There will always be some criteria to follow so that acquisitions do not get completely out of hand.

In his paper Cornish (1991) lists the main functions of a national library, admitting that no national library covers all the functions. They pick and choose depending on the direction they want to follow, their ethos and mainly their possibilities. He does state though that a national library which does not have a collection of the material printed in their country cannot be called a national library (Cornish, 1991, p.5).

The second function which is also usually performed by a national library is the publishing of a national bibliography. Since a national library usually receives every single item printed in its country by legal deposit it does seem the obvious responsible party for compiling a national bibliography. They not only have all the material released that year but they are usually able to provide retrospective bibliographies because they often store older items as well. This is certainly more valid for the old European libraries and the library of congress at least. They should also be able to provide a bibliography of periodicals and newspapers. Thus it is feasible to say that when a new national library opens it is their duty to publish a current and in addition a retrospective bibliography (Rupel, 1958, p.50). On the other hand, the help of specialists is very often needed and so private agencies might end up providing the yearly bibliographies while the national library will be in charge of the bibliography of bibliographies.

Since the national library is a leader amongst the libraries of its country they often coordinate bibliographic and cataloguing work in general. Often the cataloguing method used by a national library is the one used in most libraries of their country (Idem, 1958, p.51).

As mentioned before libraries across the world do things differently and this also applies to bibliographic work. Some, such as the French and German national libraries cover all printed material in one language while others, such as the national library of Belgium also include foreign publications which may relate to their own country. Once again it is a matter of policy and ethos.

Cornish admits that building a national bibliography is not always part of the functions of a national library but he also states that it is the obvious place. There are however serious problems attached to this function, such as which material to include for example. In the past it was simply all printed material but now librarians need to make a choice between printed and non-print and also published and unpublished. Making a record may also raise issues, especially when there is not enough information about an item, such as with unpublished items. The delay of the legal deposit is probably the most serious issue though. Since it might take months for publishers to send the due items, the bibliography cannot be compiled and this is problematic, since it is the main bibliography and it is often also time sensitive. Non published material may only be relevant for a certain amount of time but if it is not properly catalogued the public will not be aware of it in time (Cornish, 1991, p. 75). Creating a national bibliography is therefore often an endeavour left to private agencies or to separate departments, even though national libraries do list it as one of their major duties. Line (1988) admits that the job might be beyond the national library's power nowadays because of all the different issues it entails.

As a third function we have chosen services to readers. This is actually more complex than it seems because, as with everything else, different libraries are organized in different ways. While the main role of the public library is to serve the public, the national library focuses more on preservation and therefore on the items themselves. Still, what would be the point of

storing all this knowledge if no one had access to it? Osipova's study focuses mainly on socialist countries and so services to readers are a relatively high priority. This idea matches Lenin's idea of library service which can be evaluated upon the number of borrowed books and the number of readers attracted to the library. Services to readers may include organization of rooms and bibliographical services. At the same time a national library can be more selective regarding its readers than all other libraries. Librarians from Osipova's study agreed that priority should be given to scholars, business and media people and experts. Still now the Irish national library is mainly open to researchers and according to Cornish very few national libraries agree with lending their material. For the most part, members of the public can peruse it in the building but cannot remove it outside the facilities. Often libraries have two copies, one for reference and another for preservation. As said before it is true that libraries exist to serve the people and to foster knowledge but national libraries are unique in their own way. Their primary focus is to store this knowledge for the generations to come and restricting access is one way to make sure that items left in their hands are well looked after and preserved.

The final function we have decided to include in the main four is the role that national libraries have in their own country as the libraries' library. They are supposed to act as an example to the rest of the institutions in their land and they may equally be the hub of research in library studies. Areas which may be worth considering here include issues in bibliography and bibliology, management of libraries and history of librarianship. The national library might be the only place to find this kind of information or should at least be the place where we can find knowledge about librarianship both in our own country and across the world. According to Cornish (1991) it is up to national libraries to develop new technologies as well as applying the new technologies to librarians' issues. Often they are the first ones adopting a certain method, such as the Library of Congress with their work on optical disk technology and the British Library with their development of CD ROM products. All these are now somewhat dated but are good examples of the role of a national library as an innovative and researching entity.

1.2 Two different demarcations

Goodrum (1980) identified one hundred national libraries and split them into three different groups. The first group entailed all the old western national libraries, founded in or before the 18thcentury. These included the Library of Congress, the French National Library and the British Museum Library, now called the British Library. These are the libraries which have had more time to amass their collections, more funds to develop bibliographies and union catalogues and more staff and opportunities to foster research. They are the pillars of national librarianship. The second group comprises the libraries which were created between the Napoleonic era and the Second World War. Their first wish was to emulate the traditional national libraries but various reasons - such as lack of funds, conflicts and the development of very strong university and public libraries - made it impossible for them to develop in the same way. In the end they had to sacrifice some functionality and subsequently have mainly focused on "accumulating the history and accomplishments of the country" in printed format (Wilson, 1987, p.94). Goodrum includes in this group the national libraries of South-America which indeed have beautiful buildings but not enough resources, the new libraries of Canada, Australia and New Zealand which are offshoots of the government and a second group of European libraries from Switzerland and Germany for example, which have tried their best to reach the levels of the traditional libraries. The final group sprouted up after the Second World War and mainly includes libraries from the developing countries of Asia and Africa. These are completely different from the first group because their functions have to be much more practical. They are usually lending libraries, they may be part of a university library and try as best they can to function as national libraries.

Another classification of libraries was made by one of the greatest scholars of librarianship, Ranganathan. He uses India as an example and even though he was writing in the seventies he was already facing the problem of accumulation. Too much material for the libraries, printed and non-print, makes it is impossible for one library to cope with everything. Ranganathan advocates a three-way split, stating this is the only way to cover all the bases. A country needs a National Copyright library, a National Dormitory library and finally National

Service library. The first library will receive its material through the Copyright act, which is similar to the legal deposit. It will not lend its material to anyone but a court of law and its items cannot even be consulted on their premises for the first ten years since their publication. The second example is the National Dormitory library which is entitled to a copy of a book from every public library in the country. The material held in this kind of library will mainly be out of date but it is necessary for someone to collect items for specialist readers. Finally, the national service library interacts with the public and provides the items which are more in demand. Ranganathan firmly believes that to be as efficient as possible we need a group of national libraries, each with their own functions. He states that there are already countries which have followed this path such as the United States where apart from there being the Library of Congress, there is also the National Agricultural Service Library and the National Medical Service Library (Ranganathan, 1979, p. 77-79).

The world of information has greatly changed in the last twenty years and while some of these changes have indeed been beneficial to libraries, others have affected their role and their existence in a negative manner and still more have completely modified their way of being, working and progressing. In this age of austerity the main practical problem is definitely budget. Since national libraries are mainly publicly funded and governments are experiencing cuts, cultural institutions seem always the first to suffer.

2. Methodology

National libraries are in danger of disappearing because of the combined effects of technology taking over the information world and librarians being somewhat reluctant to use new and different systems. The librarians of today work mainly on computers and software systems and less so with books, but private enterprises are much faster and have a much bigger budget compared to national and public institutions. We wanted to analyse national libraries in a continuum and finish with some thoughts about the present and even more so about their future.

The main challenges highlighted in the course of this dissertation are varied and some have to an extent disappeared nowadays. While in the past librarians were uncertain whether to focus their attention on local material or to try for an encyclopaedic approach, today this issue no longer exists. The focus of every national library is their own country and their own future and they have all come to realise that all knowledge of the world will never fit in one building. Preservation was the second issue we came upon because on one hand national libraries are in charged with protecting some very valuable treasures but on the other the new diverse formats that are available today actually pose an even more difficult problem. We feel quite optimistic about automation not being an issue any more. Libraries are hopefully open to new technologies, especially national libraries which are supposed to be an example for all other libraries in their country. Computers and software library systems are common in most libraries and librarians have become incredibly versatile in their abilities. No longer are they just 'book people' but work with all kinds of information, some of which can be extremely technical. The solution to most of these issues we agreed is digitisation. This process, now in place in most well-funded national libraries, could be the answer to many of the problems libraries have long been facing. We added this to issues mainly because digitisation can be problematic for lack of funds. It is not a cheap endeavour and can hardly be done by one library alone.

The methodology used in this dissertation is mainly a literature review. Secondary data was chosen and analysed. Most material was accessed through the databases provided by the University Library whilst other material was obtained from national library websites and internet search engines such as Google Scholar. It was quite difficult to find material strictly connected to the three elected European national libraries since the database systems mainly provided papers written in English, rather than their own native languages.

Academic databases were the main source of information and the primary ones used were strictly connected to library studies such as LISA and Emerald. A set of keywords were initially designed and then later enriched to acquire as much information as possible. It was surprising how little contemporary information there was about national libraries in general. The first part of the dissertation, which details the definition and functions of a national library, is based upon earlier works by renowned scholars such as Francis and Humphreys. On the other hand there was plenty of more recent material about individual national libraries, especially from developing countries such as Nigeria and Asian countries such as India and Singapore. It was interesting to see how the issues discussed changed over time and became increasingly tied to technology.

At this point it became necessary to filter this huge amount of material and decide where to focus the attention of the research. Many articles and books were abandoned either because they did not have any new information or because they were very specific about something which was not part of the research of this work.

In addition it was felt necessary to briefly consider some more specific examples. The libraries in question were chosen from a practical point of view because their respective native languages were all understandable to the researcher, because they had similarities being all European libraries, were from countries with very old and popular history and culture and also because of their relatively well developed websites. It is undeniable that some of the websites were better than others. The Spanish national library website was definitely the best, with

plenty of information, numbers and statistics easily available. The French national library was a close second, even if it was 'down' for quite a while, seriously endangering the research. The third website, from the Italian national library was disappointing. As mentioned previously Italy does not have one main national library. It has two, Rome and Florence and in addition an array of smaller central libraries dissipated all over the country. It might be because of this that the Italian website was frugal, with barely any information regarding their mission, finances or any other kind of information.

The literature review was extremely useful in helping the research go forward as it was possible to glean the main issues that national libraries had been facing. It was also interesting to see how various national institutions from the rest of the world had tackled some of these issues. From the Russian library, which was victim of flooding to the Nepalese national library which has worked so hard in trying to set up a library system and provide accessibility to their people, it was clear that national libraries want to become more involved in the lives of their users. They do not want to be seen merely as important buildings, monuments or archives. They want people to fully engage and enjoy the treasures they have to offer.

3. The main challenges faced by national libraries

The future holds many challenges for libraries and we are going to focus on those which have most affected - and will in the future influence - the shaping of these national institutions. As said previously the main duty of a national library is to collect and preserve everything published in their own country. They are in charge of conserving the knowledge of their people. At the outset, when national libraries were first founded it seemed like a realistic goal since amongst other things printing was rather expensive and not mass produced as it is now. Very soon though it was clear that it was an impossible task, with numerous different levels of difficulty and grey areas. What was worth collecting? What was worth preserving for the future generations? Foreign publications became one of the first issues to be addressed by librarians since national libraries wanted to be as comprehensive as possible, yet it is ultimately impossible for one building to store all the material published worldwide. The question again is how to choose. For the most part it depends on the financial possibilities of a library, its ethos and mission and also the users it is catering for. We will talk later in more depth of the different ways libraries cope with this issue. This is not however the only problem regarding choosing the material to acquire. Published versus non-published has always been a problem and nowadays the question of non-printed material is of great importance. Audio, visual and digital are all important and highly diffused and so how can a library manage to preserve all this material? One final branch of this huge issue is the question of specialised subjects. It seems national libraries have always given more thought to humanities and social sciences while slightly neglecting natural sciences and more practical studies. Where is this information stored then? In the last one hundred years science in all its forms, from medicine to technology to engineering has made incredible leaps and they probably include the professions that benefit most from continuous research.

The second issue we would like to approach is the advent of technology and automation in national libraries. Things have changed in libraries and for the most part technology has

made things easier and more manageable. Cornish (1991) is very clear on how technology has been both good and bad for libraries. On one side online catalogues make access much easier for users, especially for those who do not live near a national library. Since in most countries this is a unique institution the greater part of the population will not live within easy distance. Online catalogues help patrons searching for material and making sure it is in fact there, avoiding pointless trips. Also thanks to technology, journals and databases are much more accessible and easier to consult. It is a much more streamlined process which professional figures might appreciate and this more efficient way of doing things might lure new users to the library. Finally, digitisation has completely changed the way of storing things but we will focus on this particular challenge later on. There are equally some down sides to this advent of technology. There are people who think that libraries are a redundant institution, especially national libraries which do not have a very strong community role and which appear to be mainly a source / store of knowledge. Many seem to think that information is at our fingertips and we do need to step into a library anymore. Technology has changed the role of the library but there are still many functions that can only be deployed by a librarian since they are extremely specialised.

Preservation and heritage are also an incredible challenge for national libraries and whist to some extent are an issue for all libraries, national institutions are obviously extremely affected by these two functions. Preserving national heritage for the future is the main duty of a national library and since the material kept can be extremely valuable or old a lot of the budget is dedicated to specialised methods of preservation such as de-acidification and temperature controlled rooms. Breeding (2011) admits that in most of the national libraries he has visited there is some kind of preservation procedures in place to keep their printed material safe. The problem starts with the items which are not books, such as video and audio although even here there have been advances. The main issue nowadays is how to best preserve digitised content and how to fund this extremely expensive endeavour.

Strictly connected to the advent of technology and to the issue of heritage is digitisation,

probably one of the greatest challenges that libraries have been facing in the last fifteen years. It definitely has its benefits, the most straightforward and obvious being that material can be stored much more efficiently. We do not need a huge building anymore, as huge amounts can be kept on a flash drive. But the amount of data we are talking about is staggering and even this poses a problem. Librarians, rare books experts and archivists have studied for centuries about the best methods to preserve printed material but how do we preserve microchips when it seems they are not meant to last even a decade? It is a huge decision that libraries have been forced to make, especially due to huge associated costs and diminishing budgets, but most libraries of the western world have started a digitisation project and we will look at this in more detail later in the paper.

It is feasible to say that national libraries are facing difficult times due to the rapid pace of technological change and the necessity to keep up and not be left behind. Of course western libraries are much more concerned with these problems than libraries in Africa for example, where the main issues are much more practical.

3.1 The choices of a national library

 Before starting to address the different kinds of challenges that national libraries faced in the past and / or are still facing now it is possible to say that the underlying cause of these issues is budget. As noted previously these institutions are strictly connected to the country they are serving, its history, its geography and its culture. Because they are publicly funded they rely on the government for sustenance and often budgets are tight, especially for areas relating to culture and knowledge. A perfect example of this is in Africa for example, where the number of national libraries is very low. After the Second World War only two managed to be established and the situation has not much improved since then. Unfortunately many African countries have some very serious problems such as famine, economic crises and tribal wars, so the founding of a national library seems to a have taken a back seat. On the other hand the situation is not easy for libraries in richer and more advanced countries either. These places do have national libraries but their funds are continuously cut because information is seen as an

"economic resource" and many governments think that national libraries should "earn their keep" just like any other industry (Line, 1988). The public sector is going through a very difficult time and this is especially affecting higher education institutions, making it imperative that national libraries follow the same criteria as economic enterprises - such as performance evaluation and statistics compilation in order to prove their cost-effectiveness (Saarti, 2013, p. 274).

Libraries originally wanted to include everything in their collections. They firmly believed it was their duty to preserve as much knowledge as possible. Soon enough though they were faced with reality in the form of lack of space and they needed to make a choice and leave some things behind. Still today the main aim of a national library is to collect all the material published in their own country but they are not alone in this anymore. In some cases there are archives which might look after a part of the material, more specialised national libraries for scientific subjects and many have now decided not to include foreign literature in their collection.

When the first national libraries were founded the idea was to acquire an encyclopaedic collection, including the most popular foreign publications, but soon enough this was quite impossible. During the first symposium in Vienna it was agreed that it was necessary for a national library to collect international material about its own country because their own users might find a need for it, but otherwise it was left to the discretion of the individual libraries - translations for example were an issue for the British Library and they decided to discard them altogether. One of the solutions adopted by many countries is to decentralize the material and work in cooperation with other main libraries, such as big university libraries. Through this it has been possible for countries such as the United States to acquire an immense collection of foreign publications, but there have also been whispers suggesting all the material should be kept in the national library because it could catalogue foreign publications and offer a very comprehensive catalogue (Humphreys, 1979, p.68).

It has thus been accepted that it is impossible to offer all foreign publications in one library, but thanks to advances in technology this problem has to some extent been lessened. Cornish

emphatically states that we should look at the users and see what is in demand (Cornish, 1991, p. 86).

If a national library has the funds it can easily have digitized copies of foreign works, through cooperation with other institutions. Problems arise however when it is related to material about science and technology - one cannot possibly offer an adequate collection if it is only based on national publications. Scholars write about their discoveries and about their studies all over the world and to be effective a national library needs to provide an adequate amount of material. Indeed this brings us to the second choice that national libraries have had to make and that is whether to keep a scientific collection on their premises or whether to give it to a more specialised institution.

During the Vienna symposium in 1958 Francis admitted that old libraries had been neglecting subjects such as science and technology simply because the focus had always been on humanities. Added to the fact that discoveries were made almost daily, it was impossible for a national library to keep up with such developments. Other reasons included the fact that because the material was so current most of it was in journals and periodicals and not books. Finally, there was also a huge shortfall in qualified staff - not just any librarian had the skills to work with this kind of knowledge. These were the main reasons why many national libraries had decentralized their items and given them to research libraries which may have been better equipped to deal with it (Francis, 1958, p. 24).

Even though science and technology are prolific producers of information, it is fair to say however that national libraries have always had a greater affinity with humanities. When they first started, output of literary books far outweighed that of their scientific counterparts and so it was obvious for a library to have more literary items. Since World War One though, that is since the beginning of the last century, science and technology items have been seen to be published more and more. Scholars from all over the world make discoveries every day and the need to share that knowledge is very strong and extremely important for subsequent

discoveries. Line (1988) states that the original disparity between the volumes of the two types of materials held may also be due to the fact that national libraries are usually under the control of the ministry of culture, which in essence is less concerned with scientific and technological matters. One thing which came out of this whole issue was the institution of national document centres where scientists, engineers and other similar professional can find answers to their very specific requests, for example through such methods as document supply and abstracting services. The relationship between the two institutions though may be quite antagonistic and the national library runs the risk of being left behind, since even though it usually still holds the legal deposit for science material the users are not there to request it (Line, 1999, p.158). There have however been instances where national libraries have decided to step up and open their own science division, the most important example being the British Library which opened this second section in 1984.

This problem does not just include science but also economics and social sciences. Sciences are varied and different scholars need to interact with each other and not just with the specialists of their own subject either. It is necessary to have the material all in one place instead of separating it in different libraries and that is why about forty years ago both the Library of Congress and the National Diet Library of Japan founded their own science section. Alternatively Canada chose to establish a new national library, the National Science Library where scholars, companies and research institutes could access knowledge from all over. As already mentioned, similar activities have been undertaken in European libraries as well such as the British Library which decided in 1962 to establish the National Lending Library for Science and Technology - which in the subsequent ten years became the "richest library of Europe in respect to scientific periodicals" (Kalaidzieva, 1975, pp. 124-133).

Line (1988) accuses libraries of regarding scientific writings as rubbish and that they are seen as not representative of a country's culture, but he very cheekily states " as for the cultural argument, we are living in a scientific and technological society: this is our culture, and the national collection must surely represent it. Finally, yesterday's rubbish is today's sociology, and the day before yesterday's rubbish is today's history. If a culture produces a lot of rubbish, so

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be it; the national collection must reflect this…" (Idem, 1988, p. 25).

3.2 The heritage issue

Books have been printed for over six hundred years but we still have the issue of preservation. In the past the materials used to make books were much sturdier and more resistant, whereas nowadays it's a case of the cheaper the better and so libraries are presented with a double problem: on one hand they have very valuable and very old books which need preserving in the most rigorous conditions and on the other they have new books to store for future generations and they must achieve a way of doing both which is cost-efficient and feasible. It seems on the surface to be a practical issue that should be easily resolved but it is not, primarily because of the costs and the sheer number of items that are in need of protection.

Book preservation is not a very old art. It acquired particular importance in the early seventies after the national library of Florence was flooded and book lovers and scholars from all over the world arrived to help with saving invaluable items. This event clearly shook the book community because not long after the Library of Congress decided it was time to have a preservation program. This was just the beginning, as in the next 20 years libraries such as Yale and John Hopkins also initiated their own preservation programs. Books can be extremely fragile and disasters such as earthquake and floods have often put libraries in the position of needing a preservation effort. The worst disaster was probably in St. Petersburgh when over 3 million items were either ruined forever or badly damaged. Such was the scale that Russian librarians enlisted the help of the public by asking them to each take a bunch of books home and drying them. Every book was returned. It became widely accepted during this time that there was clearly a necessity for book preservation and training programs flourished (Etherington, 2007).

Since then many strategies to deal with the preservation of books have been created,

one of which is environment control. Merrill-Oldham (2003) states that the care of books is strictly connected to dry, cold air free of particular polluting agents. In addition, light needs to be filtered and the furniture where the material is stored needs to be free of these polluting agents. Many old libraries have had to change their systems in order to be successful in the preservation. This is extremely draining on budgets and many libraries have opted for off-site facilities. Emergency plans are usually in place for disasters such as seen in Russia, but staff are very rarely adequately trained. This brings us to one more cause of damage, which is in fact the handling of books. It could be true to say that libraries are open to the public and users therefore have a right to touch items but it is imperative to instruct as to the right way in handling volumes, especially old and valuable ones quite common in national libraries - even book drops are damaging. The ideal scenario then would be that every time a book is returned in a less than pristine condition it should go directly to conservation. This though would mean a huge chunk of budget dedicated solely to a preservation program and it is very unlikely for this to happen, especially in public and university libraries. Research and national libraries on the other hand might want to take this into consideration since it is part of their ethos to preserve for future generations. Line (1987) suggests that both the government and publishers should print a number of books on durable and more expensive paper and microfilms should be protected. Additionally, national libraries today store not only printed material but also video and audio. These are extremely expensive items to preserve and often need to be copied to keep them alive.

Is digitisation the answer to all of this? Will we be able to keep everything that has been kept for hundreds of years and not let it go to waste? The question is rather not whether we are *able* to do it because technology advances every day but whether we *want* to. It is definitely necessary to preserve a copy of Romeo and Juliet and Harry Potter but what about more leisurely items such as a simple romance novel or a song that did not make number one? It should though be attempted because they all represent different voices and we do not know when and where they might be relevant again and to whom. Yet why do we care so much about preservation? Books are printed every day and we will certainly never run out. The

reason is that every single book is the representation of a part of culture of that country. Every person has something to say, has a different point of view and a unique way of looking at things and national libraries have made it their duty and their responsibility to preserve cultural heritage.

Lidman (2004) admitted to having met scholars that did not think that libraries or archives were recipients of cultural heritage - museums were the only institutions which were keeping it alive. Yet how is it possible to say that only *objects* contain cultural heritage and not the written word, which is indeed the voice of the people before us? There are several definitions for cultural heritage throughout literature. Throsby (2000) for example states that the value of cultural heritage is aesthetic, spiritual, historical, social and symbolic because it entails beauty, enlightenment and connection with others, amongst other things. Linton (1945) said that "the culture of a society is the way of life of its members; the collection of ideas and habits which they learn share and transmit from generation to generation (World Book Encyclopaedia 2004) while Banjo stated that "a people's cultural heritage, therefore, is their way of life and, in a broad sense, their traditional behaviour including the ideas, acts and artefacts which are passed on from one generation to another (Banjo, 1997, p.228). By preserving books and audio and videos of the past we are protecting our culture, our past and that is what national libraries were founded for.

Ekwelem, Okafor and Ukwoma (2011) cite many library scholars and their strong opinions about preserving cultural heritage in libraries through the protection and proper storing of materials. Previously, cultural heritage might have meant valuable objects and monuments and that is why perhaps museums feel they take priority, but since 2006 UNESCO has stated that it may include any kind of human creation, living or ancient. They refer to this as "collective memory" and is the perfect representation of a culture. It describes and shows what was important to a specific culture at one point in time, its people's values, their pleasures and their most inner thoughts and worries. Through various and different materials and items we can recreate life at any time. Gorman (2007) underlines the fragility of human documentation

and how important preservation has become. More than ever we need to invest in preserving our history and protecting it from possible attacks, which may be natural disaster, climatic conditions or simply uncaring hands.

National libraries are doing their best to continue their aim of preserving knowledge and as noted previously many have established preservation programmes. The Royal Library of Denmark has approved a Preservation Plan 2010 which is supposed to concentrate on the most damaged materials and the areas which are in most danger. They are not being shy with their budget and have decided to invest in a state of the art environmental system for their treasures (Larsen, 2001). Davenport (2004) tells us about the plan of the Library of Congress to establish a heritage copy preservation repository which would try to collect and store the whole output of the United States. It would be a huge endeavour and raises many issues, amongst them whether it would in fact be worth the effort entailed and about how they choose what to preserve. These are only the basic questions that Davenport has asked. The bigger question concerns the fact that we are publishing and creating more and more and it is impossible to store everything the way we have been doing. There must be other solutions and technology is here to help us solve at least some of these problems.

3.3 Automation in libraries

Technological discoveries have changed the existence of libraries all over the world - from the card to the online catalogue, reserving and renewing books online, videos and music CDs lent in a library. All this has certainly had a huge impact but none more so than computers, used for managing stock, advertising events and helping users access the modern society. The amount of data that libraries need to organise is staggering and it is undebatable that computers have made life easier and the process faster, but many scholars also think that it has taken a big chunk of work from the library and that libraries could become obsolete altogether.

As already noted, the advent of technology both helped and hindered libraries but it is

undebatable that they changed the way of doing things. In some cases though National libraries may use technological advances differently from other libraries. For example Breeding (2011) tells us that circulation is much less popular compared to cataloguing and acquisitions.

In a beautiful article by Maurice Line, one of the best known scholars on national libraries, he illustrates his forty-year relationship with automation in libraries. While he was working in the Newcastle University in the late sixties he christened the first automation system used in a library. Thanks to his vision and his colleagues' abilities they set up an acquisition and a cataloguing system which undoubtedly made life much easier for librarians - at least once they had learnt how to use them. In forty years automation has evolved incredibly quickly but Line (2006) insists that there is still so much that can be done.

Mihalic (1998) strongly believes that libraries should not be buried by this new world of information. Yes, internet is here and most users can find basic information quickly at the tips of their fingers but libraries should not be fighting with the World Wide Web but using it to extrapolate much more quality and trustworthy information. Mihalic states that a library can provide a very similar service to the internet and librarians need to make peace with the fact that there are new skills to learn, new technologies to discover and new media to use. He complains about the fact that in most countries national libraries are practically accessible only by the people who live nearby. Technology can change this making it so that anyone can browse the online catalogue, find what they are looking for and hopefully request it through document supply. National libraries were started with the idea of storing knowledge but it is maybe necessary to take a step forward. Preserving cultural heritage is incredibly important as we have seen but national libraries stand aloof, almost untouchable and maybe it is time to open their doors to the public and use every possible gadget to make it easier and smoother for patrons to be satisfied with the services of a national library.

Line (1999) sees three paths ahead of us, all deeply influenced by the advance of technology and the presence of ICT in libraries. On one extreme we have the complete

annihilation of all libraries, they will not be able to keep up and will become obsolete. The second option is gradual change, which is what is probably happening right now, where they can adopt some ideas and discard others. Finally there is the path towards complete transformation into "information storers and providers" (Idem, 1999, p.157).

National libraries, even though they play a different role in the community, are also experiencing similar threats. Their expenditure is huge and mostly dependent on the government, and the private sector is becoming increasingly interested and involved in information science. Lor (1998) sees a bleak future for libraries. He points to the combined threat of internet, which is the synonym of quick answers and information, and budget cuts. How can national libraries compete when on the one hand they have less users and less money on the other. They need to focus on quality but to do that they still need funds to update technology and staff. Lor asks himself whether in this digitized world we need national libraries at all, since very soon all knowledge will be easily reachable through a computer. Even national bibliographies might become hard to compile because of the uncertainty of global boundaries. Lor wonders if national libraries in developed countries are having such problems since what hope do poor countries libraries have. Africa has hardly any national libraries and those that do exist usually perform additional and more practical services than the usual national library.

Wuest (1993) on the other hand takes a positive approach and invites libraries to not be scared of change and progress. She uses the example of networks, much more feasible with our new technology and states that this could help in centralizing collections and easing access. Just like Mihalic in Croatia she advocates a more proactive national library, which steps out of its boundaries and welcomes its users. She accuses national libraries of being "monopolies" because in reality they do not have any competitors in their country. Maybe it's time then to follow Panizzi's words and attempt to compete with other national libraries from all over the world. She accuses them of being "static", since all national libraries seem to do – at least to the eyes of the majority - is to store material. It may not be the complete truth but it shows the importance of changing the way of thinking of the users, of the public, of the people they are

actually serving.

A perfect example of a national library which has embraced technology with open arms is the Singapore National Library. Singapore is very small land mass for over five million people and is extremely well connected and developed. Since 2005 they have launched a great many projects to advance their online platform and to make online access easier and simpler. They have also started an information and document supply service and started their own digitization program. This is just the beginning and they are also very successful at using different social media. For example they use Flickr to display their photographic material, they have established the Singapore Infopedia with information about the country and they are digitising both books and newspapers to preserve their heritage. Related to heritage is one of their best ideas, the Singapore Memory project which will be used to collect the cultural and intellectual memory of the country and thanks to the national library it will be adequately digitally categorized and catalogued. Singapore is a growing and modern economy and understands the importance of information and its own national library is not going to be left behind (Chellapandi, 2010).

3.4 Digitisation in national libraries

Until a few years ago the idea of digitising all the books printed in the world seemed incredibly far-fetched. Today that is exactly what different people are doing. Google books, the Gutenberg online libraries and also national libraries have started their own projects of mass digitisation in order to make this huge amount of knowledge available to as many people as possible (Breeding, 2011).

In the 1990s it was the main players in science of this era who gave rise to the push towards the start of digitisation. As said previously scientific writings get updated continuously whilst at the same time some of the material is quickly out of date. This is the main reason why

scientific journals pushed towards online access. Speed and quality are most important for scientists and science scholars. They all speak the same language and the advantages of having access to material from all over the world is great (Saarti, 2013).

While it was the world of science that pushed towards digitisation this does not mean it was not appreciated by other knowledge institutions. For national libraries it made a huge difference. They had previously always had to choose between preservation and access. Some places, such as the national library of Ireland, opted for preservation, only allowing access to researchers. Others decided to open their doors to the public but to sacrifice preservation. Digitisation changed all this. It made it possible to allow members of the public access to most of the knowledge stored in the library in a manner which was safe for the material. As Lor (1998) said it is now possible to be "having one's cake and eating it" (Idem, 1998, p.134).

Larsen (2001) explains the way in which national libraries start their digitisation. There are choices to be made and priorities to observe. Broadly speaking, they split their project into five different kinds of actions, with everything being in the name of preserving cultural heritage. The first step is to digitise classics and newspapers for the archive, then an array of material for research purposes, to provide digitisation on demand, material for exhibitions and finally digitisation of indexes and aids (Idem, 2001, p. 303). It is important to note just how imperative the digitisation project is and the fact that national libraries certainly need to invest in it.

Wuest (1993) also admits that there is a wealth of material in warehouses left deteriorating. Al Gore calls it "extformation" because national libraries are usually not lending to the public and this means that users are not even aware of the tons of information available to them and that is where digitisation makes the difference. If the material were to be digitised it would at the same time have a second chance at preservation and also be much more available to users from all over the country and even from foreign lands.

A good example of library digitisation completely focused upon heritage can be seen with the National Library of New Zealand, which started its process over ten years ago when the government passed the Aotearoa Act 2003. In their ten year strategic plan they have four

important priorities related to digitisation which are:

1)   Accessing New Zealand's digital memory.

2)   Sharing the nation's stories.

3)   Inspiring knowledge creation and economic transformation.

4)   Enriching the users' experience (Knight, 2010, p.86).

The establishment of the National Digital Heritage Archive has affected every aspect of the national library. They have clearly dedicated a considerable chunk of their budget, focusing on staff training and technical support and meant that changes and additions needed to be made to the traditional management system. Knight, just like Wuest and Mihalic, is firmly convinced that national libraries need to embrace change and since the aim of national libraries is to preserve heritage it is imperative that they take advantage of modern technology to do so. In order to not disappear they need to be providing something that no one else can and since they might be the only place that has all national knowledge under one roof that is something to exploit and make public. As said previously national libraries have always been a place of the elite, to be visited by tourists or consulted by high academics but it is maybe time to also attract a different kind of users, who make up the majority.

Another library which has also embraced the phenomenon of digitisation is the Czech national library and they felt the need to do so due to the amount of valuable old manuscripts they had. The problem was that they had the material, but in order to preserve it properly they needed to restrict access. The librarians were of the opinion however that it was a real shame to prevent scholars from enjoying and taking advantage of the great material in their custody and so the answer to all these problems became digitisation. It was then possible to have all that material available online for anyone who needed it and at the same time to be able to preserve the original copies. Following on from this though, the librarians found themselves in somewhat of a conundrum and had to decide whether to try and reproduce the manuscripts with as much quality as possible in order to have a worthy substitute or embark on a

completely different project altogether. In the end they decided to opt for quality, feeling that people who could not travel to see the originals deserved to have the next best experience possible. Knoll (1997) admits that they had to sacrifice some aspects simply because of their high costs, such as colour slides, and down to the project only being able to proceed within certain funding parameters.

Another example of a digitisation project inside a national library is the experience related by Jones regarding the National Library of Wales. They first started talking about digitising some of the material in the mid-nineties. Their collection isn't as large as other national libraries such as the British Library or the Bibliothèque de France but it is quite unique in that it obviously focuses on Welsh material and some of the items may be quite difficult to retrieve in any other place. Their experience started with a few attempts, separate and individual projects such as the David Lloyd George and the Ymgyrchu! Campaign! ¡Campan ˜a! Both of them online presentations which were quite successful. They also dedicated a whole project to their images, which was quite the challenge for copyright reasons, and to the Dictionary of Welsh Biography. These initial projects acted as a stepping stone towards the real and all-inclusive digitisation programme which then started in 2001 with the delineating of a digitisation strategy. Their main priority were the users and this exercise in digitisation was first and foremost to allow more access to their material. They underlined different kinds of users such as researchers, historians, students and enthusiasts amongst others and tried their best to digitise items that would satisfy everyone. The content to be digitised was at initially hand-picked and focused on manuscripts, images and rarer welsh material but in the last ten years it has moved more towards mass digitisation. Many projects have been funded and continue to be quite popular by way of exhibitions. Through mass digitisation it is finally possible to give the public a more accurate and exact image of the Welsh national Library (Jones, 2008).

Digitisation is a new exercise for libraries but even newer still is digital preservation. We showed how complex and difficult it is to preserve the amount of material present in national libraries, but digital preservation is such a new field that scholars and researchers are still at a

loss about what should be regarded as the singularly approved method. Different libraries have chosen their own way to deal with this problem. Larsen (2001) complains about history being de-magnetised and the incapability of libraries at looking after digital material, yet national libraries all over the world are trying their best to keep up with science and to come up with newer and better ideas to preserve the knowledge entrusted to them. A clear example is the German National Library. Since 2006 it has had the legal mandate to collect, archive, index and allow access to all the online material published in Germany and because of this they already have a strategy for digital preservation in place. It seems that strictly linked to digital preservation is the preservation of the bit stream, because only by keeping this safe it is possible for digital material to last for a long time. There are different ways to achieve this, from frequent changing of the format of the digitised items, which is the most popular action at the moment, to recreating the original system, including software and hardware. Also incredibly important is the metadata that goes with this digitisation and as it is such an expensive endeavour this can only be achieved if done in cooperation with other libraries (Steinke, 2010).

3.5 Overview of national libraries of the world

Not every country has a national library but they are nonetheless a famous and popular institution. All countries within the Western World such as in Europe and North America all have a national library. This may be down to one country not wanting to be outdone by another, or more likely the fact they all have funds to spend on culture and information. This is not to say that national libraries are irrelevant or just for the privileged but it is impossible to deny that if you have to choose between feeding your people and providing them with knowledge, the first step is usually to keep your country alive and then worry about everything else. As said previously national libraries do perform a set of chores that no other institution can, from providing the national bibliography to acting as a leader to the rest of the libraries in their own country.

National libraries have come into existence in many different ways but they all share the same aim of preserving knowledge for the generations to come. They are an expression of the identity of their country and often they have sprouted just at that time, after the union of a country or when a country had finally broken free from imperialism. Xuereb (1979) tells us that independence, usually political independence, is one of the necessary attributes for the birth of a national library because it is then that a country finally feels free to search for its own identity and can focus on its own culture, be that through artefacts, books or knowledge in general. In short the newly independent country finally has some heritage it is proud of, heritage it can call its own and worthy of being preserved for its people. At the same time, once the most basic needs have been fulfilled the new country feels it cannot move forward without an institution which will preserve its past and lead them into the future, towards progress. Since progress can only be achieved through knowledge it is clear enough that national institutions such as libraries and museums are necessary to take the next step.

While most European, America and some Asian countries such as China went through this process in the 19th century, less fortunate nations have needed to wait and that is what has happened to the majority of countries in Asia and Africa. Most of their national libraries came to be after the UNESCO symposium in Manila in 1964 which highlighted the importance of a national library in a developing country. It is often the case that in poorer countries the national library is merged with the public service to better exploit its services. The Indian national library for example stems from the public library in Calcutta which was founded in 1836. Its collection was later merged with other, more important and distinguished collections by the viceroy Lord Curzon. It took almost one hundred years though to transform the imperial Library into the National library in 1948. With India being such a vast and diverse country its collection is equally diverse and difficult to manage. Many different languages and cultures are covered from English to Tamil, from Urdu (Pakistan) to Bengali (Bangladesh). It is difficult to control such huge output and it is not uncommon to miss some publications, even if legal deposit is compulsory. It is simple to keep track of publishers in the main cities but there is an almost unlimited number of small towns with their own small printers, along with a large

number of self-published authors. India is a country incredibly rich in culture, from all classes and people but it is not easy to group all this knowledge in one place, especially if it is not public knowledge (Gupta, 1987).

Being that Asia is such a big continent almost half of the national libraries of the world are here. One very interesting example is the National Diet Library of Japan and the name itself helps in understanding where this institution stems from. The 'diet' is in fact the Japanese parliament and the actual national library was the fruit of merging three government libraries and two private collections and was founded in 1948, after defeat in the Second World War. The Allies wanted Japan to flourish as a democracy, with freedom of speech and thought and the establishment of a national library which represented their new identity, their incredibly old and powerful past, their very difficult present but hopefully their progressive future. The idea was based upon the "democratization of education", to have more and more literate people who were able to make their own choices in this new kingdom. To do this it was necessary to look at the already existing library system of Japan and improve it greatly, making it accessible to all classes of life. The national library of Japan was then first founded to help the government in this transitory period but soon enough it acquired the usual functions of national libraries such as preserving heritage. They still provide an incredible service to the Diet and other branches of the government but are also open to the public, having a reading room and also providing inter-library loans and such. Its structure is also quite unique in that it is made up of the main institution plus three branch libraries and thirty smaller versions to better serve the government (Kim, 1979).

Another interesting example from Asia is the Nepalese National Library, which started as a reference library. In the mid-fifties the government decided to buy the collection of the late Royal priest and in 1957 the national library of Nepal was founded. Initially it only contained around 30,000 volumes but it would slowly grow in time. This institution also has items in different languages, such as English and Sanskrit and has now reached a total of 84.000 volumes. It also moved around, as often happens with growing institutions and is now situated

in the Old Palace in Lalipur. Nepal is not a very big country and for a long time it did not have professional librarians looking after their treasures. Today though they organise their own courses to train staff and have also entered the world of automation with six computers available to the public. Nepal does not have a very developed library service, with less than 10 public libraries in the whole country but it is up to the national library to look after them. The budget is extremely limited. In 2000, when Thapa (2000) was writing, it was only 75 thousand Nepalese rupiah which only corresponds to about 475 pounds sterling. They are being helped by international association but do still have a long road ahead. Nepal is the perfect example of a country trying its best to preserve its heritage and finding it quite difficult because it cannot afford any kind of new technology. Indeed upon visiting their website it was clear they did not have an online catalogue and it was impossible to get access to their collection remotely. This is an incredible shame because they might be in possession of amazing material and we just do not know it.

The middle-east has also had quite a turbulent life in the past and this shows in their founding of a national library. Ashfar (2006) admits that it was only in 1990 that the Iranian government passed legislation which stipulated the three main duties of the national library: to collect all publications of Iran and by Iranians abroad in every language, to add to the collections all work about Iranian and Islamic studies, again notwithstanding the language and finally to have at public disposal a general collection of overseas material. It is clearly possible to see a difference between the duties of the National Library of Iran and the others we have examined. The addition of religion is incredibly relevant because it is a consequence of the history of the country and its close relationship with Islam.

The first library of Iran dates to 1905 and was founded by private individuals who thought popular literacy was a necessity. This library was then called the Maaref Library. Privately founded libraries sprouted in other parts of the country and the influence of the state was negligible. Only in the Twenties was the Maaref finally adopted by the Ministry of education. It is interesting to see that this library, even after it became a state library was still

quite small, with only around 16,000 volumes. The bulk which would be added later was still in the private library of the Shah. After his demise the libraries were merged and the NLI finally had a collection to be extremely proud of. A problem also common to many libraries in developing countries is the acquisition of well-trained and qualified staff. The same happened with the NLI which did not have properly qualified personnel until the late Sixties when an MSc in librarianship was finally established. One last interesting snippet of information is how the Iranian librarians have worked hard to preserve and keep their collection safe. Tehran is famous for being extremely prone to earthquakes and so the new building has had to follow all kinds of criteria in order to keep the valuable items and the staff safe. As mentioned previously different libraries in different parts of the world have different challenges in preservation and this is definitely one clear example of this. Nature can be extremely destructive to items such as books and audio files and it is our responsibility to do our best to protect them.

It is now time to leave Asia behind and explore some different national libraries of the world. Africa is an interesting case as there is unfortunately a very limited number of national libraries, even if the size and number of states keep increasing. Their libraries usually stem from colonial times and often have been lost because of much more oppressing priorities. Additionally, their written tradition is quite recent whilst their oral tradition is extensive and much more difficult to preserve, especially due to very low funds. As mentioned previously libraries in developing countries were mostly born thanks to the encouragement of the Manila UNESCO Regional Seminar in 1964 and a good example of an African national library is the National library of Nigeria, which was first thought of in the late fifties by Dr. Rogers. It was then impossible to put into action because of lack of money and The NLN finally came into being in 1964 with Act n.6 and was the most basic example of a national library. It was only for the federal territories, it had no legal deposit and no compulsion of publishing a national bibliography. This act was clearly not enough and was later much improved. Its original functions are quite similar to other national libraries, such as collecting material of the highest order and providing leadership to the rest of the libraries in Nigeria. As already noted, in developing countries there is a much closer relationship between the national library and the

public libraries on the actual territory. The NLN is trying its best with the meagre funds it has at its disposal but until now it has failed to focus on science and technology. This kind of information in fact is extremely hard to come by in Nigeria and it has been advised to fix this problem as soon as possible. The idea would be to found a document centre but at the time of this paper this had not yet happened (Antwi, 1990). Nigeria is definitely doing its best to make its national library as current and as progressive as possible but there is only so much they can do with the little funds they have at their disposal.

Nigeria is one of the few countries of Africa which has quite a long tradition of libraries. These are much more common in the northern states of the continent, where there used to be one of the greatest libraries of the past, Alexandria. It is interesting to look at a different place, where information science has just started to develop and they are at their first stages of working within a national library. Mulindwa (2010) writes about the national library of Uganda, in eastern Africa. Their tradition is not very old and in the past libraries in colonial countries often catered to expatriates, but various associations such as the East African Literature Bureau helped develop a public service which often consisted of boxes sent to institutions.

The national library of Uganda is a university library, the University of Makerere, which has been receiving items since 1958 when an act established that every book printed in Uganda had to be delivered to this specific library. The main functions are the usual suspects such as collecting all material printed in Uganda and about Uganda, but it is intriguing to see how another of their main functions is to provide a research facility for basic studies most probably in order to not be completely dependent on other more fortunate countries and to foster research amongst their own scholars. The 1958 act has been modified on several occasions to include more and more material, including government documents which are actually stored at the Documentation Centre. Unfortunately Uganda has been through a very difficult time since the seventies with many public buildings looted and many public libraries residing in dilapidated constructions.

Additionally, due to continuous political unrest funds were very often diverted to more 'pressing' needs and the library service soon became a shambles. Uganda had to wait until 2003 to have the National Library Act and finally a national library, which also took charge of organizing public and community libraries. However, due to an extremely difficult political climate often characterized by unrest, poverty and sometimes violence, this national library has not managed to achieve much in the way of preservation of documents. Indeed much has been completely lost altogether and even the building where they reside is itself not conducive to the protection of valuable items. On the other hand librarians are doing their best to start a digitisation project with the help of the Library of Congress and ICT is growing fast in Uganda with mobile service and internet connections now readily available in cities. The library provides connected computers and access to databases in order to try and foster information literacy (Mulindwa, 2010).

Africa aside, we can quickly examine a very old library, the national library of Brazil which actually resides not in the capital but in Rio de Janeiro. This library has a very interesting story, amongst other things because it is so very similar to the origins of European libraries. There were two catastrophes in Portugal, very close to each other that helped the establishment of the National library of Brazil. First there was an earthquake in 1755 which destroyed the private royal library. Having then been filled again with more volumes Portugal was then invaded and the King thought it best to move everyone and everything to a safer location, which turned out to be Rio de Janeiro. Initially the library could only be visited with a special permit, but after 1814 it was open to all researchers and scholars. It was recognized then as one of the biggest libraries in the world with over 60,000 volumes. When the King went back to Portugal he decided to leave most of the library in Brazil and soon enough the national library was created, with more and more collections being added (Cardozo, 1946).

In an overview of the national libraries of the world it is quite impossible to neglect one of the most important of the world and perhaps the best funded library. The Library of Congress is unique in its own way, having created its own collections from scratch and also its

own systems. The library of Congress is relatively old, having originated at the beginning of the nineteenth century thanks to Thomas Jefferson. He invested a lot of time and effort in this project and even prepared his own catalogue of desired material. The first librarians in charge of the Library of Congress were not chosen for their expertise in cataloguing but either through their connections or because of their political views. It worked both ways and many chief librarians were fired because they were not supporting the right party. During the war of Independence the British army burnt Washington and also 3,000 volumes of the newly funded library of Congress but actually the fire was not altogether negative for the national library. Before then it had been just one more interesting addition to the new country but after the burning it became a "cause célèbre" (Cole, 1979, p. 3). Jefferson, at the time in economic difficulties, also offered to sell his own private library to help with the enhancement of the collections. His library was full of foreign literature and this seemed to be a problem, but it was finally agreed to purchase it for a fee of 23,950 dollars. The library experienced yet more fires and more dismissals whilst also developing somewhat of a rivalry with the Smithsonian library. It finally opened the doors of the current building in 1897 and since then the Library of Congress has acquired ever greater importance, developing its own classification system and becoming a great example of a national library. It is now one of the biggest national libraries in existence.

The last library we will look at briefly is the National library of Australia. Australia is a new country and was relatively lucky in its history in that it did not have to go to war for its independence and had the resources and the people to become a wealthy nation. The National Library of Australia stemmed, like the Japanese national library, from the parliamentary library and it seems was always destined to achieve greatness. It was supposed to contain all knowledge pertaining to the new nation, about its colonization and the history of Australia and nearby countries. It was decided to base its model on the Library of Congress, which at the time was one of the best examples of national library. They could have used the British library but there was most probably the desire to distance themselves from their former motherland. Tiffen (2013) states that the establishment of the national library entailed a quest for legitimacy

as a nation because it is the proof that their cultural heritage is something worth collecting and preserving. Following the example of the Library of Congress meant that this was a national library in service of both the government and the people. They acquired many valuable collections such as E. A. Petherick's, which was rich in Australasian items and Cook's Endeavour journal which was probably the most important piece in their quest for identity. The developing of this particular national library was long and drawn out and even though they started at the beginning of the century it took almost thirty years before even being moved to the capital, Canberra. One interesting detail is that the library was always focused on their European past, that is to say there was almost no material related to the native aboriginal communities. Instead of looking to forge ties with their new land they kept going back to Europe, to ties they officially were very proud to have cut off. It was finally in the 50s and 60s that the national library took matters into their own hands and started developing training programmes and focusing on their collections. The Australian national library is now incredibly avant-guard and has a very good digitisation programme.

4. Critical Analysis

Looking at all these definitions we can probably come up with our own which can embrace most if not all ideas. A national library is the library representing its country, it is often funded by the government and open to the public. Its main duty is to acquire, store and preserve all material published in its own country and make it available for furthering knowledge. We must also add that published material today also includes digital material but this is another issue which we will focus upon later.

Since it seems almost impossible to give a definitive and universally accepted definition of national library, the next step to take is to explain what one actually does. It is a unique library which provides services different from all other libraries. National libraries are also different from each other and for this same reason they have different functions. There are some basic functions though which are common to most national libraries, or at least ones from Western countries. During the Manila symposium of 1964 it was agreed that the functions of a national library varied greatly due to the historical, cultural and geographical conditions of a country. There were some though which were common and could not be ignored by any national institution (Line, 1979, p. 48). The literature agrees on four main functions which are probably common to most national libraries and these are acquisitions, bibliography, services to readers and to provide leadership to other libraries.

Humphreys states that acquisitions is the one function which cannot be relegated. The aim of every national library is to collect, preserve and store all printed material from their country, although there are naturally some variations such as to the extent of their collections. Some libraries might just focus on the books published in their own country, others might cover non-print material such as films, audio and pictures. Still others may completely refuse to acquire foreign material because it would make it an impossible endeavour to uphold. Many European national libraries cover items such as engravings and coins whilst others have decided to leave manuscripts and older prints to archives or university libraries.

It seems clear the challenges that national libraries are facing nowadays are not all recent creations but have evolved over time. One of the main issues for example is the continuous budget cuts that governments keep approving. National libraries are grand institutions and not easy to maintain. They are in essence here to endure and to make sure the material they safeguard will endure and this requires an inordinate amount of money. Equally, if they do not want to be left behind by modernity they need to keep up with the pace of change in technology and this is also dependant to an extent upon the amount of money they are allocated. The first question for National libraries has always been how to choose what to store and what to discard and decisions such as these are never made lightly, although they are nonetheless necessary. There is no building big enough to store the knowledge of the world but with the help of new technologies and cooperation amongst libraries it might actually be possible, even if not as we first imagined it. National libraries need to open their eyes and embrace both the present and the future. Who are their main users? They are not lending libraries, patrons do not go there to borrow a book to take on holiday. Researchers, scholars, these are their main users and these are the people they should strive to satisfy. If there is a majority of scientists then it is time to focus on science. The amount of material published every year in these more practical subjects is staggering and it comes from all over the world. Cooperation is key to being able to satisfy users and making it possible to provide information of all kinds.

It is undeniable that national libraries live in two worlds. On one side they are the protectors of the past, on the other they are supposed to be modern and technological. When you have a definite budget how do you decide how to spend it? Should you focus on preservation and so the past or on acquiring new technologies and then the future? Every library is in some way different but all need to make choices and these two issues could in some ways be joined and one could solve the other. Manuscripts are extremely valuable and precious to national libraries. They are a badge of honour and something to be proud of and so they cannot be neglected. On the other hand no national library wants to be accused of letting technology leave them behind and of not taking full advantage of them. They are the *keepers* of information and information now comes in various and different forms. If they digitised the rarest example and made them available to the public they would probably manage to kill two birds with one stone. There will always be the book lover who wants to see the incunabula with their own eyes but all scholars could easily consult them online, not affecting their life span.

National libraries are faced with tough choices and they need to find a way to achieve as much as possible with the little they are given. They should take advantage of their unique capabilities and use them. It is true they are a public institution but this should not stop them from charging money for some of the extremely unique services they provide. Information nowadays is a commodity and if they do not manage to keep up there will always be private companies which will try to take their place. Everyone should have access to a national library but it is not fair to expect everything for free - it would make it impossible for them to survive. With a combination of better business strategies, cooperation and use of technology there is no reason why national libraries cannot enter the future proudly.

It is a process of continuity. Older issues simply do not disappear, but while new ways to overcome these challenges are discovered more simply keep cropping up. Over fifty years ago Francis admitted the impossibility of collecting all the knowledge of the world in once place but today it almost seems possible. One building will not contain it all but servers, clouds and

online facilities can. Digital libraries do exist already and there is plenty of material which is published only electronically. It is also true that national libraries are a very particular institution. Unlike public libraries they do not base their choices predominantly on popularity and users' demands. They have a very specific duty which needs to be fulfilled and there are materials which can only be found in national libraries such as rare pamphlets, out of print items and barely known authors. It might be that no one in fact will ever request them but if they fulfil the criteria upon which the principles of said national library is based then it is a duty to collect, store and preserve them. For a long time material from the fields of science and technology for example were neglected because literature was supposedly the only writing worthy of conservation. The situation has not completely changed, as most people hardly read a physics treatise for pleasure apart from physicists mostly, but the material published in these subjects has just as much importance if not more. While literature can give us happiness, pleasure, wisdom and knowledge science can literally keep us alive and it is a time-sensitive subject. If national libraries do not want to be left behind they need to take advantage of technology and the talent they have within their staff. The qualified personnel of a national library is extremely used to dealing with information, providing quality and referenced sources and it would be a shame not to use this for their own benefit. There is no reason why scholars and researchers need to go to private enterprises when a national library can do the job perfectly well. If we look at database providers we can deduce that science and technology are the way to go. It is not to say literature should be neglected but more practical subjects could be turned into revenue streams or at the very least prove the importance and necessity of a national library to government and non-users alike.

4.1 The importance of technology

We also want to highlight how important it is that libraries learn to rely on technology. Line (2006) told us how forty years ago it was a struggle to introduce automation, but there are still instances where scholars see technology - not computers but online resources - as the enemy. Yet they are not the enemy and moreover can become a helpful tool. We do not need

to fear for example Google and the like since they will never be able to provide the same material as libraries. National libraries especially should have nothing to fear as much of the material they preserve is unique both in form and also in content. Old manuscripts have value because of their history. It may be possible to find the text online but some material lovers will need to see the real thing. Digital libraries can help in spreading the word about rarer and less known items and also offer the users who cannot reach a national library easily the pleasure of experiencing something unique. National libraries do also represent their country but this on its own is not a good enough reason to survive anymore, so they need to start acting much more pro-actively and becoming more approachable.

The world has evolved over the last three thousand years and there are many details we have lost about the life of so long ago. A piece of literature is not necessarily the only important item needing to be preserved. Shopping lists from Socrates' time may be just as important for example, since they can give us an invaluable insight into the life of a housewife of Ancient Greece. For a long time this kind of information has been neglected, giving way first to art and humanities and then to science. It is true there was only limited space and choices needed to be made but hopefully, thanks to digitisation and digital preservation it will be possible to save all kinds of information which may seem irrelevant to us now, but which will surely be extremely interesting in one hundred years. Orera (2000) is right when he says that collecting without allowing anyone to enjoy the treasures we are preserving does not make sense and he agrees that microfilming and mass digitisation seem to be the only solutions at the moment. One national library cannot do this by itself and real and effective digital preservation will be achievable only through cooperation.

The last part of this analysis will cover the three national libraries which have been studied more deeply. The Spanish, French and Italian national library all share similar origins with the Biblioteca Nacional de España and the French Bibliothèque originating from royal libraries and the Biblioteca nazionale from a private collection. It has already been possible to see in the overview of national libraries of the world how the challenges are quite similar. The

main difference is the funding that these libraries receive. It is obvious that the national library of Uganda will have different challenges and priorities compared to the French national library for example but if taken individually they are all heading towards the same future - technology or oblivion.

The first library to analyse is the Spanish national library, followed by Italy and France. It has already been explained the reasoning behind the choice of these three national institutions so it is now time to look at their actual work and organisation.

4.2 La Biblioteca Nacional de España

The first European library we are going to examine is the Biblioteca Nacional de Madrid and its history is quite traditional. It originated from Felipe V' private library and it was therefore in theory a royal library. Felipe V was convinced however that books could change the life of his people and he decided to allow the public to use his own private library – it was thus seen as a "public library", one of the first in Spain. The original library opened then in 1711 and only four years later, in 1716 Felipe V issued a decree stating that every printer should deposit a copy of everything that was printed in Spain. This decree would not be replaced until 2011 and this latest law states that everything, be it books or websites, needs to have a copy submitted to the national library. Even if it was not created to be a national library, it soon enough acquired some of its most important functions but it was not until 1836 though that the Biblioteca Nacional acquired its status of national library. Over the years the library bought and received more and more collections and became one of the most respected national libraries in the world. During the XIX century it acquired a considerable amount of material from religious sites such as convents and cathedrals and also military orders. It is also in these years that collections from scholars and bibliophiles were received and all this went to increase the already substantial collection. This particular national library is not only interested in collecting Spanish material but also items published outside of the country but written in their language. They

have close ties with South America and also with neighbouring countries.

The Spanish national library firmly believes it has two main duties. On one hand it needs to preserve and store all kinds of material printed in Spain, in Spanish and about Spanish issues. On the other hand it sees as just as important the spreading of this knowledge. The Biblioteca Nacional is not only a warehouse of books, it wants to be actively involved in the knowledge market and diffusion and to do this it needs to lure more and more users. It wants to be approachable and a place where scholars and researchers go to find information. The diffusion of Hispanism is probably their number one priority.

The library is now connected to the Ministry of Culture and its collections are made up of over 26 million works. They range from printed books to maps, from manuscripts to videos and of course electronic material.

The Biblioteca Nacional has always understood the importance of both science and technology. It is important to them to actively help in scientific research and they firmly believe in the embracing of technology because they realise that the only way to move forward is to be open to change. Still, it is undeniable that humanities have always had a special place in national libraries and this is clearly noted in the royal decree 1638/2009 which states amongst the functions of the Biblioteca Nacional the need to support research, especially research focused on arts and humanities (Carta de Servicios, 2014-2017).

The library is an organic being which keeps acquiring new material, growing and changing. There are two different funds available to librarians: one is used to buy new modern material which is not covered by the legal deposit, such as photos, music pieces and magazines. The second fund is instead dedicated to increment their already quite extensive collection by acquiring material printed before 1958. In this category we may include manuscripts, Jewish material connected to Spain, books written in other languages by Spanish authors or about Spain and also ephemera such as labels for example. Finally they are very strict about their acquisition policy. No fictional or literary works by foreign authors can be admitted because

they would not reflect their ethos. As mentioned earlier national libraries are incredibly pressed finding space and that is why their acquisition policies are extremely strict.

This particular national library is extremely interested in attracting more users, both online and in person. The majority of patrons are adults between 25 and 44 which equates to 53.9%, whilst the age group 44-65 is surprisingly barely over 20%. Additionally, even though national libraries are increasingly trying harder to be more approachable and embrace technology, most visitors come from nearby areas, with 86% from Madrid. Finally, over half of the users are focused on humanities even though the Biblioteca Nacional is strongly trying to support science and technology and only 7% of users are there because of science and technology studies. The results from the presence on the web are quite similar apart from regarding the provenance of people. Madrid still holds the majority but with only just over 50%, while there is an interesting 18.57% from *other* locations, possibly less popular regions or international areas.

Automation and technology have definitely been accepted in the National Library of Spain. They have various online catalogues, a digital library and users can interact with the library quite easily through a computer. More and more users visit the library online with over a 14% difference between 2013 and 2014 (2014 Memoria) and a difference of over 21% in the number of documents downloaded from the digital library. 2014 was an extremely progressive year for technology at the BNE. Pandora 4 was installed to deal with the digital material and the Hemeroteca Digital is finally active, making it possible to find all kinds of periodicals. More and more computers and hotspots are available in the library and security is also tightening. BNE also has a document supply service and now over half of the material is supplied electronically. There are two main groups which request items and these are users and other libraries. This particular national library is mainly a supplier, to over 38 countries all over the world (Albelda, 2010).

The Spanish national library has very good preservation policies in place but one of its

main focuses at the moment is the process of digitisation they are performing called the Biblioteca Digital Hispanica. The number of visits is continuously increasing, going from around 64,000 in January 2015 to over 80,000 by June of the same year. The digitised material is also growing quickly in numbers having reached almost 170,000 digitised items in June 2015. Amongst the most popular works we have a musical manuscript, various editions of El Ingenioso Hidalgo Don Quixote de la Mancha and a book about lineage and coats of arms. BNE has also entered in partnership with Telefonica, one of the biggest media and communications companies in the world, in order to speed up the digitisation process.

It is quite clear that the BNE has fully embraced the future and is eager to adapt to this new technological world. They are trying to take advantage of everything science and technology can offer in order to become more popular and ultimately indispensable. Del Corral (2010) admits that this seems the one way to not be left behind.

4.3 La Biblioteca Nazionale di Firenze (Italy)

The history of a country shapes its culture and also influences the way they deal with culture. Libraries in Italy have never been as popular as in other countries, especially public libraries and they have never been very cooperative either. Italy was a country made up of many different kingdoms until 1861 and over one hundred and fifty years have not been enough in changing their mentality. Every country which has a national library on their soil usually has one and only one. The functions may vary as we have seen but there is one example of national library per country. Italy is different in that there are two "national" libraries as well as roughly six more central libraries, mainly in every large or historically important Italian city. So what does this tell us? That Italians cannot even agree on one national library? It is somewhat impractical here to analyse every central library in Italy and it was necessary to make a choice. We decided to go for the national library of Florence just for the reason that it is the older of the two. La biblioteca nazionale of Florence started as a private library owned by Antonio Magliabechi, who decided to donate his thirty thousand books to the city of Florence in 1714. In 1737 the first

form of legal deposit was established which first applied to every book printed in Florence and then to those in the Grand Duchy of Tuscany. It first opened its doors to the public in 1747. Over the years more and more collections were added until it became the biggest library in Italy. From 1869 legal deposit was extended to the whole country and the Biblioteca nazionale became the national library while the one in Rome acquired the title of "central". Incidentally, this particular library experienced a particularly terrible event in the 1960's, as during a period of heavy rain it was flooded - the building being incredibly close to the river Arno. The damage was extensive with most of the original material lost or greatly damaged, amounting to around one million volumes lost (Mitchell, 1967). Amongst the collections victims of this natural disaster there was the Palatine collection and ephemera. The librarians did their best to bring the library back to its past grandiose collection but administrative conflict brought the resignation of Casamassima, who was the library director at the time. All this is quintessentially Italian, where bureaucracy tends to be slow and muddled (Di Renzo, 2011). All in all the collections are quite impressive with over six and a half million printed items, 120,000 periodicals, 4,000 incunabula and 25,000 manuscripts.

Notwithstanding its history the Biblioteca Nazionale of Florence has some amazing material and it is a good representative of its country. Since their experience with disaster they have developed an incredibly complex preservation plan, trying to take into consideration all kinds of natural events from earthquakes to tornadoes and of course flooding. As said previously the fact the library building is extremely close to the river does not help the situation. They have highlighted all the different stages of preservation, from the order of importance in which the material needs to be saved to the subsequent steps such as first aid, how to handle the items and how to dry them. Luckily not many national libraries have gone through such a huge tragedy but it is commendable that the Florentine national library has developed such an efficient plan (Piano di Emergenza per il salvataggio delle Collezioni).

The Italian library system was quite slow when it came to taking up automation. Most western countries started embracing technology in the seventies but Italy in the eighties was

still in its "pioneering stage". It did manage to catch up in the end and established the SBN, Sistema Bibliotecario Nazionale, which had as its aims the presence of automation in every Italian library and to achieve the creation of a network - or at least some kind of cooperation - between the many different libraries. This helped both with getting funding and attention and soon enough it covered both big and small libraries. So Italian libraries can choose to either join SBN which will provide software packages almost for free or stay out of it and make their own decisions. Both the national library of Florence and the central library of Rome are part of SBN but lately more and more libraries are opting out. What librarians are really working towards is a network which would link all the many different kinds of libraries present in Italy and would make them much more efficient (Giordano, 2002).

The idea of a national digital library was stimulated by the Ministry for Cultural affairs which really wanted something which would connect different sectors such as museums and libraries and private and public. The Biblioteca Nazionale of Florence does have its own digital library with quite a lot of material available online such as manuscripts and images. Unfortunately most of the material is only accessible from inside the building itself for copyright reasons. This slightly defies the idea of making the library more approachable because only users who are within relatively short distances can actually easily go there. Additionally, there are also other kinds of digital initiatives such as the Biblioteca Telematica Italiana which is mainly operated by universities libraries. From the literature it is clear to see that Italy has a very fragmented library system, with the great majority of libraries in Northern and Central Italy. The presence of so many national and central libraries does not help the advance of technology and practicality because cooperation amongst the libraries is not certain.

As said previously the national library of Florence has always given priority to literature. Tuscany is after all the crib of the Italian language and the birthplace of Dante Alighieri, so it stands to reason that cooperation would help in bringing science and technology to a higher place than where they stand now. These are the subjects that are changing and evolving and keeping up with them is not as straightforward as buying a literature book. It takes effort,

training and funding but all this could be achieved more easily through cooperation.

4.4 La Bibliothèque Nationale de France

The last library we will be looking at is one of the most famous and most ancient libraries in the world. Much literature has been written about it but we will only briefly focus on the way it has managed to overcome its challenge before discussing its various projects of cooperation, both national and international. The French national library is probably the oldest national library in the world and originates, as many other European libraries, from a royal library. It was around a thousand years ago that Charles V decided that he needed his own private library and since then successive kings of France kept adding to it until in the eighteenth century it became the biggest national library in the world. France also was one of the first countries to have an initial draft of legal deposit law, when King Francis stated that a copy of ever book printed in the country needed to be deposited at its library of Blois.

In 1719 Bignon became librarian and completely revolutionised the structure of the library, establishing different departments and increasing the collections and it was during this time that the main library of France was the biggest one in the world. Even though the French revolution was a period of unrest and confusion and the legal deposit was suspended the national library incredibly benefited from it. France became a secular country and also a republic and so the people then in charge confiscated books from cathedrals and monasteries, old aristocracy libraries and even Marie Antoinette's private library. Once France became a republic the national library also acquired new values. Reclus (1927) firmly believed that it should reflect the new democracy that had sprouted in France and its role was to provide knowledge to all classes of society (Greenberg, 2007). Evermore items were therefore added to the already massive collections of the library and one of their main problems has always been storage space. They used to house books both in the Louvre and Versailles until they built a completely new building. In 1988 Mitterrand stated it was time to build more and the new version of the national French library welcomed its first visitors in 1998 in the area of Tolbiac.

France has a long and proud history and its national library perfectly reflects this. Even though it was for a time the biggest library in the world it is still facing the same challenges as many others. As mentioned lack of storage space was one of their main issues and was solved with the new building in Tolbiac. As a result the national library is now split in two. On the bottom there is the traditional national library with over 12 million books and three hundred thousand periodicals while the top half of the building will be left for future acquisitions and will only be open to researchers. Technologically speaking Bibliothèque de France has been very modern and accepting of all kinds of new gadgets. It has always been renowned for their focus on French literature and history but it is now time to open to the physical sciences and also economics too. There is a whole department dedicated to these two subjects and it is possible to get access to scientific thesis, scientific texts and foreign scientific literature. The public wants this kind of information, it is much in demand and the national library cannot disappoint its users. In the past there were many different catalogues, created by different librarians and applied to different collections. Now it is possible to access the online general catalogue and search for any kind of material with one simple click.

The National Library of France wants to be a modern library with many different kinds of users. This has definitely brought problems to one of the biggest issues librarians have to face which is book preservation. Before, apart from fear of natural disaster, the main worry was the handling of items. Nowadays the number of users has increased dramatically and it would be counter-productive to close the library to the public. Furthermore, different kinds of media are even more delicate than manuscripts and prints and it is hard to keep everything in top notch condition. The only way to go is preservation instead of restoration. Librarians are working hard at avoiding damage to their treasure instead of fixing it (Favier and Dedios, 1996). The French national library dedicates a huge chunk of their budget to the preservation of the items in their care. There are four different angles to this process. The first one and the one they are striving to apply as much as possible is pre-emptive preservation which entails protecting the items from damage in order to avoid restoration altogether. This can be achieved by bettering the

climate conditions of the storage areas, with surveillance in both storage areas and reading rooms in order to avoid mishaps and mechanical bookbinding. The second stage, if the first one has failed or arrived too late, is mass digitisation and de-acidification. In 2005 over seven thousand items need to be de-acidified. Failing these, restoration is the next step if all else fails. There are specialised departments which only look after the restoration of books, especially because the Bibliothèque de France has many very valuable items. Finally they obviously have in place a very efficient preservation plan which may include disinfection and even academic studies about physical chemistry.

As most western national libraries the Bibliothèque has also started a digitisation process and has established a digital library called Gallica. This proved extremely popular and between 2002 and 2005 the number of consulted documents tripled. As with the Italian digital library there is a set of documents which can be looked up from anywhere in the world and others which can only be accessed from the French national library itself, for copyright reasons.

Bloch (1993) is convinced that we are now at the threshold of change for libraries. He compares it to the time we went from clay tablets to scrolls and from manuscripts to printed books. We should be able to look at the new technologies in existence and think of them just as new ways of expressing knowledge and information. Libraries have always been the primary places where these changes were felt and now is not the time to stay in the shadows, since it could mean extinction. The book in itself will never go out of fashion but even now the formats available are many more. We have e-books to be read on readers and born digital material which will maybe never be printed. Just like the common man needs to get used to these new versions of knowledge it is even more important for the libraries to do so. Hopefully the digital library will be able to make knowledge available to everyone and also make it more likely to have a more encyclopaedic kind of knowledge which covers all different subjects from literature to science. This is exactly what the Bibliothèque Nationale has tried to achieve through their embracing of technology. Bloch and Hesse (1993) state that unlike the United States, France has always been uneven in its distribution of knowledge but the electronic library

can change all this.

5. Conclusions and recommendations

Through looking at the websites it is clear that they share the issues mentioned earlier in this paper and in some ways they have managed to overcome some of them or are at least working towards it. They each made their choices in focusing primarily on their own literature, even if both the French and the Spanish library are symbols not only for their own countries but also the rest of the Spanish speaking and francophone world. Science and technology took second place next to humanities but this is now changing with all three national libraries trying their best to attract a more diverse array of users instead of the usual literature scholars.

Technology is now present everywhere. Most western libraries rely on it nowadays and take advantage of the newest services. Italy was slightly behind compared to the others but they definitely make use of the latest systems, as much as budgets allow of course. Preservation is one of the key priorities for all three national libraries, from the disaster of the library of Florence to top notch preservation plans in place in Paris. Finally the last issue we have analysed is digitisation. It is an issue in that it is new and can be very expensive but on the whole it is a positive aspect of this new world of science. Almost every library has a digitisation process going on and the material present is varied from scanned old and valuable manuscripts to thesis and dissertations (Hollender, 2007). Digitizing material is the only way to go forward,

to contain all the knowledge we have today and to make it accessible to as many users as possible. In reality the digitisation projects which exist today are probably just the starting point for much more to come. Most of the projects in fact mainly provide bibliographical records. In truth there are also documents which can be read and images that can be appreciated but we are still quite far from the mass digitisation everyone is talking about. Google is working hard on it but this humongous company has the resources and a budget which is not influenced by the financial crisis we are going through at the moment. Some libraries are working in conjunction with Google and other private enterprises because it is almost impossible to tackle such a project alone.

There is one other avenue which national libraries can take to survive. It is strictly connected to digitisation and it is cooperation. Cooperation can help libraries achieve aims which otherwise would be completely out of their reach. Working together means they not only have a more varied array of material but perhaps more importantly means sharing the costs and the research. There are various example which show that national libraries are already walking down this road. The BNE has many different projects both national and international. One of them is the BDPI, Biblioteca Digital del Patrimonio Iberoamericano.

As mentioned the Spanish national library is interested in everything which has a connection with Spain or written in Spanish. Since the Spanish language is very widespread in South America it seemed reasonable to work together to achieve more. Brazil and Portugal, Portuguese speaking countries are also part of this project, which has as its main aim to spread knowledge about the culture of Spanish speaking countries around the world. It is important to have the material out there in as many ways as possible because users should not need to tire themselves out in their search for information. We need to provide as many avenues as possible. The same is true for the Bibliothèque, which is also very interested in protecting the French language and heritage across the world. They came up with the French Speaking Digital Library which includes countries such as Belgium, Switzerland and Canada. The focus is on "press digitisation" and provides free access.

Another instance is the World Digital Library, a project started by the US where various national libraries provide the most denotative works of their literature such as Don Quixote for Spain. The aim is the same, making knowledge as accessible as possible and creating more ways to attract increasing numbers of users. One of the biggest projects is Europeana, in which museums, archives and libraries have all participated. Over 2000 European institutions have joined in this massive endeavour and they have reached 23 million items (Foltyn, 2009). Different mini-projects have been initiated such as Europeana 1914-1914 in which both the Biblioteca Nazionale of Florence and the French national library have played an important role. It was created to remember the centenary of the beginning of World War One and every institution provided material in order to show two sides of the medal, the winners and the losers, the initiators and the allies. It is quite unique as a project because it focuses on ordinary history, day-to-day life of both soldiers and the people at home. The idea was to attract a variety of users, not just scholars.

These libraries give us a perfect example of what a national institution should do. They are all working towards bettering themselves, both technologically and in trying to attract more users. They are trying hard to work together because they have realised that alone they cannot handle the amount of information which is produced today, every day. Cousins (2006) tell us about the European library, a project initiated by the European Union which includes most of the European national libraries. It provides millions of items but the issue is always digitisation. This technical process takes time and money and in this day and age the money funnelled into culture is becoming less and less. That is why that whilst there are already many digitised items, the majority is still made up of bibliographic records. Still it is a step forward. They are trying to tell people what libraries have in their possession and where to find determined items. Knowledge should not be just for a small amount of elected people. It should be open and available to everyone and digitisation and cooperation might make the difference, open people's minds and together change their futures.

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