

Which knowledge had to be lost?

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New preservation strategies for the cultural heritage of the post-industrial societies

Our history-less time

Our ancestors will not know much about what happened in recent years - a time in which the Age of Information has come into being. New media and new conditions have changed antiquarian work. The work methods that have been used up until now at museums, historical archives and libraries will only to a limited extent guarantee that there is historical material for review in the future.

This is a terrible catastrophe for society. For the first time in humanity's recent history quite a bit of our cultural heritage has not been archived and saved. Posterity will therefore lack important information, whether for use in science or for people's curiosity about their history. This is a type of memory loss that will always be associated with the transition from industrial society to information society. Today there is a hole in society's knowledge, that is getting bigger by the moment.

Preserving the present

Up until now the main emphasis of antiquarian work has been on 'Preserving the Past'. Museums typically received tools from heirs to deceased workmen. The historical archives got registers and papers when the local

factory was closed down. At the same time, certain select buildings have been preserved and allowed to remain. In short, up until now cultural workers have been able to take their pick from a variety of antiquities.

That time has now passed. For various reasons, we must now direct preservation work towards the present with the possibilities and complications this involves.

Short life-span

In the last century, the trend has been towards a consistently shorter and shorter life-span for material goods. This is a little paradoxical, considering that we have never been able to produce such durable and good products, but that's the way it is now. Whereas a machine in the beginning of the 1900s could maybe last 25-30 years, a machine today is outdated within 5 years. In certain areas of IT the ageing can even be under a year.¹

Whereas culture workers once could casually choose among almost all historical relics, the situation is now totally different. They now have to

¹ In my book 'Historiens lange tråd', written on the basis of one of the only complete records of machines in this country going back as far as 1898, I have outlined the wave-like pattern of acquisition for a manufacturing company. At first the waves came in intervals of 25 years, then 10, and after WW2 at ever decreasing intervals. See p. 142 and 220.

constantly be aware of where the changes in these years, months or maybe even weeks occur, to be able to go in on a rescue mission. Because when changes occur so often, the current unused cultural elements are no longer saved. And knowledge about the previous conditions is forgotten in order to make place for new knowledge and organisation.

Complicated systems

The old workplace in the backyard, that all children of the city knew, is now just history. Everyday transparency is today replaced by fence-enclosed fortress-looking buildings, barbed-wire and monitoring. This applies to production, but increasingly also to administrative service, companies such as bankers and insurance companies. Inside the conditions have not become easier to understand. Specialisation means that people work together in a complicated web of relations. The finished product is quite possibly only a half-product. The company is seldom an independent national entity, but is often a part of a world-wide consortium of indefinable nationality. It appears that society's organisations in this way are moving towards a steadily bigger content of knowledge while the physical conditions, 'iron and brick', have less significance. Only a few areas such as kindergartens and to some extent nursing homes are exempt from these drastic changes. It would be completely impossible to gain an overview of these complicated systems 50 years after they have existed. For this reason more and more cultural historical museums and some

historical archives are documenting the systems, while they exist. They are photographed, measured, people are interviewed, and one can collect physical objects after one has received the necessary knowledge.

The storage media has become fragile

To maintain information in historical context a medium is used. The norm has been words, that have been preserved as writing on the paper medium. In the same way information is saved on an constantly increasing number of media such as gramophone records, film shreds, magnetic tapes, CDs etc.

Paper can under just decent preservation conditions exist for many centuries, while the new media are much more sensitive. The magnetic media are the most sensitive, because an individual magnetic pulse can destroy information with lightning speed. By and large all of today's media age quickly, if preservation doesn't happen under very optimal conditions with regard to light, air humidity and temperature. Just one lost bit sometimes means that all further information in the media can no longer be used.

Consequently the historical archives have to collect while the media is still fresh and complete. Thereafter they can get better preservation conditions. If it is magnetic media, they can be refreshed, thereby extending their lifetime exponentially. For the majority of the media the information can be transferred to new and better media, as the ageing problems approach.

Technological ageing of new media

The worst danger with regards to the loss of information has revealed itself to be the rapid technological development, where new and better media replace each other. Especially the digital media are problematic. 10 years ago everyone used 5½" floppy-disks to save files on their personal computers. Today few can read this media, as the disk-drive was replaced a long time ago with a better one. In the same way, the computer has been exchanged, as well as both the operating system and the software, that is a pre-condition for being able to read information on the media.

The problem can be solved by a conversion,² where the file from the outdated program must be converted to a file that a newer program can read. From time to time it is impossible to avoid losing a part of the information stored on the medium. There are unfortunately also some programs where it is not possible to transfer information over to a new program. This applies to the widespread spreadsheet programmes (with macros and dynamic references), graphic CAD CAM drawing programmes and the geographic GIS-systems, but the list is much longer. A related job is to transfer information to new operating systems and hardware platforms. And the copies must be made

² A long list of jargon has come into being in the field of digital data conservation. Some of these are covered in: Genevieve Clavel-Marrin: "NEDLIP List of Terms". NEDLIB Raport Series 7, Amsterdam/The Hague 2000.

for new media as well. Given the technological development at this very moment in time, it is a process that must be carried out every 5 years.

Storage media can perhaps endure for a longer period, but we can not be sure if the reading device and its computer also function in 20 years – no one will be able to deliver spare parts. We also can't be sure that there will be people with knowledge about operating the equipment.

The field is developing into a discipline unto itself. For the technically interested it is an exciting area; for the unknowing it is often nonsense.

To complete the picture of a resource craving process means that the so-called meta-data (information about information) must be included.³

Information from a diskette's label must also be able to be found, when many diskettes are saved on a CD.

Consequences of real-time gathering of information

We must face the fact that we have little choice but to gather information almost as it is written. But doing so means that there will be many wide-ranging

³ Attempts have been made at developing standards for meta data, so that international minimum requirements can be adhered to. One such attempt is described in Catherine Lupovici and Julien Masanès: "Metadata for the Long Term Preservation of Electronic Publications." NEDLIB Report Series 2, The Hague 2000.

consequences in all areas. It is a paradigm shift for the entire sector working with cultural heritage. The information must be collected directly from its source, and often that information is still being used from time to time. If it had been archives in paper form, then it was typically papers, that lay in the near archive.

In contrast to papers it is realistic to be able to copy the new media for the historical archive, while the donor still holds the original. In this way the new digital media makes delivery/copy possible.

Collection in real-time in this way is not so much a technical problem, as it is a series of humanitarian and psychological challenges due to the new collection method. Several such challenges are mentioned in the following.

Regulation - copyright and registration rules

In the course of recent decades there has developed a very stringent set of rules about copyright. Where there previously had been a European understanding of an artistic property right, with quite free possibilities, the area has narrowed due to protection of private persons and to introduction of a more American oriented copyright law, where the goal is a protection of commercial rights rather than the creator's interests.

Unfortunately this also means, that much material within a certain number of years cannot be used for dissemination. Here the talk is about different degrees of protection, where

serious researchers - of course after applying - can get access.

One could however imagine the possibility of a kind of expropriation of information with a high degree of value for the society, in keeping with rules in Denmark that important cultural artefacts may not be exported and have to remain available in Denmark.

Private life, value and competition

From hard law to softer, there are certainly a lot of feelings including the human feeling of ownership about their information. For good reasons the deceased workman could not complain that his inheritors left his records to the local archive. Material of this kind has different significance of course if the donor is still living. The potential donor might be interested in avoiding showing the authorities that there has been tax evasion or breach of other laws. The most personal information, experience shows, is the most difficult for archives to get a hold of. Their rarity means that a special effort has to be made to persuade people to hand them in.

The receiving institutions must radiate solidity to the extent that potential donors count on the fact that only authorised persons can gain access. The fact that information still occasionally has value for a company shouldn't hinder its being copied. The company doesn't lose anything, and it is therefore not relevant to consider compensation. The assumption is still that the mentioned protection works. Information is often found about products and market conditions, the companies do not wish their competitors to know about.

No nostalgia

Heirs that give presents to museums or archives have various motives for giving. It is often a diffuse mixture of many conditions, that I will shorten to 'nostalgia'. One wishes to honour and remembers the deceased person or the city's most important company; one has respect for those things that have been produced; there is a psychological desire to go back in time to the golden but now lost childhood, etc.

There is however no nostalgia for current material, which is an impediment. Not only have most of the objects and records in the country's museums and archives been given as presents, but also when institutions actively contact people with the hope of obtaining inheritance, there are elements of this nostalgia which make such inheritance possible.

It is difficult to illicit the same understanding in potential donors. When that understanding must happen through a rational understanding of a potential value for the future.⁴

⁴ The road on which objects travel from being in use to being in a museum is long and laden with emotions and value judgements. Pierre Bordeu is among those who have given thought to the process of being new and valuable to their owners to being old and discarded to finally becoming valuable again, this time as antiques (Pierre Bourdieu and Y. Delsaut: "Le couturier et sa griffe: contribution à une théorie de la magie." In: Actes de la recherche en sciences sociales, I, No 1, 1975. Swedish edition: Modeskaparen. i: Kultursociologiska texter. Stockholm 1986).

Gatherer's missing distance

The same relationship exists within the receiving institutions. Professionals at such institutions are perhaps not driven by completely the same nostalgic feelings that amateurs are, but one mustn't overlook the fact that their 'love' for their area of expertise is the driving force behind their personal effort.

In the same way, this 'love' can be reduced when there is no time gap in the making of the material. Even worse are the professional complications which arise when information gatherers don't have the same intuitive feeling for the material's worth. It is difficult to predict, what the future will demand of information. Cultural affairs employees are by virtue of their experience quite good at determining the value of material, when it is old; here one has the intuition for value. It is not perfect, but often gives results.

Without the time difference one has nothing to go by. One can for example look at photographs, and see that they show the queen and other well-known persons. 20 years later the interest in the famous persons has perhaps paled, but on the other hand one can see that the dress and hairstyle has changed. The photographs have suddenly become valuable sources to completing other cultural historical problems. It was difficult to foresee.

Selection becomes a totally new discipline, that must be practised at by the active collectors. The information

A very good discussion of this subject in Danish can be found in Lene Floris og Annette Vasström: "På museum", Roskilde 1999.

gatherers must be aware of the fact that their own person and cultural glasses influence the way they perceive reality. The so-called reflective method becomes an important discipline in the on-going discussion of goals and means.

It must also give occasion for continued discussions of goals and means. The results obtained must constantly be debated. We have been warned by examples from earlier periods in cultural life, where a Kafka or van Gogh was not recognised by their contemporaries.

Political and societal complications

One cannot continue 'business as usual'. When circumstances change, the political conditions change accordingly.

Previous collectors of cultural heritage have had it fairly easy. They collected paintings, objects and first editions of books, which they with visible pride were able to exhibit. As the donor's collection grew in size, it often laid the foundation for a public collection.

Guggenheim is only one of the many collectors, who is celebrated together with the museum, they have laid the foundation for. There are actually very few museums that have not been created on the basis of one or more private collections.

The time has now past. One can't in the same way be happy about collected web-pages from the Internet or databases from the country's telephone numbers. The obtained results are neither impressive in range nor form. A climate controlled archive room with media doesn't illicit a lot of interest. At

the most they end up as numbers in annual report about collected numbers of Mega, Giga, and Terrabytes or Peta something few people understand or at least sense the importance of.

And furthermore the work has become a job for specialists. One must completely master concepts such as 'migration', 'intranet' and 'convergence', and as changes in technology occur, one must also master new directions.

In the future the technology will have a big influence. The new archives will have a completely new "weight" structure, with regard to the professionally educated people and IT-experts. That is to say that the leader of a museum of art could previously immediately understand and interpret the museum's paintings while conservators and other technical personnel functioned in quite subordinate roles. But from now on the roles of the educated historians as leaders of a digital archive and the necessary technicians will be distributed in completely different ways with a different sense of importance and "weight", as it were.

The lack of common understanding will also determine the political support. Even though researchers are able to give speeches about how important preservation is, a few important dimensions will be lacking, that until now have been important in matters of cultural heritage. The common understanding and support will be limited. In addition the new media – just as the newest history on the whole – will be international. In this way history will lack that support, which otherwise politicians on the right side of the

political system have given, because history until recently has strengthened the national identity. When history becomes international, nationalist's support will diminish, and so will the economic possibilities. Of course the above mentioned conditions must of course not stop us from creating that which we believe society in the long run will benefit from. But we must be prepared to enter into a continued legitimisation of history's basic needs and values.

Case - about garbage depots

What should not be saved? We all agree that we must preserve our 'cultural heritage', and we are all delighted when politicians give their support to cultural life. It is in the meantime more problematic when cultural workers in practice must be concrete and formulate a goal.⁵ We

⁵ "Kulturarven" is an expression that is borrowed from Swedish where it is used synonymously with the English term "cultural heritage". The term first appeared in the Danish Law of Museums in 1984 and has since been used consistently to denote the things that museums have to care for. The term has been widely debated in museum circles and criticised for being far too vague. In Sweden, Stefan Bohmann (in: "Historia, museer och nationalism". 1997) has written on the subject. He shows how the word can be used positively to describe good things that should be saved, instead of negatively to describe less good things that should be discarded.

can't save everything, pure and simple. For this reason we must decide on a strategy about which information must be saved. The rest is irretrievably lost. First a case about garbage depots and principles for preservation: When the industrial society was young, it was a good sign to see coal smoke from the factory's chimneys. All signs of yesterday's blossoming companies displayed the smoke fan from the company's chimney to signal that there was fire in the boiler and were turning the wheels.

No one thought that there could be consequences. A "ticking" environmental bomb appeared in Denmark, which began to be noticed in the middle of the 1970's and since the 1980's led to a series of laws aimed at pollution. One now had to find around 14.000 polluted localities, which threatened the ground water in the vicinity of drills. Poisoning of residents was a possibility, as residential areas, kindergartens, and playgrounds were discovered to be built on piled-up poison.

The poison had to be removed, it was decided, but where were these many

The term "heritage" and its implications has been discussed in English by e.g. Robert Hewison: "The Heritage Industry", London 1987 and by Kenneth Hudson "What I think of as my Heritage." i: Nordisk Museologi 1998.

In Danish, a very good discussion of this subject can be found in Lene Floris og Annette Vasström: "På museum", Roskilde 1999.

garbage depots precisely? This was the question, which the authorities had to ask, when the problem was acknowledged.

It turned out that no one had surveyed this society-created danger, which was one of the very great threats against our society's existence in both the short and long term.

Since then a lot of work has been done to localise these depots. There was no register to look up. All means to reconstruct the possible localities for pollution had to be used. It would have been impossible to make earth tests over the whole land. One had to have something to start with.

In the work participated also a long row of historians, who have worked for counties and Copenhagen's local authority by thoroughly searching through the small amount of information, that was preserved from 1800 and 1900.

The point of this story is that information about garbage depots existed at one time. It was written down in the company's internal archives, given further to truck drivers and architects, production people registered the materials that were used etc. No one in the country's antiquarian institutions however was of the opinion that this information was worth saving.

This very relevant example – which on all accounts it must be, given that it is society's existence that is at stake – shows that the antiquarian work has failed. It also proves that a policy of collection wouldn't have been sufficient if we made a partial, representative

collection. If we for example only collected from:

- part of the country
- from selected years
- certain sectors
- only the big ones
- only selected types of pollution

we wouldn't have nearly all of the desired information. This would be as counter-productive as if libraries only bought books written by authors with names beginning with "A". None of the big libraries with responsibility for the national book publication would be satisfied with this.

It is obvious that it is also not possible to collect everything. The physical conditions place strict limits on the amount that can be collected. This includes the constant expenses for maintenance, including conservation.

A history-less period: from a society of competence to a society of knowledge

The society that is taking shape now at the start of the third millennium, is completely different than industrial society of the 1900s. Today there is a much bigger amount of information. Let us look at this a little closer.

100 years ago the country functioned as a series of small local societies with a high degree of self-sufficiency. The central administration was sparse as was the distribution of country-wide banks and organisations. Agricultural production and craftsmanship built on generations of accumulated knowledge, which was inherited through master teachers.

This know-how is no longer passed on as inheritance. It has only survived in fragments, to the extent that historical cultural museums and popular tradition gatherers have been able to interview craftsmen, fishermen and farmers or by some other means documented their craft, while they were alive to use it. The craft died out with its last traditions. Even though the majority of information has been lost, today we know, however, the craftsmen's framework and conditions. It is from this system that today's archives and museums are filled to the breaking point with records and tools and articles for everyday use.

Our society is no longer built to the same extent on competence. It is no longer the hand's movements and the eye's judgement of raw-goods, that must be trained through a multiyear internship period. What drive's society today is instead knowledge which is gained through a long course of education. New graduates are equipped with learned facts, reference books and not the least a complicated network for dealing and updating of knowledge. It is a characteristic of society that a very large percent of it is built on this high content of knowledge. The educational level in the whole population has increased in such a way that it has almost become an exception if one doesn't have a high-school ("Gymnasium") education, whereas 100 years ago it was an exception, if one had one.

In addition higher education (e.g. university) has got an enormous lift. The number of finished engineers and

graduates from Danish universities has increased from 100.000 in 1985 to 180.000 in 2000. That figure has almost doubled in just 15 years.⁶

At the same time as the general increase in knowledge another powerful development has taken place, namely specialisation. It is easiest to illustrate this with the old house-wife role, which is now obsolete. Food making is to a large extent removed from the home, and highly specialised factories have taken over each individual work assignment. A factory for each individual product like crisps, beer brewing, headache pills and trouser sewing. Ad to this a string of factories for producing electricity, water and washing machines - and one mustn't forget specialised institutions for taking care of children and old-age homes. This specialisation has also taken place within each individual physical factory, where chemists, draughtsman, advertising people, truck drivers, accountants, IT-people etc. together shape today's dominant form of organisations. More about this later. It is a combination of these two conditions, which give a large amount of knowledge in an increasingly larger number of areas, that shape the cultural heritage of our time. There is of course a basic knowledge, which is common to all areas, but the large masses of information lie distributed over numerous sectors and areas. How big

⁶ Figures are from the Danish Bureau of Statistics (Danmarks Statistik), higher education among people of the age between 20 and 66.

the collected knowledge is a question for theoreticians. A guess is that the world's yearly production around the year 2000 is 1.5 billion GB, which is equivalent to a yearly growth of data of 250 MB for each individual inhabitant.⁷

Preservation strategies

In the following I will limit myself to the areas of digital information, which is the most urgent.

Society's total electronic information system is probably easiest to explain through a simplified model, a pyramid with various parts.

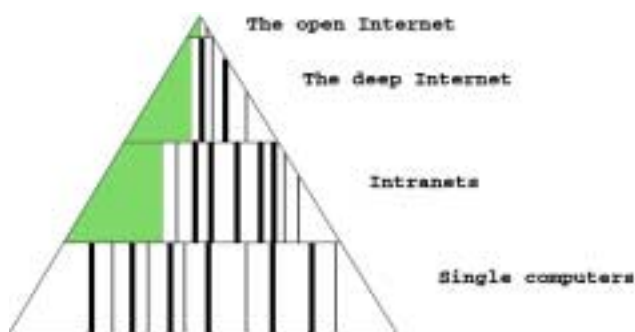
At the top is found the Internet that we know and which we gladly surf around on. This part is in turn dealt up into two parts.

⁷ These figures are from the conclusion to Peter Lyman m.fl.: "How Much Information?"

www.sims.berkeley.edu/how-much-info/.

This report calculates the world's production of physical media and uses the result as the basis for an estimate of the yearly production of knowledge. Even if one questions some of the premises of this calculus - e.g. that they make no distinction between x-ray pictures, which contain a large amount of data, and scientific dissertations - one has to admit that it is an interesting way of getting closer to understanding the problem.

Figure 1: Model of the digital cultural heritage



The two top layers are the Internet, the next layers are various Intranet, and at the bottom there is information about individual computers.

The grey drawing on the left side shows that part of the digital cultural heritage which can be gathered by robots – though in the deep Internet and in the Intranet part only by submission of passwords and other information which require human assistance.

The Information at the top part - which is the biggest - can only be collected by personal contact to the affected firms and institutions, which are delineated by black columns. This collection is so expensive that only a few selected parts can be preserved.

At the top the so-called robots can harvest the majority of this material.⁸ The next part of the Internet robots cannot automatically access. This part has come to be known as the 'deep web' with estimates of up around 500 times more material than in the completely open web. In this part a password must be given to be allowed in. Hereafter there is information ready for use. Here robots can gain access, if they get a little help from people.⁹

⁸ However, there are problems related to the material that arise in "dynamic" processes, even in the open parts of the Internet. Here I mean the content that is created instantaneously when the page is opened. Stock quotations, for instance, display this propensity to change if the same page is opened two times within moments of each other.

Another kind of dynamic creation is the so-called "personalization" where the information changes, depending on who opens the page. Here, the (in)famous cookies tell the page which user is trying to open it.

⁹ Tests have been made with robots of this type, which receive only a limited amount of human input. Search engines have actually already been built, which are reported to be able to browse the deep web as well.

This problem has been described in Sriram Raghavan and Hector Garcia-Molina: "Crawling the Hidden Web". Technical Report 2000-36, Stanford 2000 (also found in another version: <http://www-db.stanford.edu/~rsram/pubs/www10/www10poster.pdf>)

The other part is more complicated, where information is retrieved from databases and where a robot would fail. The only possibility for saving information is to make an agreement with the data base's owner to have a copy delivered.

The next layer is consists of intranets, which are closed to outsiders. Again this net is divided into two different parts. One part where an individual password must be given for access, while the other part predominantly builds on data bases.

In both cases gathering has to happen with the co-operation of the knowledge producer. Either the researcher must be given a password (so the robot can collect) or simply a copy of the database in question.

At the bottom of the pyramid there is a layer with computers, that is not connected to the big networks. Here is found individual persons' computers, computers with CAD-CAM in connection with tool machines, computers connected to measurement equipment in production etc. All those demand investigative efforts if information is to be collected.

The collecting institution

As it appears in the preceeding there is in principle no difference between collecting digital information from the Internet, from the Intranet or isolated databases.

- By far the majority of information must be collected via an actively investigative effort.

- must be handled in the same way with regard to indexing
- IT-conversion must take place by the same procedure

Now we have come to the reason why I, throughout this entire article, have not distinguished between collection of the Internet and a broader cultural-historic collection: By pooling together resources from previous separate sectors, it is possible to create a gathering company of such a large size that it on the whole will be able to do the assignment. There should actually be a small army of specialists to follow the development and to keep contact with the international research. 30 persons is not an unrealistic estimate for a necessary basic manning, a number that could not realistically be sponsored by a single institution.

Big libraries would be potential partners. In Denmark the big libraries are the state library and the royal library, and they have already slowly started collecting from the Internet via that access, to which "compulsory delivery" has given access, as well as a trial project about a local election.

The business archive would be another institution. It has many years experience with collection of (paper) information from investigative work in the business world. They are responsible for the acute assignments connected with saving the business world's IT-materials, which could be set on track via the institution in charge.

The same applies to the above archives in the private sector. The many but small local historical archives would never be able to handle these kinds of

problems. Only by entering into a nation-wide consortium would they be able to continue their local collection of IT-material.

The state archives don't have precisely the same acute need, since the public's compulsory delivery also includes IT-materials. On the other hand it would be possible to make use of the great knowledge that should be found in the area of continuing conversion of data, where the rational thing to do would probably be to have both the private and public information converted in the same workshop.

The rest of the country's archives and museums for conservation of cultural heritage would all be able to profit from such an institution. They would all have smaller or larger digital collections, which must constantly be converted. In addition they could to varying degrees contribute with supplemental collecting. The cultural historical museums would be able to carry out fieldwork concerning knowledge producing companies, by which an understanding of how the collected information has come into existence, would be achieved. Danish Folk collection could cover areas which no other institutions deal with. Examples of such areas would be a private persons' use of e-mail or for that matter sex-pages on the Internet. Even though it is the most widely used part of the Internet, only a few of the big institutions would take on that job.

At the same time be co-operation with the private knowledge deliverers would be possible. Private firms are equally interested in saving their material at least for half the time (medicinal

companies must furthermore save information for a greater number of years).

Medium-sized and small companies will not at all be able to accomplish the task alone. There will therefore be wonderful opportunities for the business world to pay a good part of the expenses of conversion, if the right organisational frames can be created. A kind of volunteer 'compulsory' delivery could be combined with a public archive. It stands to reason that preservation in the long run can only be solved by international co-operation. It's a good thing that Internet knowledge about preservation moves quickly world-wide, and colleagues from other countries gladly share their experiences. The jobs are however in many ways so big, that many of the practical tasks must also be solved internationally.¹⁰

¹⁰ International co-operation has already started. Thanks to the Internet, among other factors, information about the complex of problems pertaining to the field of preservation is available world-wide. The time that passes between the presentation of a paper at a conference and the moment it is made available on the net gradually gets smaller. More organised initiatives are also being taken. A number of national libraries and independent publishing houses, for instance, took the initiative to start Project NEDLIB - networked European Deposit Library. The project ran for three years and was meant to debate the basic infrastructures. The project was EU funded. One of the suggestions of the project was published in Bendert Feenstra: "Standards for the

Not only common research projects but also construction of automatic conversion bureaus.

Conclusion

Systematic collection in real-time must be set in motion as soon as possible. For much too long institutions with responsibility for cultural heritage have overlooked the area surrounding the Internet and the rest of the digital material, which means that the majority of the Danish IT-material since 1960s and far into the third millennium will be lost forever. Even an emergency effort would only secure material after quite a few years of construction by gathering institutions. It is a catastrophe, and in the future it will be called the dark ages. Luckily there is more and more understanding about the fact that digital material must also be gathered. There is in this paper considerations about IT-material, which shows great possibilities for both saving and making use of reasonable amounts of the large knowledge base, that is being built-up these years in our post-industrial society of knowledge.

In this paper many reasons why it can be difficult to save the 'real' part of the cultural heritage have been given. The digital material would only be able to exist for a few years before it disappears from itself. Since cultural

Implementation of a Deposit System for Electronic Publications." NEDLIB Report Series 4, The Hague 2000.

Other large-scale initiatives have been taken, but many of these suffer from a high degree of organisational stiffness.

workers won't get an especially large distance time-wise between creation of the digital and the gathering period, the moral debate about gathering principles must be stepped up. Both a breadth and depth must be guaranteed in the material. In addition there must be versatility, so material of the types we couldn't imagine, are also 'coincidentally' saved.

Never before have preservation people had such a big responsibility. That time is over, where one could avoid gathering relevant papers, because one could count on it that some would have coincidentally to be saved in basements and attics, which later could be collected. In the future one must gather here and now. One won't always get another chance. We are the ones who decide which material the future isn't going to know about.

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