Open Access in the Nordic Countries - a State of the Art Report

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A summary of the report

The report describes the present situation in the Nordic countries (Sweden, Denmark, Norway, Finland and Iceland) regarding Open Access in scientific publishing. The present progress report presents comprehensive policy issues when present, as well as initiatives concerning a transfer to a more Open Access publishing policy, such as immediate application of Open Access publishing at various universities or research institutes. Success stories and challenging areas are given in the report and are illustrated with concrete examples.

The reports deals with primary Open Access publishing of scientific journals, working paper series and doctoral theses as well as parallel publishing of scientific articles in publication repositories. The role of the publishers will also be examined in connection with questions about agreements.

Open Access publishing demands a clear picture of the copyright to material published on the Internet. The report considers the central questions and initiatives to solutions to the copyright problems. SPARC Authors' Addendum to publishing agreements with publishers, Creative Commons licences for the distribution of material on the Internet. SURF/JISC Licence to Publish, the SHERPA/RoMEO project which gives information on the attitude of international publishers towards parallel publishing in institutional repositories.

Publication practice varies greatly within different science fields, which is one topic that needs to be considered when recommendation about Open Access publishing is delivered. The report gives examples on differences between, for example, medicine and humanities/social sciences concerning publishing as a means for research communication. For the humanities, the problem of publishing in the Nordic languages is illustrated.

The introduction of the report is a section about the background to the Open Access or free access to scientific publications. We try to provide a picture of the central stages in the development of scientific publishing and the Open Access movement. This illustrated the shortcomings of the publishing process and offered the possibilities of the Internet to distribute research publications with free access to all interested. In the following two sections publication patterns and the differences that exist within all science fields are described. Our examples are taken from biomedicine and the humanities and social sciences. Scientific journal publishing, specifically in the Nordic countries with small language areas and small circles of readers, is one of the problem areas in the report. In section four, alternatives for solutions through some pilot studies in the Nordic countries are described. In sections five to nine a country report of each Nordic country is given (Denmark, Finland, Iceland, Norway and Sweden). The report finishes with a discussion about future and existing challenges.

This report is commissioned by the Nordbib project, and the report will primarily function as a basis for discussion at a workshop, arranged by Nordbib, during the spring 2007. Nordbib emphasises that both the report and the workshop shall form a basis in support of discussions between different parties to promote the access to research publications.

Our assignment as writers of this report has been interesting and challenging. During the work process, we have benefited greatly by the fact that for many years we have had the privilege to follow the development within Open Access, and we are especially grateful for the contacts we have established with many active persons, both in our respective countries and in the Nordic countries and internationally. We are especially grateful for all the information about projects and activities that so many have contributed to this report and we therefore wish to extend our sincere gratitude. A list of our main informants can be found at the end of the report.

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Introduction and background

The first scientific journals were published in 1665 and each was, but in different ways, connected to scholarly societies, *Journal des Sçavants* in Paris as well as *Philosophical Transactions of the Royal Society of London*.

The societies considered it to be one of their foremost tasks to promote, on a collegial basis, a wider and more efficient distribution and discussion of the research findings made by their members.
The journals became a way of presenting scientific news and establishing priority.
The publications were then sorted, systematised and filed by the libraries.
Publishing was mostly funded by membership fees that included a subscription.

In Europe a commercial publishing had already been established before 1945, while most scientific journals in the US were still published by scientific societies, universities and other non-commercial publishers.

With the intensified concentration on research and development after the Second World War, new disciplines emerged needing publication in professional journals. Published articles were used as selection criteria for appointments and allocation of research grants - “Publish or Perish”.

Our current peer review system for filtering out less accomplished works was developed. The system of citing other researcher’s works created a web of related articles - the prerequisite of the establishment of the citation index in the 1960s. Based on this, the status of the journals, the so called *impact factors*, was calculated.

The societies had an increasingly hard time in the 1950s handling the great expansion of research within the fields of medicine, natural and technical science. To maintain their high quality, they were forced to undertake a stricter selection of submitted manuscripts resulting in increasingly drawn-out publishing procedures. Therefore the US government in 1961 decided that the page charges could be paid with federal funds to non-commercial publishers. With the help of the fees, the societies could publish more pages in existing journals as well as start new ones.

Commercial publishers

The commercial publishers now began to realise the market potential and offered publishing alternatives by starting new journals, both within already established fields and in new sub disciplines. Commercial activities have to expand, and the demands for increased subscription proceeds through a growing number of titles had consequences.
The reporting was scattered over more and more journals with an increasingly narrow focus. Researchers needed to monitor a growing number of titles for each subject field. This increase could also lead to inferior quality, doubtful choices of subject and redundant and repetitive publishing. Special journals address small groups of scientists and a small editions result in higher prices.

The society and university journals guaranteed quality by using selected experts as editors and peer reviewers. The commercial publishers adopted this model. Distinguished researchers were invited to contribute and were willing to accept the acknowledgement and to help establishing journals that would increase the status and the possibilities of publishing their own subject. The authors in their turn were attracted by the idea of ‘free publishing’. As opposed to the societies, the commercial publishers offered publishing *without* page charges. The activities were prosperous and by the end of the 90s, the commercial publishers had conquered around 40 % of the scientific

journal market in the US. The prices of their scientific journals went into a price spiral with prices far above the consumer price index.

The major journal publishers report a nearly 40 % profit margin - almost twice the amount of the rest of the academic sector. An increasing part of scientific publishing is today handled by global media companies that have grown rapidly during the last few years through purchases and fusions gaining cost advantages through economy of scale. Major prices rises have been the result.
A study of a large number of biomedicine titles showed that around 25 % of the price rises over a ten year period were related to mergers, and a follow-up of the entire STM field confirms these results (McCabe 1999). The prices were well over the marginal costs. The average price for 'non-profit' journals was 50-75 % lower than the commercial journals, while the average citation frequency on the contrary was substantially higher than for the commercial journals. In table 1, some examples from professors Ted Bergstrom's and Preston McAfee's database on journals' cost effectiveness are shown. (www.journalprices.com)

Table 1 Comparison of the cost effectiveness of journals. Price in USD per article and per citation

Title	Publisher	Profit status	Price/art	Price/cit	Impact factor
Ann Rev Psychol	Annual Reviews	Non-profit	7,16	0,51	9,8
Psychol Bull	Am Psychol Ass	Non-profit	11,92	0,78	9,8
Cogn Psychol	Elsevier	Profit	35,10	4,32	3,9
Personnel Rev	Emerald	Profit	360,09	744,52	0
Analytical Chem	Am Chem Soc	Non-profit	1,5	0,36	5,6
Int J Env Anal Chem	Taylor & Francis	Profit	37,84	72,49	0,7

A challenge for the research community

The problems in the journal market cannot be solved through negotiations between libraries and publishers. The research community must contribute to the creation of a better and more efficient system for the distribution of scientific results.

That the libraries are the *direct* paying consumers while their users, the researchers are the *actual* consumers is, of course, a market problem. Normally, the readers do not see micro- or macro-economically how much their information needs cost.

The authors do not see it either. The incitements that guide them towards publication through well-known channels, limit the competition. The authors want to maximise both prestige and number of readers without having to think about the costs. The author chooses the product that the reader must pay for. The reader cannot choose the alternative - a cheaper product - since that product does not have the same contents and therefore cannot work as a substitute.

The market position of the publishers is to a large extent based on the copyright holdings. Authors transfer of copyright to the publishers, gives the publishers article monopoly - the articles cannot be published more cheaply by anyone else. It is, of course, hard to negotiate with publishers about products that lack competition.

To whom the owner's rights should belong, and thus the control of information about scientific results, is a fundamental question for the research community.

In their role as producers, the universities have a lot to gain from finding new ways of presenting their research results, ways that lead to a wider dissemination, increased visibility and thus to a larger impact.

Therefore, the university and research community started to seriously reflect upon the traditional model during the 90s. Why should the universities, through the libraries' budgets, fund the qualified free work that the universities' own researchers perform as authors, peer reviewers and editors for the commercial publishers?

Open Access closes the circle?

In his introduction to the first issue of *Philosophical Transactions* (March 1665), Henry Oldenburg wrote: "there is nothing more important…than to communicate to others what is discovered or practised: therefore, it is suitable to use the press." Scientific knowledge" shall be "Public Knowledge" and contribute to "the Universal Good of Mankind".

We have seen that financial, legal and technical barriers put up by the publishers; result in limited visibility and accessibility, and thus decreased usage and influence. No consumer strategies have up till now been visibly influencing this. It takes a changed scientific model of communication.

It is time to close the circle and return to the argument for 'public knowledge'. Many groups now maintain that publicly funded research results shall be publicly accessible. The scientific societies should be the natural advocates for Open Access and contribute to "the Universal Good of Mankind" by realising the advantages of a free and open distribution of research findings and scientific discussions within the disciplines they represent.

What is Open Access?

An often used definition is the *Budapest Open Access Initiative BOAI*:

> "By 'Open Access' to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself.
>
> The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited."

Two main ways to Open Access are often mentioned:

The Green Road - Open repositories, organisation-based or subject specific.

Normally contains reviewed and accepted works, but can also contain pre-prints. The Open Access institutional repositories of the universities are examples of organisation-based, interdisciplinary subject repositories, while for example *ArXiv.org* and *PubMed Central* are subject specific.

The Golden Road - primary publishing in quality-assessed OA journals.

Financing through subsidy and/or article charges. Examples are the journals from *BioMed Central* och *PloS. Directory of Open Access Journals - DOAJ* registers quality-assessed OA journals in all languages and within all subjects. (www.doaj.org)

Standards such as *OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting)* make publications archived by, for example, the Swedish institutes of higher education globally searchable and thus incorporated in international contexts.

‘There are no free lunches’. Open Access is **not** free, but an alternative publication model for scientific communication. The question of costs is, of course, not insignificant. Between the poor and the rich countries, there is a Digital Divide with barriers in two directions: it is hard or impossible to finance input – subscriptions, AND it is hard for the scientists to find an output – to publish their results in the journals of the Western World. Open Access (OA) has been considered a solution for these countries and they have agreed upon a common *National OA Policy for Developing Countries* (http://ncsi.jisc.emet.in/OAworkshop2006/pdfs/NationalOAPolicyDCs.pdf)

Concerning the roads to Open Access, a series of important and probably decisive initiatives have been taken during the last few years. The coming sections will inform more about this.

At a conference in Berlin in October of 2003, a historical step was taken for Open Access through the so-called ‘Berlin Declaration’: *Open Access to Knowledge in the Sciences and Humanities.*

The signatories form a long line of prominent research organisations and universities, for example, Deutsche Forschungsgemeinschaft (DFG - the German Research Society), Max Planck Society, CERN, CNRS, INSERM, Pasteur Institute, the Royal Netherlands Academy of Arts and Sciences. The Nordic countries are also represented among the signatories.

At the last follow-up conference in March 2005, an agreement on the following accentuation of recommendations was reached:

In order to implement the Berlin Declaration, departments should:

1. Introduce a policy demanding that their scientists lodge a copy of all their published articles in an Open Access institutional repository
2. Encourage their researchers to publish their publications in Open Access journals if a suitable such is available, as well as give support that facilitates this

Within the EU, several actions are now being taken to support Open Access and recommendations or statements have been made by *EURAB - European Research Advisory Board, ERC - European Research Council and EUA –European University Association*. EURAB makes this recommendation in their final report (EURAB 2006):

> EURAB recommends that the Commission should consider mandating all researchers funded under FP7 to lodge their publications resulting from EC-funded research in an Open Access repository as soon as possible after publication, to be made openly accessible within 6 months at the latest.

The development within the different Nordic countries is presented in the country reports below.

Open Access publishing within biomedicine

Manifestations on Open Access and the very important declarations about principles and support for Open Access, have in many cases taken place on a general level, where no distinction has been made between different scientific fields. It is still obvious that there are major distinctions between the different sciences in the way they present their research results and which model for the scientific publication process is applicable. There is a great difference between the natural sciences (Science, Technology and Medicine, STM) and the Humanities and Social Sciences, when it comes to the way they publish research results.

In a study on Open Access publishing within biomedicin, Hedlund and Roos (2007) enumerate a number of factors that influence the attitude of the researchers towards Open Access.

External factors mentioned are:

- The standpoint of the authorities concerning science and technology, the research funders' regulations in financial decisions together with the activities of the interest groups
- Increased demands for productivity and measurable activities
- Internationalisation and fierce competition for good results within the science field
- Geographical position
- Access to subject-based and local institutional repositories as well as Open Access journals
- The standpoint and possible activity plan of the organisation to endorse Open Access publishing
- Models of communication within the science field, e.g. concerning early adoption of new technological facilities

Personal factors mentioned are:

- The importance of acknowledgement and qualification among scientists
- The promptness of publication and visibility of research results
- Personal ways of communication and attitudes towards new technique
- Personal values

Two of the major players within research politics are *The National Institute of Health* (NIH) in the US and the *Wellcome Trust* in the UK. The attitude of these major research funders is openness towards research results and free dissemination and access to them. The NIH has under their former leader Dr. Harold Varmus, made a contribution already in 1999, by establishing a service at *The National Library of Medicine* called *PubMed Central* for the preservation of medical articles in Open Access form. The development process and the role of the scientific societies in the shaping of the service have been described in an article by Kling et al. (2004). There the scientific societies' strong, but divided role as publishers of scientific journals, but also as surety for the interests of the members of the scientific community's different research fields are emphasised.
According to an estimate by Zerhoni (2004), about 10 % of the medical literature is funded by the NIH. The procedure is that the NIH compensates the publishers for submitting published articles to PubMed Central. The publishers' and the scientific societies' strong roles have brought about a hybrid form of Open Access, which allows the publishers to use an embargo for one and a half years from publishing date until the article becomes freely available through PubMed Central. The NIH has also strongly recommended that articles with research results funded by the NIH should be submitted to PubMed Central.

A similar procedure is applied by the Wellcome Trust with the difference that they do not recommend, but demand, that articles with research results funded by the Wellcome Trust should be available in PubMed Central or in the British version of PubMedCentral. Below you find two quotes from the statements of the NIH and the Wellcome Trust.

Policy on Enhancing Public Access to Archived Publications Resulting from NIH-Funded Research:

(http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-022.html)

> "The National Institute of Health (NIH) announces its policy on enhancing public access to archived publications resulting from NIH-funded research. Beginning May 2, 2005, NIH-funded investigators are requested to submit to the NIH National Library of Medicine's (NLM) PubMed Central (PMC) an electronic version of the author's final manuscript upon acceptance for publication, resulting from research supported, in whole or in part, with direct costs[1] from NIH. The author's final manuscript is defined as the final version accepted for journal publication, and includes all modifications from the publishing peer review process… "

Wellcome Trust position statement in support of open and unrestricted access to published research

(http://www.wellcome.ac.uk/doc_WTD002766.html)

> "The Wellcome Trust therefore supports unrestricted access to the published output of research as a fundamental part of its charitable mission and a public benefit to be encouraged wherever possible.
>
> Specifically, the Wellcome Trust:
> - Expects authors of research papers to maximise the opportunities to make their results available for free and, where possible, to retain their copyright
> - Will provide grant holders with additional funding to cover the costs of page processing charges levied by publishers who support the Open Access model
> - Requires electronic copies of any research papers that have been accepted for publication in a peer-reviewed journal, and are supported in whole or in part by Wellcome Trust funding, to be deposited into PubMed Central (PMC) or UK PMC once established, to be made freely available as soon as possible and in any event within six months of the journal publisher's official date of final publication
> - Affirms the principle that it is the intrinsic merit of the work, and not the title of the journal in which an author's work is published, that should be considered in making funding decisions and awarding grants. "

Within biomedicine at least two successful examples of publication models for providing free access to research articles work. The first example is BioMed Central, which is a commercial publisher with over 170 journals within biomedicine. The other is Public Library of Science, a non-profit organisation, consisting of a group of researchers, who have undertaken to provide free access to biomedical research.
Each of the publishers thus provides free access to the final user, but their model of funding is based on the authors or the author's organisation or, as a last resort, the research funders paying the publication costs.
The publishers provide departmental memberships, where new members get a relatively favourable price, while the price when the service has been put into use is paid in proportion to the usage. The articles published in BioMed Central's journals and in PLoS are also available through PubMed Central.

It should be mentioned that several of the journals in BioMed Central and PLoS are now indexed by ISI and have in many cases received great impact factors.

Finland has entered into a licence agreement with BioMed Central about a national publishing licence for the years 2004-2005. For 2006 the price was too high, and thus no national agreement was concluded. Thereafter, the individual universities and research institutes have entered into own agreements for their researchers. According to Hedlund and Roos (2006), around 150 Open Access articles were published in BioMed Central by Finnish researchers, during the years 2002-2005. Norway and Denmark have also entered into national agreements with BioMed Central.

BioMed Central's funding model is not unproblematic, even though the outcome is an increased Open Access publication. The model redistributes the publishing costs plus the publisher's profit to the author and the author's organisation instead of, as was the case before, falling on the final user or the final user's library. As regards scientific publishing, the author, the final user and their organisations respectively, in many cases are the same, but it is, after all, a major principal change.

The research funders' role and their attitude towards the fact that the costs of Open Access journal publishing is authorised and is possibly also included as a compulsory part of the funding decision for research funding, can have a crucial significance in terms of where the researchers choose to publish their research results.

Open Access publishing within the Humanities and Social Sciences

International discourse on Open Access has primarily focused on journals within the STM field. Other disciplines have not been active. Especially within the Humanities, where the major part of the publications are books and book chapters rather than journal articles, the interest in Open Access has up till now been rather limited. It should, however, be emphasised that several of the most well-known advocates of OA have a background within the Humanities.
Peter Suber, who for years has been prominent in the discussion of new forms of publishing and specifically Open Access, has listed nine reasons for the lack of interest within the Humanities (http://www.earlham.edu/~peters/writing/apa.htm). The starting point is the existing differences between STM and the Humanities in the US.

1. Journals within the Humanities cost less than STM journals
2. There is more money within the STM field
3. STM is to a larger extent tax funded
4. Higher rejection rates for the Humanities results in a higher cost for peer review
5. Funders tend to see the Humanities as less significant in terms of 'public interest'
6. Repositories with *pre-prints* are considered more useful within STM
7. Embargo does not work as well for the Humanities, since the articles continue to be of interest for a longer period of time
8. Journals within the Humanities often want to have permission to reprint works of art, poems etc.. It is much harder to get such permissions for OA
9. The Humanities preferably publish books. Authors give away articles, while books can render royalties

Some of the common arguments for Open Access are thus not applicable to the Humanities. Number 9 points out that the researcher may have an economic interest in monograph publishing, even if scientific works in reality seldom generate any major royalties. Instead they should look at the potential number of readers. Monographs published by major university publishers in the US, often carry editions of around 500 copies. (Thompson 2005)

All science fields share the same interest in eliminating all kinds of information barriers and in being able to make better use of new technologies for searching and finding information.

In Sweden, a very large part of the Humanities research is tax funded, directly or indirectly. Tax funding would probably not be granted to research if not considered to be for the public good. This argument is, of course, invalid for both the Humanities and STM.

The costs for peer review are tricky to calculate since it is hard to separate the publisher's/journal's costs from costs carried by the peer reviewers' departments. It seems doubtful that the selection within STM in general would be stricter than in the Humanities.

However, the embargo period has turned out to be important for the Humanities. If STM are willing to grant the rights to OA within six months, journals within the Humanities often demand 12-18 months.

Many Nordic journals depend on tax funding and/or other funding. In 2006, The Scientific Council for Humanities and Social Sciences at The Swedish Research Council funded 28 journals with a total sum of 2,8 million SEK, i.e. on average slightly more than 100 000 SEK per title.

As for books, it has been shown, that OA-publishing does not reduce sales, rather the opposite because of the increased visibility. Interesting experiences from *National Academies Press* show that free online access to their books has had a positive effect on the sales of printed versions, whereas many, including some big and well-known university publishers, have had large financial problems because of receding sales. In 2001, *t* showed record sales of books, despite the fact that there was free online access to every page! The experiences of NAP seem to show that the publishers' fears that e-books threaten printed publishing are unfounded. Instead, web publishing can mean increased influence at a rather small cost and a small risk. (http://www.nap.edu)

NAP's website offers over 2,000 books, around 400,000 pages that can be searched, browsed and printed - all OA. The only limitation is that you can only produce one page at a time. The user frequency is high. From January 2001 until the middle of August, more than 3,2 million people had looked at 15 million book pages, During the same period of time, NAP sold over 40,000 books through the same website, which sums up to around 25 % of their total sales, and more than they sold during the whole year 2000. No negative influences on other sales channels have been noticed. (Jensen 2001). This type of web publishing seems to be able to produce the extended audience that many monograph author's lack.

It is well known that the scientific monograph has been experiencing difficulties for a couple of decades, partly because the university library budgets increasingly have been claimed by journal licences and subscriptions. Several debaters have urged a reassessment of the role of the monograph in research evaluation within both the Humanities and Social sciences.

As president of the MLA (Modern Language Association) Stephen Greenblatt wrote a letter that attracted a lot of attention. (Greenblatt 2002) He pointed out to the members the dilemma they were in – the university libraries could no longer afford to publish their books but the promotion of young researchers was still depending on published monographs. This concerned not only linguistics, but also other humanistic fields that had been drastically cut back by the university publishers. Greenblatt sees a dysfunctional system that has to be changed. Books should not be the only channel for evaluating research, but if this proves to be inevitable we have to find other ways of ensuring their publication.

The importance of language

A report from 2003-09-01, commissioned by the Nordic Board for Periodicals in the Humanities and the Social Sciences, and called *Fremtidens forskningspublicering – et nordisk samarbejde* (Research publishing for the future – a Nordic cooperation), discussed publishing in the Nordic languages

From the foreword in the Danish edition:

> ” I meget korte træk: der er en øget forskningspublicering samtidig med at de traditionelle trykte tidsskrifter står i en højst usikker situation. Især tidsskrifter på nordiske sprog, der har et meget lille marked, må betragtes som truede. Lukker de, kan en følge i yderste konsekvens være, at de nordiske sprog forarmes fordi den levedygtighed og fornyelse som forskningspubliceringen bidrager til, vil mindskes. I værste fald vil forskningspublicering på nordiske sprog ophøre og blive erstattet af engelsksprogede publikationer. (http://www.nos-nop.org/nop/nop050903.pdf)
>
> *”In very short terms: Scientific publishing seems to increase at the same time as the traditional publishing of paper journals seems to be in a very uncertain situation. Especially journals published in the Nordic languages, which have a very small market, can be considered as threatened. If those journals are closed down the consequence could be impoverishment of the Nordic languages because the innovation and the surviving support*

which scientific communication brings will disappear. In worst case scientific publishing in Nordic languages will cease to appear and English language will be the future language of Nordic scientific publishing."

The report proposes a number of publishing models and in a later project proposal in support of the Nordic Open Access publishing; OA is considered a possible solution for the small languages.

Within the Humanities and Social Sciences there is an ongoing discussion about internationalisation. Anyone who wishes to take part in the international discourse and have their research noticed must most likely publish their work in English. How then, does one deal with the demand that the language must serve as a perfect instrument in complicated discussions, where linguistic nuances are of the utmost importance? At the same time, publishing channels are considered more and more important when it comes to appointing posts and promotions. Publishing in established international journals gives credit.

E-publishing with open access can give new possibilities to contacts all over the world. Presenting interesting research results accessible to all is perhaps more important than having a completely idiomatic language? Should not the establishment of new, easily accessible, international communication channels be prioritised? This can be combined with OA-versions in the original language, preserving the exquisite linguistic values and giving the general public the chance to take part of the research results.

It is a well known fact that the citation indices show a language bias in favour of English, and this has been published in several studies. A study by Van Raan et al shows for example that language bias plays a significant role in international comparisons of research output. One reason for this is that the citation indices also cover non-English journals, and articles in these journals have much lower impact. The US publishes almost exclusively in English, whereas for example Germany and France have a diminishing but still significant number of publications in languages other than English, thus "diluting" their impact. A more detailed analysis is needed to be able to show whether the publication language alone is decisive for the lower impact of non-English publications. (Van Leeuwen 2001)

Open Access journal publishing in the Nordic countries: some case studies

Publishing problems regarding scientific journals that publish their articles in Nordic languages have been under discussion since the breakthrough of e-publishing in the beginning of the 21. century. The main problem has been to make the editors make up their minds as to electronic publishing and secondly Open Access. Table 2 illustrates the situation in the Nordic countries. The table shows the number of peer reviewed journals per country, and how many of these are released in electronic form. As is evident in the table, the Open Access part is low, as well as the number of journals that are listed in the Journal Citation Report.

Table 2 Number of peer reviewed journals according to Ulrich's Periodicals Directory, issued in the Nordic countries

Country	Total number	% online	% OA	% JCR
Denmark	218	63	2	38
Finland	98	40	6	12
Iceland	16	19	6	13
Norway	101	57	6	29
Sweden	159	47	8	24

The first report discussing this problem was the already mentioned *Fremtidens forskningspublicering - et nordisk samarbejde* that came out in September 2003 and was commissioned by the Nordic Publications Committee for Periodicals in the Humanities and Social Sciences. The report proposed a joint portal for Nordic journals. The proposal in the report has not been implemented; instead work has been carried out in smaller projects in the individual countries. Some of these are described below as short case studies.

ELEKTRA is a Finnish journal service and cooperation project between the National Library and Kopiosto (copyright organisation) that collects, publishes and archives scientific articles and dissertations within the framework of copyright regulations. The number of scientific journals amounts to 40 (of which only some apply the peer review process and some deliver material sporadically) and material is searchable directly from Elektra's web pages (http://www.lib.helsinki.fi/ELEKTRA/svenska.html). However, to reach the full text, an agreement needs to be made. The service is not free of charge, and therefore Elektra material is primarily used in the libraries in Finland. Elektra also distributes Open Access material from four journals, one of which is peer reviewed, *Elore*.

Elektra has been criticised by Open Access advocates for its policy on being a costing service. But according to Ilva (2004) the service is not likely to be opened up to free access. There are multiple reasons for this, on the one hand producing Elektra requires resources, and on the other hand many of the journal's editors and owners (scientific societies) are afraid of losing incomes from subscriptions and, in the long run, member fees, since the journal is often a member benefit. Elektra could therefore be an example of a service that could develop towards Open Access, but where the funding model is missing.

Vetenskapliga samfundens delegation, TSV, (The scientific delegation) Federation of Finnish learned Societies in cooperation with FinnOA and as a part of the project OA-JES (with grants from the Ministry of Education), has launched a pilot study for a journal platform. The project started in 2006 and means that the delegation of the scientific academy uses the software Open Journals System (OJS) to give journal editors the possibility to use the platform for journal publishing and editing routines. The project is still at a stage where only a pilot version is being tested and a small number of scientific journals (3) can use the platform and the system for journal editing. So far it is only the journals' editors that can use the service, but during 2007 the service is estimated to be launched for open use. During 2006, the solution was presented to editors and journal editorial boards and has aroused interest. The platform has also been tested with an Open Access bulletin, 'openaccess.fi', which is already accessible. (http://www.openaccess.fi). The funding model is open so far, and the project is funded for 2007.

Danmarks Elektroniske Fag- og Forskningsbibliotek (Denmark's Electronic Research Library - ***DEFF***) has been running a small project, DEFF E-publishing, with the aim of giving small journal editors the possibility to transfer to electronic publishing. (http://deffetss.cvt.dk/)
In many cases scientific societies are editors and as a result of the pilot study (finished in 2005) the Copenhagen Business School Library is publishing Copenhagen Journal of Asian Studies and Technical Knowledge Centre of Denmark, DTV, is publishing the journal Mathematica Scandinavica. None of the journals offer free access, but Mathematica Scandinavica gives free access to older numbers. The work is carried out in cooperation with the editors at Aarhus University. The open source program 'MetaJournal', developed under Danish management, is used in this case.

Copenhagen Business School uses Open Journals System for the platform
E-journals@CBS (http://rauli.cbs.dk/index.php/index) and holds four scientific journals at the moment.

LiU E-Press - Linköping University Electronic Press (http://www.ep.liu.se/index.sv.html)
In 1996 LiU E-Press was established to manage the university's electronic publishing. From 2004 it has been a detached, non-commercial unit linked to the university library and with its own board. The main purpose is to e-publish texts that can be read and distributed as far as possible. LiU E-Press writers keep the copyright to their works.
ETAI - Electronic Transactions of Artificial Intelligence was an early experiment with a new publishing model where manuscripts that had been submitted, were made available to be openly and freely reviewed. After that, they were certified through the traditional, closed peer review. Those works that were not accepted had to stay with uncertified status. ETAI is presently resting.

Active peer reviewed OA-journals from LiU E-Press (both in DOAJ) are: *International Journal of Ageing and Later Life*, founded in the spring of 2005, the first number came out in June 2006, the second in December 2006, and the third will be out during the spring of 2007, and *Hygiea International - An Interdisciplinary Journal for the History of Public Health*, which has had five numbers out since the start in 1999.

The editors of the journals are internationally prominent experts within their fields of research. In combination with strict peer review, this works as a guarantee for maintaining the highest possible standard.

There are plans to establish yet another peer reviewed electronic journal during 2007, about "... research and conceptual design papers /- - -/ the source of the papers will be university researchers and advanced R&D people at companies".

LiU E-Press is currently working on incorporating its active journals into international databases. CSA is starting to index *Ageing and Later Life*. Hygiea might be indexed by *Medline*. There are negotiations with *EBSCO* and *Scopus* amongst others. This work has proven to be a very time-consuming process.

The aim is also to incorporate all published articles, even the passive ones, in a searchable database during the spring. Currently, it is only possible to browse in it, which is not very good from a user perspective. The same goes for series.

Country report Denmark

Background

The Open Access development in Denmark to a large extent follows the activities within the central committee for e-publishing in Denmark, i.e. *Danmarks Elektroniske Forskningsbibliotek (DEF)*, which changed its name to *Danmarks Elektroniske Fag- og Forskningsbibliotek (DEFF)* in December 2004. DEF started in 1996 by appointing a working group aiming to function as a collaboration between three ministries (culture, education and research), the Danish Library Agency and the following research libraries: State and University Library, Technical Knowledge Centre and Library of Denmark, Risø Library and Roskilde University Library. The idea was to establish an integrated electronic research library, which through networking and cooperation between the involved research libraries could serve to satisfy the users' need for research information. The initial stage of DEF lasted until the end of 1998. During the following stages of development between 1999 and 2005, DEF took the lead within the development of electronic services, the digitisation of journals, the Danish Research Database, the DEF-portal etc. The international cooperation within the project 'Knowledge Exchange', and also a revision of the strategy and action plan for DEFF, started in 2005. DEFF underwent an international evaluation in 2005. (DEFF web pages http://www.deff.dk)

The DEFF search service 'Global E-prints' is a national portal to provide access to freely available scientific material (pre-prints and e-prints) on the Internet. The service uses OAI-PMH for the hosting of metadata from 29 repositories, amongst others BioMedCentral, DOAJ - articles and E-Lis. The service encourages Open Access publishing and Open Access publications through its visibility on DEFF's websites and through data deliveries to the local search tools of the libraries.

The education and research environment in Denmark is at present undergoing changes. The universities are merging into five major universities, incorporation public sector research institutions and also smaller special research institutes. Within the next two years, it will probably be noticeable how this might affect the Open Access publishing and the research institutional repositories.

Research documentation and institutional repositories

As in the rest of the Nordic countries, the trend in Denmark is to connect the development of publication and research repositories (IR) with the development of a system for research documentation (CRIS). Both systems initially use the same bibliographic data, but the research documentation traditionally has an inclination towards administrative needs, for example to serve as a basis for research statistics. The publication databases, on the other hand, are directed towards providing access to research publications (monographs and articles) in full text. Research and publication databases can also contain attachments as full text and direct research data, as further information beyond what is included in the actual published articles or reports. A combination of these two types of systems for information about research and publication is clearly advantageous, for example making the input procedure easier, and the same data can be used in more than one field. The risk is that the dual purpose (research administration and Open Access to publications) also inflict on, and possibly delay, the ambition to fill the institutional repositories with material. At present, it is likely that research documentation is the initial primary need, and that Open Access to full text material will come as a further service and as the next step in the development.

In Denmark there are few domain repositories, i.e. repositories specialised in a certain subject field. Dansk Matematisk Forening (Danish Mathematical Association) has a pre-print server for mathematics.
(http://bib.mathematics.dk/index.php) and Organic E-prints is a service for organic farming (http://www.orgprints.org/).

Journals

A pilot study, *DEFF E-publishing*, was finalised in 2005 for the purpose of making it possible for small journal editors to stay independent and prevent them from being purchased by the major commercial players. The project tries to demonstrate solutions for the transition to electronic publishing. (http://deffetss.cvt.dk/).
In many cases, it concerns a scientific society as publishers and as a result of the pilot study, the Library of Copenhagen Business School publishes *Copenhagen Journal of Asian Studies* as an electronic journal with subscription through Open Journals System (OJS) - a program with open source licence, developed for e-journal publication.
The Technical Knowledge Center of Denmark publishes the journal *Mathematica Scandinavica* with free access to previous annual issues. The work is carried out in cooperation with the editorial office at Aarhus University. For this publication, the program MetaJournal is used. At present, Aarhus University is also running a project with the State and University library about a platform for journal publishing for own journals.

Quality-controlled OA journals within all fields and in all languages are registered in *DOAJ - Directory of Open Access Journals*, which contains 2,581 journals (2007-02-20), and 127,244 articles searchable in full text. Since for the time being it is not possible to search for country of publication in *DOAJ*, those journals that are found through the search term Danish and are matches for language and/or title words, are here presented in Table 2.

Table 3 DOAJ 2007-02-20 (6 titles search term Danish)

Title	Subject	Publisher	Lang.	Start	Ulrichs	DOAJ Full text
AIGIS	Lang/Lit	Greek and Latin, Cop. Univ	Dan,Swe Nor	2001	JA	
Anpere : Anthropol Perspect Religion	Anthropol Religion	Anpere	Eng, Swe, Dan, Nor	2006	JA	
Danish Medical Bulletin	Medicine (general)	Danish Med. Assoc. and Danish Med. Society	Eng	2004	JA	
Res Cogitans : Journal of Philosophy	Philos	Inst Philos, Edu, Study Religions, Univ Southern Denmark	Eng, Ger, Fre, Dan Nor, Swe	2004	JA	
Svensk Biblioteksforskning	Libr Info Science	Swed School of Libr & Info Sci	Swe,Eng, Nor, Dan	2005	JA	JA
TijdSchrift voor Skandinavistiek	Hist Lang Lit	TijdSchrift voor Skandinavistiek	Dutch,Dan Swe, Ger, Eng	2002	JA	

Ulrich´s Periodicals Directory is a commercial database of all types of serial publications. Here the search includes scientific journals, published in Denmark or in Danish. In the tables 3-5 below, search criteria used are presented. Ulrich's term for scientific journal has been used throughout. Journals that furthermore have referee systems are presented separately. The search was carried out 2007-01-20.

Table 4 Number of scientific journals from Ulrich´s Periodicals Directory published in Denmark

Scientific, active journals published in Denmark (possibly jointly published with another country)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
606	227	11	82	77	1*
Not peer reviewed:					
388	89	6	0	0	0
Peer reviewed:					
218	138	5	82	77	1*

**Acta Veterinaria Scandinavica*, pub. Danish Veterinary Association

Table 5 Number of scientific journals from Ulrich´s Periodicals Directory with material in Danish

Scientific, active journals with material in Danish (can also have material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
410	101	5	4	4	1*
Not peer reviewed:					
316	66	2	0	0	0
Peer reviewed:					
94	35	3	4	4	1*

**Acta Veterinaria Scandinavica*, pub. Danish Veterinay Association

Table 6 Number of scientific journals from Ulrich´s Periodicals Directory published in Denmark with material in Danish

Scientific, active journals pub. in Denmark with material in Danish (can also have material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
348	76	2	4	4	1*
Not peer reviewed:					
277	50	1**	0	0	0
Peer reviewed:					
71	26	1*	4	4	1*

**Acta Veterinaria Scandinavica*, pub. Danish Veterinary Association
***Aigis*, pub. Copenhagen University, Institute of Greek and Latin

Danish research databases

The Danish Research Database (DDF) is the central OAI compatible database for research information in Denmark, and it works as a search tool and producer of services. DDF is financed by DEFF. The research database aims for high quality and data in a standardised format. The database is also open for other search tools, such as Google Scholar. DDF/DEFF tries to economically stimulate deliveries of first class metadata to the research database and its adherent filing and publishing of full text. An amount for delivery of metadata in DDF_MXD format is required, and after that free Open Access to half of the registered publications.

Research databases and Open Access institutional repositories

At present, the universities are running activities concerning research databases and the establishment of local repositories. The usage of the local repositories is still under development and the usage is sporadic. Today, the main focus is placed on the research database and the OA material comes in during the next stage.

PURE/Atira is a system developed for research registering that is used by a group of universities. The system makes a connection to institutional repositories as DSpace, Fedora etc. possible. This quality can be seen as a clear advantage, since an integration of the systems simplifies the migration of data. Members of the PURE cooperation are for example Aarhus School of Business, University of Southern Denmark, Roskilde University, the Royal Veterinary and Agricultural University merged with the University of Copenhagen. The universities that use PURE cooperate on a joint metadata format and standard for publication types.

Open DOAR Directory of Open Access Repositories is run by the University in Nottingham, UK and is a record of all quality-controlled Open Access institutional repositories. (http://www.opendoar.org/) Open DOAR lists sic open repositories in Denmark (2007-02-20). The number of posts stated is taken from DOAR and is not always in accordance with the present point in time.

Table 7 Number of open repositories in Denmark from DOAR

Repository	Institution	Subject field	Software	Number of posts	Type of material
Aalborg Un iversity – Electronic Library	Aalborg University	technology, social science, languages and literature		35	Dissertations
Open archive@CBS	Copenhagen Business School	business administration		900	Preprints
Organic Eprints	Research Centre for ecol. Agric.	agriculture, ecology and environment	GNU Eprints	5394	Research and conference publications
RUC digital archive	Roskilde University	interdisciplinary	DSpace	1673	Research and conference publications, dissertations
SYS-DOC	COM-DTU Tech. Univ. of Denmark	electronics, engineering, IT	CDSWare	505	Research publications and dissertations
e-WINDENG	Wind energy assessment and wind engineering	technology	GNU Eprints		publications

Material

The Open Access institutional repositories hold for the most part material such as doctoral dissertations, reports, theses etc. At this stage it is not yet common for the researchers to deliver scientific articles as parallel publications. If you, furthermore, look at the total, the number of publications is still relatively low. Filing of student reports, theses, doctoral dissertations in digital format, is still often something that already is included in the work of the universities and libraries. In some cases, it is mandatory for the students to hand over a digital copy to the library. This has, for example, been the case at the Aarhus School of Business (from. 1. January 2007 a part of Aarhus University).

The Royal Veterinary and Agricultural University (from 1st January 2007 part of Copenhagen University) request a mandatory handing over of doctoral dissertations in digital format. The digital repository of Roskilde University primarily contains student reports, but they are considering also digitally storing and publishing a major part of the publications and working papers series of their own researchers in the future.

National and separate organisations' standpoints on free access to research information

Concerning the standpoints in the attempts to reach the researchers in Open Access questions within the individual universities, the situation at present is that the aim is to urge researchers, within existing regulations for copyright, to make their research publications available in a publication repository.

The publication type, Working papers, which is often used at business schools, is also one of the first that they try to issue through institutional repositories and has a long tradition, for example through the international open service Research Papers in Economics (RePEc). Likewise they try to urge the researchers into self-archiving.

During 2007, Copenhagen University Library will continue to inform the university research groups about Open Access, for example through information via a blog about Open Access. (http://openaccess.kb.dk).

The Technical University of Denmark has tried to develop and strengthen the researchers' own initiative to self-archiving and Open access publishing through a policy and a procedure for publication, but a real implementation of the policy is still missing.

Roskilde University Centre has signed the Berlin Declaration, but there is no compulsion or position on publishing in Open Access publication forms on behalf of the university management.

DEFF E-publication committee has carried out a mapping of the present situation concerning copyright and has also tried to inform funds and research financiers about Open Access.

The Rectors' Conference will discuss Open Access during the spring of 2007 and possibly a manifestation is to be expected.

Country report Finland

Background

The interest in Open Access publishing in Finland started through informal channels and among the research and library community in the beginning of the 21. century. One contributing factor to the spreading of the OA-interest was that there were research projects on scientific publishing and Open Access institutional repositories. The research projects *SCIX* (http://www.scix.net/sops.htm) and *OACS* (http://oacs.shh.fi/) that were financed by the EU and the Finnish Academy, were localised to one unit, the subject Information Management at the Swedish School of Economics and Business Administration in Helsinki. Special mention should be given to Professor Bo-Christer Björk as an initiator and introducer of Open Access in Finland.

FinnOA

An informal organ, *Finnish Open Access Working Group (FinnOA)* (http://www.openaccess.fi) started its work in April 2003 and has since worked as a unifying force for Open Access in Finland. Campus projects and small projects within the university college and university sector have also worked to establish local institutional repositories. Larger joint ventures have not existed where funding would have been granted centralised. Since 2006, the FinnOA group is coordinating a project, *OA-JES*, with funds from the Ministry of Education, where the aim is to support initiatives within OA. The aim of the project is to provide the university with support, information and coordination services, through a coordinator and an informer, as well as through the National Library for initiatives for open repositories. The project also supports the Federation of learned Societies to develop Open Access journals.

Committee report on OA

One major policy initiative in Finland is the report with recommendations to transfer to Open Access, compiled by a committee appointed by the Ministry of Education. The committee finished its work in April 2005, and in the report emphasis is on the importance of having free access to research information. The report directs its recommendations to research funders, the university, research institutes and publishers. Universities and libraries are encouraged to support an infrastructure where publications and research results can be made available with Open Access.

The Finnish Council of University Rectors signs the Berlin Declaration

Another important milestone is the fact that the Council of University Rectors for the universities in Finland signed the Berlin Declaration on free access to research information in May 2006.

Finland has an extensive net of universities and university colleges. There are 20 universities (10 are multi subject universities, 3 are technical universities, 3 are business schools and 4 are art universities). Furthermore, there are also 28 universities of applied sciences. The number of research institutes that are funded within the national budget is 20.

Statistics of research publications

According to statistics from the Ministry of Education (KOTA)

(http://kotaplus.csc.fi:7777/online/Etusivu.do) there were 24,847 scientific publications (of which 7,642 were published in the country and 17,205 abroad) during 2005. The number of referee articles is 2,100 in domestic journals and 10,739 in foreign journals in 2005.

The following is an analysis of the situation for the following areas: Open Access journal publishing, Open Access institutional repositories and national policy issues.

Journal publishing

The publishing of scientific journals in Finland is for the most part administered by the active scientific societies within each respective research field.
In most cases, journal subscription is connected to a membership and is offered as a membership benefit, mostly in printed form. Journal publication in Finland is shown in the search below from *Ulrich´s Periodicals Directory* (2007-02-20), a commercial database of all kinds of serial publications. Academic journals published in Finland, or published in Finnish or Swedish, have been searched. The search criteria used are seen in the tables 7-10 below, as well as the results. Ulrich's designation for academic journals has been used throughout. Journals with peer review systems are shown separately. The tables show that most of the journals are still published in printed form, and that the number of Open Access journals is low.

Table 8 Number of scientific journals from Ulrich´s Periodicals Directory published in Finland

Scientific, active journals published in Finland (possibly in cooperation with another country)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
453	102	8	12	7	2*
Not peer reviewed:					
355	63	2	0	0	0
Peer reviewed:					
98	39	6	12	7	2*

**Annales Academiae Scientiarum Fennicae Mathematica and Silva Fennica*

Table 9 Number of scientific journals from Ulrich´s Periodicals Directory with material in Finnish

Scientific, active journals with material in Finnish (may also contain material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
265	56	1*	2	1	0
Not peer reviewed:					
225	45	0	0	0	0
Peer reviewed:					
40	11	1*	2	1	0

**Elore*

Table 10 Number of scientific journals from Ulrich´s Periodicals Directory published in Finland with material in Finnish

Scientific, active journals published in Finland with material in Finnish (may also contain material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
254	51	1*	2	1	0
Not peer reviewed					
219	42	0	0	0	0
Peer reviewed					
35	9	1*	2	1	0

**Elore*

Table 11 Number of scientific journals from Ulrich´s Periodicals Directory published in Finland with material in Swedish

Scientific, active journals published in Finland with material in Swedish (may also contain material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
74	9	1*	2	0	0
Not peer reviewed					
60	6	0	0	0	0
Peer reviewed:					
14	3	1*	2	0	0

**Elore*

According to DOAJ, there are 6 scientific Open Access journals in Finland. Estimating the number of scientific journals is somewhat problematic and depends on how different sources define a scientific journal and a scientific journal with a peer review procedure.

Table 12 DOAJ 2007-02-20 (6 titles for search terms Finnish, Fennicae, Fennica)

Title	**Subject**	**Publisher**	**Language**	**Start**	**Ulrichs**
Annales Academie Scientiarum Fennicae Mathematica	Mathematics	Academia Scientiarum Fennica	Eng		YES
Elore	Anthropology	Finnish folklore Society	Eng, Fin Swe,	1995	YES
Human Technology	Media and Communication, computer science	Agora Center, University of Jyväskylä	Eng	2005	YES
Mirator	History	Univ. of Jyväskylä, Dept. of history and ethnology	Eng, Fin,Swe	2000	YES
Silva Fennica	Forestry, ecology, biology	Finnish soc. of forest science, Finnish forest research institute	Eng	1998	YES
SKY Journal of lingusitics	Linguistics	The linguistic ass. of Finland	Eng, Ger, Fre	2004	YES

Scientific journal publishing depends on a central funding source, namely the government support for journals or the scientific societies that publish them. For 2007 the granted support amounted to 900,000 Euro and was assigned to 56 journals, of which 16 are published in foreign languages (not Finnish or Swedish). 8 are published electronically and 6 of these are in foreign languages.

Some of the work within the OA-JES project has been aiming to give journals the possibility to, firstly, publish an electronic version, and secondly to give free online access to it. In concrete terms, the project has meant that TSV, The scientific association delegation has administered a platform using the software Open Journals System (OJS) and through a pilot study given a small number of journals (3) the possibility to use the platform and the system for journal publishing. The solution has been presented to and accepted by editors and journals. The problem for the journals is that in order to receive government support for publishing, the journal must in general have a working economy, normally based on subscription incomes. Publishing a journal solely in electronic form might mean that the income from subscriptions decreases. It might also in other aspects be a factor of insecurity for the scientific societies that depend on their members. Having only an electronic version might diminish the number of members, since many members consider the printed journal subscription as part of the member service.

Open Access institutional repositories

The latest trend in developing Open Access institutional repositories within the university and research sector is growing and during 2006 a transition to more purposeful projects was noticeable. The Ministry has also had a positive approach to funding applications for some university projects, and via the OA-JES project information on different solutions and appeals for joint projects within different sectors, both geographically and within a subject field, has reached the field. Open Access is no longer only a vision and a movement, but also means that concrete work is being carried out, especially within the libraries. In January 2007, Finland has 7 running OAI compatible repositories. Simultaneously, there are approximately as many repositories at a planning and project stage within the university and research sector. Work for campus solutions is also discernable, such as D-Viikki, (agro-forst, bio sciences, veterinary medicine and pharmaceutics), Gumtäkt which is a repository that is being planned (mathematics, physics) and Terkko within medicine, all of which are part of the University of Helsinki, the largest university in Finland.

The University of Nottingham, UK, is running Open DOAR Directory of Open Access Repositories, which is a register of quality-controlled open publication depositories. (http://www.opendoar.org/) Open DOAR lists 8 open repositories in Finland (2007-02-20), but the repository of Tampere is listed twice. The number of posts stated comes from DOAR and is not always concurrent with the present situation.

Table 13 Number of open repositories in Finland from DOAR

Repository	Department	Subject field	Software	Number of posts	Type of material
D Viikki	The University of Helsinki	Biosciences Veterinary medicine Agroforst	DSpace	309	Publications Conference articles
Electronic publications	University of Oulu	Medicine and health, Psychology Engineering	Own software	925	Postprints Dissertations
TKK Document server	University of Technology	Engineering, Physics, Mathematics, Chemistry etc.	Own software	722	Dissertations
JoyPub	University of Joensuu	Multi scientific	Own software	100	Dissertations
TaY Dissertations	University of Tampere	Multi scientific	Own software	718	Dissertations
Terkko document space	University of Helsinki	Medicine	DSpace	218	Publications Dissertations Conference articles
VTT Publications register	VTT	Engineering	Own software	200	Publications

Software

Regarding choice of software, DSpace is a strong candidate, especially among newly established repositories and repositories that are being planned. Many of the first repositories are built on an already existing database which has been made OAI compatible through own solutions. One contributing factor to the fact that DSpace often has been chosen during the last few years could be that The National Library has evaluated existing programs and chosen to develop Dspace for its own needs and as a platform solution for those departments who do not want to work on their own installations. In February 2007, the University of Helsinki launched a new version of its E-thesis service, which is now based on the software DSpace.

Material

When founding a institutional repository, one normally starts with material published within each unit. Doctoral dissertations are published electronically at most university colleges and universities, and they have been and are available through Open Access versions on the web via different solutions, ranging from static pages to database solutions. Therefore, it has been natural to start with these when filling the OAI compatible institutional repositories. Other theses have only limited availability in the repositories. Material in the university colleges', the universities' and the research institutions' own publication series has been relatively easy to publish electronically for several years, hence it has also been an easy material to make available via the Open Access institutional repositories. The Technical Research Centre, VTT, for example, makes its research reports available in an open OAI compatible publication repository, one of the first in Finland.

In one case (D-Viikki), the first campus library, the digitisation of older collections has been started. The publishers'/journals' policies regarding publishing grants for already published material have been investigated, and functioning work processes for submitting material have been developed. D-Viikki also contains a relatively large number of articles.

Ongoing projects

2006 constituted a starting point for a more centrally organised work with Open Access, since project grants were allocated for a one year project, OA-JES, where a work group from FinnOA worked as a steering group. The project was relatively small and the funding from the Ministry of Education of 100,000 Euro was shared between four parts: information, coordination, the National Library's work with supporting joint solutions, and a platform for journal publishing. The project was granted additional funding for 2007, which means that the work within the different fields can continue. Especially when it comes to institutional repositories, the need of cooperation and coordination of for example descriptive data, version handling and copyright, is of the utmost importance; as is the connection to those research databases with bibliographic information on publications that are used for reporting and for statistics on a national level.

Remaining projects with the theme Open Access have also received funding from the Ministry of Education, e.g. a project for central campus at the University of Helsinki (the Humanities and Social sciences) and a project at the Swedish School of Economics and Business Administration (economy).

One of the current interesting projects is a joint project between different campuses within natural sciences and medicine within the University of Helsinki. The virtual university also has a project for handling teaching media.

National positions regarding Open Access to research information

Finland has not decided on a mandatory transition to Open Access on a national level, but instead stresses the importance of having free access to research information through recommendations on a national level. In 2005, the Ministry of Education appointed a committee with the task of working out recommendations to promote free access to scientific publications (Open Access). The recommendations were supposed to address all players in the publication process: research funders, organisations pursuing research and bodies pursuing scientific publication activities. The purpose of the recommendations is to give better access and visibility to research publications, but not to alter the basis of evaluating the level of the scientific publications. The recommendations were published in the report *Promemoria av arbetsgruppen för öppen vetenskaplig publicering* (2005:8). (Memorandum of the Working Group for Open Scientific Publishing).

In the recommendations, the universities and the university colleges, as well as the libraries, are encouraged to, either separately or together, establish Open Access institutional repositories that meet the demands for compatible metadata and the OAI-PMH standard. There is special mention of having own publishing as Open Access and that the researchers are recommended to publish their research in open scientific journals, when there are any on at least the same level as the subscription based journals.
Research funders (such as Finland's Academy and Tekes) are recommended to approve writer fees as a cost for research projects that are granted funds.
Scientific journals and scientific societies are recommended to have open distribution of research articles over the web. There is a wish for open publishing as soon as possible, but there is also an understanding of the fact that there might be some reasons for delaying the open version, because of member fee incomes and subscriptions. The journals are also recommended to let authors make a copy of their article accessible through the open publication repository.

The Council of University Rectors in Finland decided to sign the Berlin Declaration at the meeting on 23. May 2006.

Country report Iceland

Background

Iceland goes in for information technology, as a part of the transition to an information society. The Icelandic government has released a policy document for Iceland as an information society, called *Resources to serve everyone - Policy of the government of Iceland 2004-2007* (http://eng.forsaetisraduneyti.is/media/English/IT_Policy2004.pdf).

The document contains the general outlines for how Iceland shall develop into an information society, and also contains a general strategy about the development of information technology for the whole population, industry, education system, research field and cultural area. The document is a continuation of previous visions about an information society from 1996. The aim for education and research includes, amongst other things, the coordination of databases with scientific information within the different scientific fields, and that these are made available both to researchers and the public. In a wider perspective, the aim is also to expand the usage of research results which could lead to innovations, for example, within business life.

In a manifestation from The Science and Technology Policy Council, Prime Minister's Office, published in February 2004, (http://bella.mrn.stjr.is/utgafur/visindaensk.pdf), the government will, in line with this, support:

- Free access to research results funded with governmental means
- Free public access to databases and other scientific information

The above stated especially concerns the funding of research about nature and environment in Iceland, the exploitation of natural reserves as well as health and welfare. A working party has been appointed in order to prepare the legislation in line with the most available form of free access for this type of research information.

Scientific journals

Table 14 Number of scientific journals from Ulrich´s Periodicals Directory, published in Iceland

Scientific, active journals published in Iceland (possibly co-published with another country)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
45	10	2	2	1	0
Not peer reviewed:					
29	7	1	0	0	0
Peer reviewed:					
16	3	1*	2	1	0

**Nordicum Mediterraneum* pub. Haskolinn a Akureyri

Table 15 Number of scientific journals from Ulrich´s Periodicals Directory, with material in Icelandic

Scientific, active journals with material in Icelandic (can also have material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
36	7	0	0	0	0
Nor peer reviewed:					
26	6	0	0	0	0
Peer reviewed:					
10	1	0	0	0	0

Table 16 Number of scientific journals from Ulrich´s Periodicals Directory, published in Iceland with material in Icelandic

Scientific, active journals published in Iceland with material in Icelandic (can also have material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
32	6	0	0	0	0
Not peer reviewed:					
22	5	0	0	0	0
Peer reviewed:					
10	1	0	0	0	0

According to DOAJ, there are not any recorded scientific Open Access journals in Iceland or in Icelandic.

Open Access institutional repositories

At present, there is an open research repository in Iceland, Landspítali University Hospital research archive, within medicine. The repository contains 549 publications within various medical fields, both in Icelandic and in English. The repository uses DSpace software, and is for the time being not among the listed Open Access institutional repositories in the DOAR or ROAR records.

Country report Norway

Background

In Norway, the development of Open Access has also mostly been carried out by the university libraries, who have taken different initiatives to further access to research information. The first of the six Norwegian universities to build open repositories were Oslo, Bergen and Trondheim.

- The university in Oslo has developed its own system, DUO, through cooperation between the university IT section and the university library. The project started in 1997, but accelerated only at the beginning of this decade. The political science department and the medical faculty were the first to start using the system (http://www.duo.uio.no/)
- The university in Bergen chose the open software DSpace for BORA - *Bergen Open Research Archive*. The service was launched in November 2003, but the work started already in 2003. BORA is a further development of *Støttetjenesten for elektronisk publisering (STEP)* (Support sevice for electronic publishing), which was started in 2001. Material from STEP, mainly ETD is now available in BORA (http://bora.uib.no/index.jsp)
- The Norwegian University of Science and Technology (NTNU) in Trondheim chose the DiVA system, developed at Uppsala University. See OA in Sweden (http://www.ub.ntnu.no/prosjekt/dravh/)

The Norwegian institutes of higher education established a cooperation group for the development of Open Access. The main purpose was to create a national search service, to use standardised metadata and to create an OAI harvester for all the material in the open repositories of the departments.

During the autumn of 2004, the authorities and organisations started to take an interest in OA. The Norwegian association of higher Education Institutions *(Universitets- och högskolerådet, UHR)*, that represents all universities and university colleges in Norway, in January 2005 published the document on Open Access to scientific articles *Åpen tilgang til vitenskapelige artikler*. The problems with the publication system and possible measures are described in this document. UHR wants to cooperate with central authorities in order to solve the economic questions. The document was distributed to all member organisations that, among other things, were recommended the following:

- To run an active information campaign in support of OA
- To find joint solutions together with publishers of OA journals for the payment of author fees. On ad hoc basis fund separate articles in OA journals
- To urge for publication in OA journals with peer review
- To establish/develop open repositories that gives a comprehensive overview of the department's research
- To adopt general principles that recommend authors to parallel-publish in the institutional repository
- To contribute to the cooperation between the institutional repositories and the system for research documentation FRIDA/ForsDok to simplify the reporting of the researchers
- To contribute to getting educational material and dissertations included in the departmental institutional repositories

In the Norwegian research proposition *Stortingsmelding nr 20 för 2004/2005 "Vilje til forskning"* (The Will to Research), the government's new research strategy is described. The importance of a better access to research information is emphasised, and the fact that the establishment of Open Access institutional repositories contribute to an increased spreading and usage of research results is seen as a positive result. The education and research department is commissioned to analyse the possibilities of further strengthening the electronic dissemination of results from publicly funded research, this as a part of a coming action plan to modernise the public services.

Initiatives

After UHR's letter in January 2005, the development has been rapid. The same year, the university colleges and BIBSYS took the initiative to a joint solution to establish repositories at the institutions that took part in BIBSYS. In January 2006, the PEPIA project started with planned operational start in November the same year. Budget: 800,000 NOK of which 400,000 from ABM (archives, libraries, museums) development. BIBSYS was put in charge of the project management and the realisation in cooperation with the consortium.

PEPIA - Prosjekt for elektronisk publisering og institusjonelle arkiv (Project for electronic publishing and institutional repositories).
Through joint systems and standards the aim was to obtain more effective and economic publishing, increase the quality of publishing and make publishing practice and research results visible.

1. Establish a joint system to support processes and activities concerning electronic publishing in the institutions
2. Establish departmental repositories to store find and convey e-resources written by the students and employees of the institutions
3. Establish support systems for authors: templates, guidelines and other facilities
4. Establish communication with other suitable systems like NORA and the research databases ForskDok and FRIDA
5. Contribute to a uniform registration of bibliographic data

The joint system for electronic publishing was called *BIBSYS Brage*. The consortium today includes 31 libraries, mostly college libraries.

Nasjonalt kunnskapssenter for helsetjenesten (National Knowledge Centre for Health Services) (est. January 2004) signed a membership agreement in October 2004 with BioMedCentral, which meant that Norwegian researchers with public funding could publish in BioMedCentral's peer reviewed journals, at that time amounting to 120, without paying the author fee.

Since 2006, the Knowledge Centre has run *The Norwegian Health Library*, which the same year, together with the university libraries in Oslo, Bergen, Trondheim, Tromsö and some university colleges, financed the membership agreement with BioMedCentral (now over 170 journals). During the spring of 2007, the Health Library is expected to decide if it is to offer an open publication repository for the whole health sector.

NORA – Norwegian Open Research Archives

NORA is a national service which facilitates the search for research material in the Open Access institutional repositories. The project started in April 2005, and it is a cooperation between universities and university colleges in Norway. NORA is funded by *Norsk Digitalt Bibliotek at ABM Utvikling (Norwegian Digital Library at ABM development)* - Norwegian Archive, Library and Museum Authority.
The project group includes the university libraries in Oslo, Bergen, Tromsö and Trondheim, as well as the university college libraries in Agder, Hedmark, Bodö and Telemark and the Norwegian

Business School. BIBSYS and the Norwegian National Library were added in 2007. The search system has been developed and is run by Oslo University's IT department, USIT. The user interface has been produced by a professional designer at NTNU in Trondheim.

Joint metadata model

The basis is Dublin Core metadata. Eleven of the fifteen elements in DC have been chosen by NORA as the most essential for a correct bibliographic description of scientific documents, and many of them are therefore mandatory to register. Examples of standardised elements are language (ISO 639-3), date (MMDDYYYY), personal name, name of publisher and subject category.

Joint subject classification

NORA chose the Norwegian classification of research disciplines *(Norsk Inndeling av Vitenskapsdisipliner)* which covers all subjects and has three levels. The system is Norwegian, but is based on an OECD standard used by UNESCO and the EU's statistics office EUROSTAT. The subject classification is used in many contexts within the Education and Research Council, but mostly for statistic purposes by the Norwegian Association of Higher Education Institutions, *Universitets og høgskolerådet (UHR)* by *FRIDA* - Norway's national research documentation system and all open repositories that are part of NORA. An important principle is that the subject classification shall follow the international standard in order to both make international comparisons possible and suite Norwegian conditions at the same time.

By using a joint subject classification, specific subject term searches can be made through overall participating repositories, a very important condition. The subject categories can be viewed at: (http://gammel.uhr.no/utvalg/forskning/dokumenter/forskdokNorskvitdisinnst.htm#_Toc50789794)

Search system

It was considered of great importance to have a good search system in place as early as possible, since this is what the users are most interested in. The first version was ready in June 2005, 2½ months after the start, and the advanced search function was launched in September 2005. The choice fell on a more Google-like approach instead of a traditional bibliographic search system.
NORA can also be searched through other portals, such as Http- search, SRU/SRW (will be developed). In BIBSYS Mime, NORA can be co-searched with ***Scirus, PubMed, NORART*** (Norwegian journal articles) and BIBSYS - the National Library catalogue.
Comment: SRU - Search-Retrieve by URL is a web based search system developed under supervision by Library of Congress as a successor to the Z39.50 protocol.

Local development work

All Norwegian open archives with scientific information are welcome to take part in NORA. It requires local development work financed by each participant. Participating archives have to fulfil three fundamental demands: they must be OAI-PMH compatible *(Open Archives Initiative - Protocol for Metadata Harvesting)*, deliver data according to NORAs metadata standard and classification system, and have objects in full text or in other formats. All new repositories are harvested by NORA. (http://www.ub.uio.no/nora/)

Documents from small institutions

Small institutions do not have the resources to establish their own local repositories. NORA has therefore developed an OAI-PMH editor, which generates XML files to NORA. Full text versions can be published on a institutional website.

One of *NORA's* important roles is advocating Open Access. NORA *Open Access Window* is planned to become the national website for scientific communication in Norway for students, researchers, librarians and decision makers - a complement to ScieCom in Sweden and the international SHERPA/RoMEO list. (www.openaccess.no)

The NORA project has brought about an increased focus on the need for open archives with scientific information.

Research documentation systems

1. ForskDoc was for a long time the only joint research documentation system in Norway. The system was used for delivering statistics to the ministry, making FoU catalogues and internal budget work. FRIDA appeared in 2003, as a cooperation project between the universities.

UHR's report *'Vekt på forskning - nytt system for dokumentasjon av vitenskapelig publisering'* (Emphasis on research - new system for documentation of scientific publishing) (2004) describes the criteria for scientific publishing, as well as how different publication forms should be weighted and how a technical solution could be developed to meet these demands.
(http://gammel.uhr.no/utvalg/forskning/vitenskapeligpublisering/DokumentasjonavvitpublSluttrapport121104.htm)

ForskDok has been developed by BIBSYS starting in 1994. In 2005 a new version came out with an adaptation to the new departmental criteria, among which was the introduction of the ITAR system. *ForskDok* is run by BIBSYS which uses an allocation key to charge participating university colleges for the management of the system. Earlier, *ForskDok* was a part of the BIBSYS fee, but since the universities now use FRIDA, they did not want to pay for a system they did not use.

The technical solution that supports import of scientific publication data is called *Importtjeneste og Autoritetsregistre (Import service and Authority record) (ITAR). ITAR* is both an authority record for scientific publication channels, publication types and institutions and a service which imports scientific publication data from the data providers, *ISI, NorArt* and *BIBSYS.* These data are available to all registrants in *ForskDoc* or *FRIDA. Norwegian Social Science Data Services - NSD* is responsible for the running and updating of the authority record. (http://dbh.nsd.uib.no/)

2. *FRIDA - Forskningsresultater, informasjon og dokumentasjon av vitenskapelige aktiviteter*
FRIDA is a national system for research documentation. The University of Oslo found that ForskDoc did not meet their needs and started to develop their own system at the end of the 1990s. The universities in Bergen, Tromsö and Trondheim (NTNU) joined in. The management of FRIDA for the four universities is taken care of by USIT IT department at the University of Oslo, but others can buy their way into it.

FRIDA shall deliver quality assessed research data to *Kunnskapsdepartementet* (before 2006 it was called the education and research department) as well as cover the universities' need for documentation to generate reports. The system has two searchable modules, one for research results and one for competence catalogues. *FRIDA* shall also work as a portal for general information about research activities. A project module is under development.

It is mandatory for all university employees to register their scientific productions in *FRIDA*, while registering in *ForskDoc* is mandatory for employees at the university colleges. *Kunnskapsdepartementet* decides the end date for registering publication data through *FRIDA*. The system also contains a module for annual reports.

FRIDA is integrated with the universities' local repositories. The researchers should only need to use one system, and this can be solved if the local repositories receive journal articles through the mandatory registration system. 2006-12-01, an automatic transmission of metadata and full text from *FRIDA* to the local repositories in Bergen, Oslo, Trondheim and Tromsö was initiated.

National policies

At present, only the university in Oslo has decided on mandatory deposition in an open repository. From 2007, all students within medicine and law at Oslo University must deliver their theses electronically.

The Ministry of Education and Research has decided that registration of research publications in *FRIDA* is mandatory for all university employees. Employees at the university colleges, must register in *ForskDoc*.

NORA has applied for permanent funding of *NORA at Kunnskapsdepartementet*.
Open repositories
Today, Norway has ten well established open repositories with nearly 10,000 full text documents. Five out of six universities have Open Access institutional repositories; moreover there are three university colleges and two research institutes:

- Agder University College (39) part of *BIBSYS Brage*
- Norges Geologiske Undersökelse - NGU (960)
- Hedmark University College (205) part of *BIBSYS Brage*
- Norwegian Defence Research Establishment (506)
- Norwegian School of Economics and Business Administration (BORA) (1377)
- The Norwegian University of Science and Technology - NTNU (DIVA) (820) *DOAR, ROAR*
- Norwegian University of Life Sciences – UMB (81)
- University of Bergen (BORA) (1320) *DOAR, ROAR*
- University of Oslo (DUO) (3980) *DOAR, ROAR*
- University of Tromsø (MUNIN) (492) *DOAR, ROAR*

DOAR - Directory of Open Access Repositories lists quality assessed repositories. ROAR - Registry of Open Access Archives lists open repositories.
If you count all repositories, even those that are a part of the *BIBSYS Brage* consortium, Norway formally has 39 OAI compatible repositories. However, several of the institutional repositories in this consortium have just started and therefore do not have much content yet. With the help of the OAI editor, another 2 repositories are on their way. A lot is predicted to happen during 2007.

Norwegian open repositories grouped according to software/system

DSpace
- Bergen
- Tromsö
- BIBSYS Brage consortium (31 libraries)

DiVA-system
- Trondheim

Local system
- Oslo

Open Repository
- Health Library

Non OAI-PMH compatible system
- Two research institutes

The choice of different technical systems does not matter as long as the systems are OAI-PMH compatible. The systems that are not OAI-PMH compatible download the records from their local databases and export their metadata in a standardised way.

The open repositories focus on different types of material:

Student theses in Oslo, doctoral dissertations in Trondheim, journal articles in Bergen, departmental research reports (Norges Geologiske Undersökelse och Forsvarets forskningsinstitutt). In Oslo they have, for example, chosen to progress step by step and have started by prioritising the type of documents that have been mostly requested by universities. In that way, they have obtained a

large number of student theses, In March 2007, they will concentrate the marketing on obtaining doctoral dissertations and in the autumn on articles.

Experiences from DUO Digitale Utgivelser ved Universitet i Oslo(Digital publication at the University of Oslo). Student theses

The project managed to involve all faculties and all departments in the transition to electronic publishing of student theses. Today, DUO has 4,150 full text documents, of which around 3,500 are theses. Each year, 2,250 students shall deliver their theses within their educations for medicine and law, as well as theses corresponding to licentiate and master level. In 2005, 1,108 theses were delivered, i.e. 50 %. From 2007, the university in Oslo has introduced a mandatory deposit of theses to DUO as stated above.

Full text documents in DUO are of great use. Between March 2004 and January 2007, full text documents have been downloaded *226,372* times. DUO now has 15,000 downloads per month. DUO uses FRIDA to catch full text articles; they are two completely different systems with different functions.

OA journals

As in Sweden, there are around ten scientific OA journals in Norway. Below are presentations from two different systems.

Quality assessed Open Access journals within all fields and in all languages are registered in *DOAJ Directory of Open Access Journals*, which contains 2,545 journals (2007-01-27) and 125, 591 articles, searchable in full text. Since it is not, at present, possible to search for country of publication in *DOAJ*, the journals presented have been found using the search term Norwegian, with matches on language and /or title words. A journal from another source has been added.

Table 17 DOAJ 2007-02-02

Title	Subject	Publisher	Lang.	Start	Ulrichs	DOAJ Full text	JCR
Acta Orthopaedica *	Surgery	Taylor & Francis	Eng	2005	JA		JA
AIGIS	Lang/Lit	Greek and Latin, Cop. Univ	Dan,Swe, Nor	2001	JA		
Anpere : Anthrop Persp on Religion	Anthro-pology Religion	Anpere	Eng, Swe, Dan, Nor	2006	JA		
Dictum, The Critical View	Soc Sci	Dictum	Eng, Nor	2005	JA		
Nordlit. Arbeidstids i litteratur	Lang, lite	Univ Tromsö, Humfak	Nor, Eng	1997	JA		
Nordlyd	Linguistics	Univ Tromsö, Dept lingustics	Eng, Nor	2003	JA	JA	
Norwegian Journal of Geology	Earth Sci	Nor. Geol. Ass.	Eng	2003	JA		JA
Res Cogitans : Journal of Philosophy	Philos	Inst Philos, Edu, Study Religions, Univ Southern Denmark	Eng, Ger, Fre, Dan Nor, Swe	2004	JA		
Svensk Biblioteksforskning	Libr Info Science	Swed School of Libr & Info Sci	Swe,Eng, Nor, Dan	2005	JA	JA	
Tidskrift for Den norske laegeforening	Medicine, general	Den norske laegefot, Oslo	Nor	2000	JA		
TijdSchrift voor Skandinavistiek	Hist Lang Lit	TijdSchrift voor Skandinavistiek	Dutch,Dan Swe, Ger, Eng, Nor	2002	JA		

*Publ country also Norway

Ulrich´s Periodicals Directory is a commercial database on all types of serial publications. Below are the results of a search for scientific journals, published in Norway or in Norwegian. The search terms used are listed in tables 18-20 below. Ulrich's term for scientific journal has been used consistently. Journals with peer review are presented separately. The search was carried out 2007-02-02.

Table 18 Number of scientific journals from Ulrich´s Periodicals Directory, published in Norway

Scientific, active journals published in Norway (poss. co-published with another country)					
Total number	**Online**	**Online and OA**	**JCR**	**JCR and online**	**JCR, online, OA**
383	173	10	32	30	2
Not peer reviewed					
282	115	4	3	3	0
Peer reviewed					
101	58	6	29	27	2*

* Acta Orhopaedica and Norsk Geologisk Tidskrift

Table 19 Number of scientific journals from Ulrich´s Periodicals Directory with material in Norwegian

Scientific, active journals with material in Norwegian (can also have material in another language)					
Total number	**Online**	**Online and OA**	**JCR**	**JCR and online**	**JCR, online, OA**
391	100	6	2	1	0
Not peer reviewed					
329	80	4	0	0	0
Peer reviewed					
62	20	2	2	1	0

Table 20 Number of scientific journals from Ulrich´s Periodicals Directory published in Norway and with material in Norwegian

Scientific, active journals pub. in Norway and with material in Norwegian.					
Total number	**Online**	**Online and OA**	**JCR**	**JCR and online**	**JCR, online, OA**
237	83	2*	2**	1***	0
Not peer reviewed					
197	70	2	0	0	0
Peer reviewed					
40	13	0	2**	1***	0

*Dictum and Tidskrift for Norsk Laegeforening ** Internasjonal Politikk, Tidskrift for Samfunnsforskning ***Tidskrift for Samfunnsforskning

Open Access publishing

The university in Oslo will publish an Open Access journal called *Acta Didacta* using the Open Journal System (OJS). The first issue is due this year. It will be run and financed by The Department of Teacher Education and School Development.

Quality

NORA requires high quality metadata and has therefore developed its own OAI-PMH Harvester, which each week harvests and validates metadata to ensure the quality of the local repositories. Data differing from the metadata standard are normalised directly or otherwise the repository is contacted with suggestions for corrections. Data coming in from many different sources can then be presented uniformly to the user.

In FRIDA, it is the departmental prefects that have the overall responsibility for the content. Since the registrations constitute the basis for funding from the ministry, the quality assessment of the registered data is very important.

Copyright

Nora Open Access Window gives information about the publishers' policies for self- archiving and refers to the SHERPA/RoMEO list. NORA also includes a model agreement for publishing at a publisher.

It is the libraries' task to produce instructions, guidelines and templates for agreements about self-archiving.

When registering in *FRIDA*, the researchers need to sign an electronic contract with their local repository. In this contract, the researcher gives the repository a non-exclusive license to make the researcher's article available in full text.

Country report Sweden

Background

The work supporting free access to research publications - Open Access - has been in progress for several years in Sweden. During the autumn of 1996, Stevan Harnad introduced the concept to the library community at a BIBSAM conference on the theme 'Forskarna, nätverkspubliceringen och biblioteken' (The researchers, network publishing and the libraries). (Hagerlid 2006)

There have been several motivating factors: the major publishers' annual two-figure price increase, the copyright issues subsequent to electronic publishing licence agreements instead of downright purchases, the package selling tactic 'Big Deals', as well as new technical possibilities for self-archiving. Those who first observed the problem - the university libraries and the National Library of Sweden/BIBSAM - have been working, both individually and together, to find new ways of publishing at the institutes of higher education. The publishing accelerated during the first years of this decade and was considered to be a natural task for the U/UC (University and University College) libraries.

The involvement of the research community and the administrators has experienced a slower development. A number of international and national initiatives, as well as the considerable information input both from the university libraries and by separate researchers have now started to result in a realisation of the favourable consequences that a wider dissemination and increased visibility leads to in terms of greater impact. Examples of information efforts are the conference series Nordic Conference on *Scholarly Communication* and also *ScieCom - Swedish Resource Centre for Scientific Communication*.

In 2003, with the *Letter of Appropriation*, the Ministry of Education and Research, for the first time demanded that the institutes of higher education accounted for their production. This demand became an important incentive to create complete publication databases at the universities.
Several Swedish universities, for example Uppsala, Stockholm, Gothenburg and Växjö, have chancellor decisions on mandatory registration of all academic work, whereas at other universities, for example Lund, the faculties/fields have taken such decisions. Full text access is a logic complement to registering.

From the *Letter of Appropriation*, 2003:

> ”Universities and University colleges shall, in connection with the annual report every fourth year account for their publications in internationally acknowledged journals or other publication forms using a peer review system. In the annual report an account will be given per scholarly field and include publications from 2003, if possible with comparing data for 2001 and 2002.”

Uppsala University introduced mandatory registration for the medical and pharmaceutical faculties as early as in 1995, when it was decided that part of the faculty grants should be based on publications.

Registration became mandatory for the rest of the faculties in Uppsala when the large BASTU-evaluation required all publications between 1995 and 1999 to be registered in the system prior to the present OPUS (below). This was realised in 2000.

Initiatives

1992-12-13 ***Project Runeberg*** was launched at Linköping University in order to give free online access to classical Nordic works. The project belongs to the computer society LYSATOR at Linköping University and is run by hundreds of volunteers.
(http://runeberg.org/).

1996/1997 The proposition ***Forskning och samhälle (Research and Community)*** demanded that authorities carrying out publicly funded research should give free online access to their research information from 1998 onwards. The Swedish National Agency for Higher Education was appointed to lead ***"SAFARI - Spridning av forskningsinformation till allmänheten över Internet"(Dissemination of research information to the public over the Internet)***.

Two part projects:

1. A national searchable catalogue on the Internet containing popularised research information in Swedish for the general public
2. A national searchable system for research information for professional users with detailed information on projects, publications, researcher qualifications etc.

The results were not realised as desired. Material was not submitted; the project lacked both stick and carrot. The plans were revived in the general project ***forskning.se***, which is owned and developed by ten public authorities and foundations funding research, and in the research focused ***SSN - Sweden Science Net***, a cooperation between six Swedish universities aiming to develop a national system for research information within the life sciences.

In 1996, ***Linköping University Electronic Press (LiU E-Press)*** was established in order to meet the university's need for electronic online publishing. In 2004, ***LiU E-Press*** became an independent non-commercial unit with its own board and was connected to the university library. (www.ep.liu.se) Please see below under ***OA-journals***.

In 1997, Lund University became a Swedish pioneer in electronic posting of doctoral dissertations. Preliminary thesis title page, bibliographic data and abstract were presented in ***Lund University Dissertations*** (http://theses.lub.lu.se/postgrad/). Aided by legal expertise, agreements were made between publishers and Lund University on general permits for republishing in composite dissertations.
(http://theses.lub.lu.se/postgrad/publish/scripta/) - samman

1997 ***Electronic publishing at Lund University in full text LUFT***, was funded by BIBSAM. The background was the university's vision in its IT-strategy for 1998-2000:
"The university shall develop models for electronic publishing of information/…/overall purpose is to promote the transition from paper-based to electronic publishing/…/. The vision is that all electronic documents the university produces or in other ways utilises should easily be searchable, found, read and printed from the computer networks."
However, the university management was not yet ready to decide on recommendations and guidelines for electronic publishing.

In 1997, the Blekinge Institute of Technology launched the project ***DELFIN-Direkt Elektronisk Lagring av ForskningsInformation (direct elctronic storage of research information)***. On the library's initiative, an interim research editing council was appointed to make publishing, dissemination and storing of BTH's research documents more efficient, and the vision was access to full text. Blekinge forskningsstiftelse (research foundation) and BIBSAM together contributed with in all 650,000 SEK.

1998. The report ***Elektronisk fulltextpublicering - en projektrapport om publikationer utgivna av Handelshögskolan vid Göteborgs universitet (Electronic fulltext publishing – a project report about publications issued by Göteborg Business School)*** proposes that the School

of Business, Economics and Law establishes an independent centre for electronic publishing in cooperation with the Economics Library and the School of Business, Economics and Law. The project ran from 1998 to 2000 and was after that immediately put into regular operation.

In 1998, the Vice-Chancellor at Uppsala University requested report on the university's scientific online publishing. In 2000, the report proposed that a unit for digital publishing be appointed at the university library. ***Enheten för digital publicering (the unit for digital publication)*** was created the same year and was commissioned to create work flows and technical solutions for electronic publishing of the summary of the dissertations - ***DiVA – Digitala Vetenskapliga Arkivet (Academic Archive On-line)*** had been born.

In **1999**, the ***Swedish University of Agricultural Sciences, SLU***, started ***EPSILON*** as a project to develop models for electronic publishing of SLU publications. From 2003 all doctoral dissertations and licentiate's dissertations are published here. From 2003 there is also an equivalent system for theses.

In February **2002** Lund University Libraries signed a membership in ***BioMed Central***, thus becoming the first European university to try this type of funding for publications from an institute of higher education. The response from the medical faculty was very positive.

In **2002, *LU-research*** - the database for research publications – was running regularly at Lund University (http://lu-research.lub.lu.se/information.html) Together with the medical faculty's information committee, an interface was created for the medical faculty's research publications - ***Lund Virtual Medical Journal***, with its own editing board that, amongst other things, chooses the article of the month for a more detailed presentation. (http://lvmj.medfak.lu.se/)

2002 a working group at Lund University, with representatives from the Legal Division, the Faculty of Law and Lund University Libraries, Head Office, proposed model licences for the university, on the one hand a ***Licence to Publish*** between the author and the publisher, and on the other hand an agreement between the author and Lund University for publishing in ***LU-research***. For further information see under ***Copyright*** below.

2002 ***First Nordic Conference on Scholarly Communication - NCSC***, was arranged by Lund University Libraries, in cooperation with Danish library organisations. The target group was all stakeholders within the field of scientific communication. The conference now takes place every second year in Lund, alternating with ***CERN's*** OAI-conferences.

2002 In discussions at the first ***NCSC*** it became apparent that there was agret need for a database on quality controlled Open Access journals. The following year, ***DOAJ - Directory of Open Access Journals*** was launched at Lund University, primarily funded by *OSI - Open Society Institute*. ***DOAJ*** has become the internationally established record of quality-controlled, freely available journals within all subject fields and in all languages.

2002. *ScieCom - Swedish Resource Centre for Scientific Communication.*
(http://www.sciecom.org/), funded by BIBSAM and Lund University. ***ScieCom*** has been supplying a large amount of information by way of its substantial website, a series of seminars and workshops and its online journal ***ScieCom info***, with invited articles in English on different aspects of scientific communication.

In **2003**, the two-year ***SVEP - Swedish university colleges' electronic publishing*** project was begun, in order to promote a coordinated development of techniques and processes and joint metadata standards for publications. This was funded by BIBSAM. In 2006, (www.openaccess.se) was started as a continuation of ***SVEP*** and other development projects. The basic funder is BIBSAM with additional sources for larger projects.

National policies

2003 The working group that was appointed by ***SUHF -The Association of Swedish Higher Education*** to analyse future questions for higher education libraries, presented its final report ***Vägar för kunskap - behov av en gemensam strategisk nyorientering för högskolorna och deras bibliotek (Roads to knowledge - needs for a joint strategic new orientation for the higher education institutions and their libraries)*** . (http://www.suhf.se/Main.aspx?ObjectID=213) The point is that SUHF's members should observe "the need to create an organisational and economic basis for professional, scientific publishing activities at their institutions" and therefore propose that SUHF appoints a special working group that

- Acts to produce new publishing agreements that ensure that researchers can make their publications available in the institutional repositories on the university college's servers
- Illustrates long term financial effects and other effects of existing publishing practice
- Examines existing systems for evaluation and reviewing

Such a working group was appointed with representatives from university managements, funders and university libraries with a commission to work throughout 2006.

2004-10-21 Based on the working group's results, ***SURF's*** General Assembly decided to assign the SURF Board to sign the ***Berlin Declaration***. This was done and SURF recommended that all members:

- Introduce a policy that strongly recommends their researchers to submit one copy of each published article to an Open Access digital repository
- Encourage researchers to publish their research articles in Open Access available scientific journals if suitable journal is available and give the support that is needed to realise this goal

A spin-off effect of the working group's activities was the appreciation of the importance of a close cooperation between the managements of the university and of the university libraries. As a result Forum för bibliotekschefer ***(Forum for library directors)*** was created in 2006 within SUHF, Forum has established a number of working groups dealing with specific issues, such as institutional electronic publishing, joint licences to digital information resources, and bibliometrics and research evaluation.

Lund University was the first institute of higher education to follow SUHF's recommendations, and **2005-11-14** approved its own OA policy with the motivation that "free accessibility for publications leads to increased usage and impact for research. This leads to increased visibility and impact for the reseachers at Lund University." To maximise the number of Open Access available publications, the management decides that:

- Researchers at Lund University, if possible, should publish in journals that are freely available to the reader
- If a freely available journal is not available as an equal option, a journal that allows for parallel publishing of the article should primarily be chosen
- Transferring copyright grants should be avoided. The minimum requirement is the right to parallel publishing
- Lund University supports the transition of scientific journals to a publishing model, where articles are made freely available to the reader directly or through parallel publishing

2005-05-17. **The Swedish Research Council (VR)** signs the ***Berlin Declaration***.
"Results from governmnent funded researchshould be available to everyone, not only to those who can afford to pay" (Pär Omling, Director General, VR).
"A basic principle within research is the free exchange of information and a maximal dissemination

of results./…/The signatories take upon themselves to, amongst other things/…/develop methods for quality assessment of online publishing and that open access publishing will give credit in the research evaluation process" (From press release *2005-05-17).*

It is important for VR, that the publication process is speeded up, and that the researchers' rights to their own work are guaranteed. VR is now discussing an action plan on how to implement an Open Access policy that can be combined with high quality requirements.

2006-06-29. Stockholm's University: ***Policy concerning the handling of Open Access publishing***. The Vice-Chancellor decides

- That, from 2007, the prefect/corresponding at the departments is responsible for bibliographic data about the teachers' and researchers' publications continuously being made available in the university's publication database
- That the reporting should include all publications written by teachers and researchers as employees at the university. This includes all academic publishing as well as publications within the scope of cooperative projects (e.g. popular science publications, articles in the daily press)
- That researchers, as far as possible, submit a copy of each published article to the university's digital repository

2007-01-08 The Vice-Chancellor at Göteborg University decides

- That all academic work published from 2004 and on, shall be registered in the publication database GUP, in accordance with the regulations
- That the registrations should be continuous and coincide with publishing

Open Access institutional repositories

Mapping

Within the ***SVEP*** **project** a mapping of scientific e-publishing at Swedish institutes of higher education investigated. Some comparative data were already available (2002). Current data were produced through a questionnaire put to 38 institutes of higher education. 26 answered. Some results per March 2005:

- 19 OAI compatible repositories against the previous 8! 6 publish doctoral dissertations
- Four U/UC publish articles and only two of them have over 500
- The majority lack a clear policy and a specific budget for the field
- 8 had a budget and two were funded by project funds. Two (Uppsala and Umeå) are self-funded, i.e. parts of the actvities are charged with fees and give cost coverage
- Few staff resources have in general been appointed for e-publishing. For those higher educational institutions that e-publish scientifically material, the average was on 80 % of a Full Time Equivalent (FTE), the median being 25 %

(Holmqvist 2005)

Open DOAR Directory of Open Access Repositories

is run by the university in Nottingham, UK and is a record of quality-assessed Open Access repositories . (http://www.opendoar.org/) ***Open DOAR*** lists 30 open access repositories in Sweden (2007-01-30).

ROAR - Registry of Open Access Repositories

is run by the University of Southampton,UK. ***ROAR*** has two functions: to follow the growth of open repositories and to maintain a list of repositories that use the software GNU Eprints (built by Southampton University to facilitate self-archiving)
(http://roar.eprints.org/?action=browse)

Listing of open repositories according to number of repositories (ROAR 2007-01-27)

Nr	Country	Number of archives	Celestial	Records	Average	Median
1	U.S.A.	210	161	3065618	19041	505
2	U.K.	90	73	287677	3941	320
3	Germany	77	60	219215	3654	562
4	Brazil	49	34	140097	4121	104
5	Canada	39	32	36371	1137	233
6	France	36	29	139728	4818	453
7	Australia	32	27	110224	4082	1084
8	Sweden	31	28	41222	1472	873
15	Denmark	9	6	10101	1684	1053
20	Norway	7	4	10157	2539	734
21	Finland	6	4	12342	3086	848

Records only show the number of OAI-PHM records that are already part of a repository and only for those repositories that have been harvested by ***Celestial***, which presents OAI compatible repositories. The number of available full texts is considerably lower than the number stated under records.

Four different systems used by Swedish Open Access repositories:

1. The DiVA system – 15 repositories

Uppsala: ***DiVA, Digital Scientific Repository (Academic Archive On-line)***
(http://epc.ub.uu.se/)
DiVA contains dissertations and other publications in full text from a number of universities. ***DiVA*** is the overall term for a system for electronic publishing and archiving, developed by the ***Unit for digital publishing*** at Uppsala University Library funded by the university.

Of four systems ***DiVA*** is the only one that offers publication support. ***DiVA*** handles metadata about different types of documents in both physical and electronic formats and stores search strings to these. The system is also used to create parts of the digital original used to produce the printed and the electronic publication. By integrating the flow for the production of both a printed and an electronic version, the accordance between them is guaranteed.
The technical solutions that are used, are based on XLM as a format for transmitting and storing both metadata and full texts, right now mostly as PDF.

DiVA has developed a portal for the U/UC that are part of the DiVA cooperation. Since the system can handle any format, each organisation can decide which format it wants to support. (http://www.diva-portal.org/)

Participating libraries contribute to costs for development and management. Price list for Uppsala's publication of doctoral dissertations
(http://www.ub.uu.se/forauthors/index.php/Main/PricelistPage)

The 15 institutes of higher education that are part of ***DiVA*** and use its software 070205):

Table 21 Swedish institutes of higher education participating in DiVA

Gävle	46	Mälardalen	56
The Swedish School of Sports and Health Science	73	Skövde	25
Jönköping	554	Stockholm	1463
Karlstad	540	Södertörn	907
The Royal Institute of Technology	1809	Umeå	798
Linköping	3908	Uppsala	2472
Mid Sweden University	31	Växjö	653
		Örebro	347

Publication types: Articles (39) Doctoral dissertations (5,467) Master theses/ undergraduate theses (8,251) Reports (686) Chapters (2) Other (19) (Note! In this total number, NTNU in Trondheim is included with 792 documents).
The unit for electronic publication also runs ***OPUS*** - a bibliographic database for Uppsala University. It is mandatory to register all scientific works published by researchers and other employees. During 2007/2008, a new version of ***DiVA/OPUS*** will launched, where the two systems are merged and improved functions for publication of journals and post-prints will developed. (http://opus.uu.se/)

2. Self-developed software – three repositories

Dalarna University College Electronic Archive (DALEA)
DALEA is a database over the university college research publications and undergraduate theses. Some are available in full text. 2037 posts OAI
(ROAR 2007-01-27) (http://dalea.du.se/)

Lund University Dissertations – Scripta Academica Lundensia
1996 - 4,732 records OAI of which 325 in full text.*(ROAR 2007-01-27)* (http://theses.lub.lu.se/postgrad/publish/scripta/)

Blekinge Institute of Technology – The research database
Started in 1997 as the **DELFIN** project. Over 2,000 records of which 600 in full text. (http://www.bth.se/fou/)

3. D-Space – two repositories

GUPEA – Göteborg University's publications - e-publishing and e-repositories
OAI-PMH 611 records *(ROAR 2007-01-27)*

MUEP - Malmö University Electronic Publishing
OAI-PMH 2,197 records *(ROAR 2007-01-27)*

(ROAR 2007-01-27 presents nine, but one of these was a test repository and one was twice reported. Note that the number of records might have changed)

1. ***Theses Kristianstad University*** (931 records)
2. ***The School of Business, Economics and Law at Göteborg University***. (3,304 records) Note! Will be transferred into GUPEA and thus to DSpace
3. ***Lund University's research database LU-Research*** (6,242 posts) Note! a new system is being developed, and is expected to be ready during 2007.
4. ***Swedish Institute of Computer Science - SICS***. An independent non-commercial research institute (196 records)
5. ***Swedish University of Agricultural Sciences - SLU. EPSILON***. Master theses (891)
6. ***Swedish University of Agricultural Sciences - SLU. EPSILON***. Undergraduate theses (891)
7. ***Swedish University of Agricultural Sciences - SLU. EPSILON***. Doctoral dissertations (636)

OA journals

As in Norway, there are around 10 scientific OA journals in Sweden. Below the harvest from two different systems are presented.

Quality-controlled OA journals within all subjects and in all languages are recorded in ***DOAJ – Directory of Open Access Journals*** which contains 2,545 journals (2007-01-27), and 125,591 articles, searchable in full text. Since it is not possible at present to search for country of publication in ***DOAJ***, the journals presented have been found by using the search term Swedish with matches for language and/or title words. Five journals from other sources have been added.

DOAJ now also covers the Open Access articles in the so called hybrid journals. Here you also find advice for authors on different copyright conditions, licence alternatives, current article prices etc.

Table 22 DOAJ 2007-01-17 (10 titles, search terms Swedish + 5 titles through other sources)

Title	Subject	Publisher	Lang.	Start	Ulrichs	DOAJ Full text	JCR	Supp-ort
AIGIS	Lang/Lit	Greek and Latin, Cop. Univ	Dan,Swe Nor	2001	YES			
Anpere : Anthropol Perspect Religion	Anthropol Religion	Anpere	Eng, Swe, Dan, Nor	2006	YES			
Elore	Anthropolog	Finnish Folklore Soc	Eng, Fin, Swe	1995	YES			
Hereditas	Cytology --- Genetics	Blackwell Publishing	Eng	2005	YES		YES	
Human IT:	Library and Info Science	University College of Borås	Swe Eng	1997	YES	YES		VR 80K NOP
Hygiea Internat interdisc J hist public health	Public health	Int Network Hist publ health	Eng	1999	YES			
International Journal of Ageing and Later Life	Social Sciences	Univ Linköping	Eng	2006	YES	YES		
J Nonlinear Mathematical Physics	Physics, mathematics	Norbert Euler (Inst matematik, Luleå tekn univ)	Eng	1994	YES	YES	YES	
Mirator	History	Univ Jyväskylä Hist and Ethnol	Eng, Fin, Swe	2000	YES			
QOG working paper series	Political Science	Quality of Government Institute	Eng, Swe	2005	YES			
Res Cogitans : Journal of Philosophy	Philos	Inst Philos, Edu, Study Religions, Univ Southern Denmark	Eng, Ger, Fre, Dan Nor, Swe	2004	YES			
STM-Online	Music	Swed Musicol Society	Eng, Swe, Ger	1998	YES			VR 80K
Svensk Biblioteksforskning	Libr Info Science	Swed School of Libr & Info Sci	Swe,Eng, Nor, Dan	2005	YES	YES		
Systems, signs & actions	Comp Sci Media and communicat	Linköping Univ, Aarhus Univ	Eng	2005	YES			
TijdSchrift voor Skandinavistiek	Hist Lang Lit	TijdSchrift voor Skandinavistiek	Dutch,Dan Swe, Ger, Eng	2002	YES			

Ulrich´s Periodicals Directory is a commercial database on all kinds of serial publications. Scientific journals published in Sweden or in Swedish have been searched here. The search terms used and the results are seen in the table below. Ulrich´s denomination term for scientific journal has been used throughout. Journals with peer review are shown separately. The search was conducted 2007-01-22.

Table 23 Number of scientific journals from Ulrich´s Periodicals Directory published in Sweden

Scientific, active journals published in Sweden (could be jointly published with another country)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
776	167	18	39	34	2
Not peer reviewed:					
617	92	6	1***	1***	0
Peer reviewed:					
159*	75	12	38*****	33****	2**

*17 of these are supported by VR-HS 2006 with SEK 1 765 800 and 3 are supported by NOP-HS
*** Hereditas, J Nonlinear Mathematical Physics ***Physica Scripta*
***** Ethnos,. ***** Sociologisk forskning stöds av Vetenskapsrådet*

Table 24 Number of scientific journals from Ulrich´s Periodicals Directory with material in Swedish

Scientific, active journals published in Swedish (may also contain material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
556	98	9	3	0	0
Not peer reviewed:					
460	73	3	0	0	0
Peer reviewed:					
96	25	6	3	0	0

Table 25 Number of scientific journals from Ulrich´s Periodicals Directory published in Sweden with material in Swedish

Scientific, active journals published in Sweden and with material in Swedish (may also contain material in another language)					
Total number	**Online**	**Online, OA**	**JCR**	**JCR, online**	**JCR, online, OA**
431	69	6	1*	0	0
Not peer reviewed:					
364	53	2	0	0	0
Peer reviewed:					
67	16	4**	1*	0	0

**Sociologisk Forskning **Anpere, Human IT, Svenska Tidskrift för Musikforskning, Systems, Signs and Actions*

Open Access publishing. U/UC publishing 'university presses':

LiU E-Press - Linköping University Electronic Press

(http://www.ep.liu.se/index.sv.html) Established already in 1996 in order to handle the university's electronic publishing. Since 2004, *LiU E-Press* is an independent non-commercial unit connected to the university library and with its own management. The ambition is to e-publish freely available texts as far as possible. *LiU E-Press* authors keep the copyright to their work. Find more information on LiU E-Press in the section Open Access journal publishing in the Nordic countries.

Electronic Publishing Centre - EPC Uppsala

Publishes the scientific journal ***Upsala Journal of Medical Sciences,*** which dates back to 1865. It now publishes three issues per year and is since a couple of years also available electronically. The journal's printing office, which was also responsible for the e-publishing, went bankrupt, and in order to continue publishing the ***DiVA*** system was adapted and further developed. System, web interface and work flow were finished in May/June 2006. Since that, around 60 articles have been published and are now available in full text (pdf) on (http://www.ujms.se/).
Retroactive publishing from 2005 and earlier is currently under way.

EPC is running the project ***Tidskrifter elektroniskt! Bibliotek som stöd för publicering, (Jornals electronically! Libraries in support of publishing)*** with the purpose of supplying scientific journal editors with simple, usable tools and support functions for e-publishing. The project is managed by Uppsala University Library and is partly funded by BIBSAM.

For a few years, ***Lunds University Libraries*** have been hosting the international journal ***Information Research*** with its editorial office in Sheffield. The journal is now being transferred to Open Journals System (OJS), a system used by 800 journals around the world, is under way.

Quality

Without doubt, it is important to guarantee the quality of the OA publishing. OA journals work in a traditional way with peer review and selection. Since the prestige of the journals is important, there has been certain uneasiness about publishing material in journals that have not yet established themselves and gained an impact (factor).

On behalf of SURF, Lund University Libraries Head Office has made a web survey about the usage of publication data ***Publikationsdata vid meritvärdering, tjänstetillsättning, befordran och resursfördelning (The Use of Publication data for merit assessments, appointments of posts, promotions and resource allocations)***. The survey contained a very detailed battery of questions produced with the help of SUHF's working group for information supply and was mailed to selected responsible staff at all Swedish universities and university colleges.

Concerning parallel publishing in open repositories, it is mostly the version control that is discussed. Publishers accepting parallel publishing, often limit their approval to the author's latest peer reviewed and accepted version. The publisher's PDF (with possible copy editing) can normally not be published. Thus, it is important that the versions are clearly identified. In ***LU-research*** uses a 'front page' with the following text:

> "This is an author produced version of a paper published in [Journal name]. This paper has been peer-reviewed, but does not include the final publisher proof-corrections or journal pagination.

Citation for the published paper: [author(s)] [”article title”], [journal title, publication year, volume, issue, pages] [URL to article at publisher’s site. Use DOI (link to DOI explanation) if possible].
Access to the published version may require journal subscription. Published with permission from: [Publisher name]”.

Copyright Sweden

The two model licences proposed by a working group at Lund University produced in 2002 were sent, through SURF, for consideration to all Swedish universities and university colleges. One was a ***Licence to Publish*** between the author and the publisher, and the other was an agreement between the author and his or her university for the publishing in the university’s open repository. The response was positive and showed that there is a need for support in the area. Laws and regulations are interpreted differently at different institutes of higher education. A major, national project ***Upphovsrättsfrågor i en ny publiceringsmiljö*** *(Copyright issues in a new publication environment)* is therefore launched in Lund, funded by BIBSAM and the Swedish Research Council.

A future agreement regulation could be possible. In her report, ***Nyttiggörande av högskoleuppfinningar”*** *(Making use of university inventions) SOU 2005:95*, professor Marianne Levin writes about the employee’s copyright:

> “The starting point of the copyright law is that the copyright falls to the person who has created a literary or artistic work, i.e. the Originator.
>
> Therefore, there are no specific policies to regulate who is entitled to works created during an employment, since it has not been considered suitable to interfere in the agreement negotiations by laying down rules which could possibly be to the advantage of one party.
>
> Therefore, the main rule is that copyright belongs to the original author of the work and not to the employer, but the parties are free to enter agreements transferring the copyright to the employer.

Marianne Levin points out that there might be a wish to make use of copyright protected material through the universities and university colleges:

> “Even though it is relatively rare today to explicitly regulate the making the usage of copyright protected works in an employment agreement or other agreement, there might be, considering the ongoing development, reason to particularly draw attention to the fact that such conditions are well suited for an agreement regulation.“

Challenges for the future

Funding

It is possible to maintain that the Open Access activities are well on their way in the Nordic countries, but that it is still a question of small-scaled projects. However, the conditions for increasing the number of institutional repositories and in time turning the activities into operation are good. This is very much thanks to the project means for information and coordination services for the development of new repositories that have been accessible. The institutional repositories are at present funded with project means and the individual organisations.

An interesting funding alternative for a whole discipline has been developed by CERN. High energy physicists were, as we know, pioneers with the open repository ArXiv.org. The physicists now want their publications to be published as Open Access. They have carried out a comprehensive inventory of publications and publication channels within particle physics and have had discussions with leading publishers about the possibilities to realise Open Access. The suggested model is based on the idea that the journals/articles are 'bought free', i.e. that the publishers are paid to publish. A sponsoring consortium has been created in order to find a form of funding for this. The model they have come up with means that the countries in question pay proportionally against their share of the publications. Sweden, for example, is responsible for 0.9 % of the publications within particle physics, which would mean a cost of 550,000 SEK.

Quality control

Since the repositories today, for the most part, contain material published at own university colleges and universities, strategies for incentive for researchers to publish their parallel versions of their articles, conference contributions and other research publications in the institutional repositories, are needed in the near future. For this we need good instructions and work flows, so that double feeding of, for example, bibliographical data for a publication is avoided. The quality control of feeded material is one of the stages in the description of work flows. Research records where bibliographical data about publications and researchers are registered, and research records where the same bibliographical data + a text file containing the publication are added, should be made compatible so that a smooth data transfer and matching can be carried out. In the country reports, there are examples of these kinds of registry bases.

Reviewing publication data

In the EC study 2006 about the scientific communication market in Europe, a discussion about further quality criteria for the reviewing of scientific journals beyond the scientific quality in itself, stricto senso, is introduced. Criteria mentioned is "quality of dissemination" which, among other things, includes the right to parallel publishing. It also mentions the jounals' handling of copyright issues.

It must be clearly stated that Open Access publishing does not compromise the scientific quality. The publications are reviewed and accepted whether they are published in an OA journal or are parallel-published in an open repository.

The number of OA journals covered by ISI is constantly growing, and several of them have positioned themselves highly within their subject field. ISI has shown that they are quoted earlier (Immediacy Index). Other studies, for example by Antelman (2004) and Harnad (2004), have shown a significant citation increase for OA articles compared with non-OA articles.

Good quality assessment and ranking systems are needed; they are not depending on the current publication model, but can well be separated from the actual distribution and be improved and extended. New types of ranking systems are available at for example: *Citebase, Citeseer, Citations in Economics*. (http://www.citebase.org/, http://citeseer.ist.psu.edu/, http://citec.repec.org/)

The freely available texts can be found using *Google, Google Scholar* and *OAIster*, which search deep into the OAI compatible repositories.

Copyright

Instructions about copyright questions and permissions for parallel publishing of articles in institutional repositories are necessary and should, among other things, raise the question about which version of the article you are allowed to submit to the repository. At present, the publishers' opinions differ about whether it is the so-called final author version or the version with the publisher's layout and possible editorial changes that can be uploaded in a repository.
Instructions about which type of agreement a researcher or a doctoral candidate signs with a publisher about the publishing of an article is also of great importance. It can often be decisive for how the material is handled when, for example, publishing a doctoral dissertation in electronic format. If the dissertation contains published articles, it depends on which type of agreement has been contracted, and whethrt the author has the right to publish the article in Open Access, for example, in a doctoral dissertation or in a publishing repository.
An interesting question is whether it will be decided to agree upon whether the copyright of a work produced on duty will fall to the university/employer.

There are several publication models to look at, for example SPARC Author´s Addendum, which is added to the publisher's licence and guarantees some fundamental rights to the author, like the right to parallel publishing. (http://www.library.upenn.edu/scholcomm/AuthorsAddendum4.pdf)

Another alternative are the Creative Commons licences. The *Creative Commons* project was launched in 2001 by prominent lawyers in the US to facilitate the dissemination of copyright material guaranteeing different types of protection for the originator. Creative Commons provide different licence variants depending on which type of usage they wish to allow. CC are spread all over the world and is translated into many languages (http://creativecommons.org/license/)

Last autumn, SURF in the Netherlands, together with JISC in the UK, presented a joint Licence to Publish. Behind this licence was the fundamental policy that the copyright should stay with the author, who grants the right to the publishers to publish the work. The author keeps the right to deposit the final version in an open repository.

Long term preservation

The institutional repositories are as a rule not meant for long time preservation and archiving according to archiving standards. Therefore, long term solutions about how the archiving of electronic publications should take place, are to be produced on national library level. Which formats and which type of descriptive material needed for long term preservation, and how the material will be hosted by the national libraries, are some of the prioritised questions that need to be solved within a few years. In, for example, Sweden and Finland they await legal deposit for e-publications.

Established identifications are also an immediate question that can be related to archiving and how a publication will be found in the future.

Developing services

In the future, the development of new services that compile and use the data existing in the institutional repositories will be interesting. To be able to search for doctoral dissertations, for example, through the joint library portal Nelli, is already a project that is being developed by the National Library in Finland. Similar examples of new services are to be found in the other Nordic countries. Remaining services that could be of interest are subject and material-specific services covering, for example, available teaching aids. Specific Nordic serviced could also be developed.

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