From Map Curator to Information Manager
Or
The Last of the Dinosaurs

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Abstract

The National Survey and Cadastre of Denmark has now made such progress in scanning its collection of maps and putting it on the internet that the question arises: What to do next? There are several options: improving the quality of the metadata; incorporating maps from other institutions etc. But the expert knowledge of map curators is crucial in serving users, and their knowledge must be passed on to future generations. Finally, the author points out that much thought must be given to the process of collecting maps digitally made.

Key Words: map scanning; digital maps; map collecting; map metadata

Throughout much of the world, libraries, archives and other institutions presently are scanning maps in order to present them through the internet. This, of course, shall be a revolution (and a very welcome one) with regard to access. In some institutions reaching the end of this project, the question of how to use these resources after they are made available on the internet arises. Some staff may be worried about job prospects, but certainly the focus of the institution does shift. One purpose of this article is to sketch some of the possibilities that arise after the initial scanning and putting the map files on the internet has taken place. Another purpose is to point to the fact that much of the information collecting and map making today (and certainly of the most important maps) is made solely in digital form. Being a historian,

but working among the last people who have made analogue cadastral and topographical maps, I feel I have a special duty to ensure that as much of their knowledge as possible shall be passed on to future generations in order that they may understand our maps better. The history of the dinosaurs shall be well documented. While this scanning work is being done, it is also very important to ensure that the right spatial information from our databases is extracted. The present needs to be saved as well.

My Perspective

In contrast to the readers, I work at a map producing institution, the National Survey and Cadastre of Denmark (Kort & Matrikelstyrelsen, <u>KMS</u>), being the head of the archive. In a way, the term 'map producing' is misleading, as for over five years our main purpose has not been to produce maps, but to keep up-to-date and improve the spatial infrastructure of Denmark. Map producing has become a secondary product and in fact the only paper maps that have been produced since 2003 have been naval maps, some military maps and some maps of the Faroe Isles (the last being printed only because the local store house burned). Basic material for printing ordinary maps is being delivered to a private company that makes copies on demand.

The main purpose of the archive is to provide material for the users, mainly (>98%) case officers, who either use it for their cases or send copies on to private surveyors. A few users (approximately 500 a year) visit our reading room. That is far less than the material deserves, but as we are situated in the far eastern corner of Denmark, the distance acts as a deterrent.

KMS was created by a fusion of three government agencies, the National Cadastre, the National Survey and the National Naval Chart Archive; the profile of the archives being very different both in material and in users. The archives contain approximately 55,000 cadastral maps, 22,000 topographical maps, 2,000 naval charts, 500,000 aerial photographs, 500,000 surveying documents and 2.5 km of shelves containing other material. We expect that by the end of this year the maps shall be scanned, and assume that in 2010 all the aerial photographs, 250,000 of the surveying documents plus 300 shelf metres of the protocol material shall have been scanned. We expect to go no further, as we expect the cost shall be too much compared to the benefit.

The scanning and the thought behind putting the scans on the internet was not mainly a concern for our cultural history, but because of e-government. The cadastral maps and surveying documents are much sought after by surveyors, judicial persons and administrators. In Denmark some administration of conservation, environmental research and the like are tied to our topographical maps and aerial photographs. Archaeologists use the first cadastral maps in order to make an estimate about where to excavate. We have for some years been servicing the administration as well as the public with our up-to-date maps, so in many ways the archive has had the good fortune of being able to piggy-back these services and not having to buy in expertise to make it available on the internet.

Of course, the progress made so far has had consequences for the archive. We used to serve 20,000 visitors a year; much staff effort was involved in retrieving maps for them and putting them back. When scanning of surveying documents (back to 1986) is completed, perhaps only 1,000 maps will have to be retrieved manually. So far this fall has not had any consequences for the staffing of the archive, as shall be explained later. Among the case officers, the work load has fallen considerably. The main reason for the project has not been savings, though, but the possibility of offering a 24/7 service. Again it must be emphasised that it is not mainly done because of cultural heritage concerns, but because of business reasons. It is an added benefit that we can save wear and tear on the maps and at the same time make their information available to a wider circle of users.

What to Do with the Maps Afterwards?

The question of what to do is only partly a problem for KMS. Copies of all the printed maps have already been turned over to the Royal Library (National Library) in accordance with the law. The decision what to do with the non-printed material, that is the archive material, belongs to the National Archives according to the law. In the course of the digitisation project, the National Archives revised its decision on accepting cadastral maps. As we have the information in digital form, the paper maps only contain 'redundant' information and thus have to be destroyed. At present, however, this decision is not final, and quite a good case may be put for at least saving the older of the

cadastral maps. The KMS is not happy about the National Archives' decision and we shall keep our maps for the time being. At this moment there is no danger, but I presume that in the future there shall come a time when our directorate does not know much about the maps and so the question eventually shall arise whether to keep the redundant maps. So, we shall soon put the maps into boxes on palettes that can be housed elsewhere or stored in our basement. In this way we shall be able to keep the maps at a cost of € 4,000 a year (for 30 metres of maps measuring 100 x 120 cm). The amount is relevant if they are stored outside the KMS buildings, if they are in our own basement of course the cost shall be invisible. Such a small expenditure, I hope, should keep them safe. The maps shall still be accessible, although it shall not be a daily practice to use them. In any case we would have to do something about the maps, as the space they now occupy is rather expensive.

What to Do with the Map Curator Afterwards?

The first lesson learned through the cadastral map internet project with the cadastral maps was that our registers were inadequate. There is a vast difference between archivists browsing through the maps in a drawer and the users searching though the internet. Also, for certain villages, we have close to 100 cadastral maps. So in order to decrease the number of clicks, we have to make different kinds of links such as subdivision of these villages, geo-referencing these maps or the like. Later, when other kinds of land economical maps, e.g. enclosure maps, are included, we will have to make a precise description of the area and of the content of the map. These tasks are now being carried out by the staff who used to retrieve maps for case officers and the public, and there shall be plenty of work for the next years. Fortunately, they are fond of this work as it is challenging.

All around Denmark there are collections of maps — and there ought to be a coordinated effort in order to create one portal for all maps. For example, the enclosure maps are scattered among many institutions, maybe over 100, and there is no clear guideline as to where they might be. As many of the map collections are quite small, below 100 items, the collecting and scanning shall be done centrally. Also care shall be taken that all metadata meet a certain standard.

The system needs refining, too. The maps put on the internet need description — what can they be used for, what does their metadata mean etc. Through the internet we are reaching a greater number of new users, frequently quite inexperienced. The map curator's experience from the reading room does come in handy when describing the maps.

Our distribution is based upon the existing web services. Until now, the KMS has done little other than present the maps and their metadata. And we shall not do that for much longer. The idea is that anyone can use the KMS web services as a basis for their own web services. This is in accordance with the purpose of KMS — that we facilitate what others are doing. We may, however, produce a little of our own, e.g. for genealogists. The copying of the material, whether in digital or analogue form, shall be outsourced.

The End of the Analogue Era

The end of the analogue era in KMS also meant the end of a way of working. Plane table measuring in practise is known by only a few; field reconnaissance has just stopped. Experienced staff have retired or shall do so in a few years. The way decisions were made in the field has not always been recorded. How did the aerial photographs and photogrammetric work methods affect map production? One of the great advantages of working in a map producing institution is hearing the map people discussing the production of maps — advantages and disadvantages of the different decisions.

If the map curator wants to give the future users of his maps a better understanding of the maps in the collection and how to use them, this is a point of great importance. Just by collecting instructions, field manuals and the like, he can get something by doing little work. In KMS, the archive has always put an emphasis on collecting the paper documentation, but during the last few years the interest in getting the human story documentation has grown considerably. Luckily we have until now had a senior employee policy that is making it possible to get some work done in this area.

The Coming of the Digital Era

The digital era has already come to KMS with all its advantages and problems for the archivist. In a way, there may be only a few problems. If we are just interested in living up to the letter of the law, rendering the National Archives and the Royal Library what is their due, life shall be very simple. However, I am afraid that we shall be stuck with a random choice of maps (the ones that for some reason have been for sale) having little or no functionality (compared to the functionality they had when they were in use). Thus the scholar using the maps in 20 years time shall be much worse off than the scholar using the maps today. As the KMS maps today are the centre of e-government, this is a problem to which we have not found *the* solution. And even if we had, there would still be the problem of the spatial data of all the other institutions. This is a problem that all spatial data receivers have to handle, whether they are archives or libraries. A close contact with the 'map' producer is the first step on this long and rather difficult road.

This is especially true since much 'map' production today is in many places focused on one particular client and his special needs. This may not be the need of the reader in the reading room. I sometimes tend to think that the best product shall be either an extract from the database before the final editing or another kind of extract from the final database, another kind of 'map'. Neither of these shall normally be found by the archive or the library. Their methods and processes of acquiring the material do not take this into account. The archives focus upon the final product, the libraries upon what has been published. Unless the data receiving institutions involve themselves more with the map producing institutions, this shall never happen.

Of course it is a question whether or not the library/archive has the resources to do such proactive work, but still the decision whether to do something or not is a decision that has to be made.

The question of documentation certainly also arises. The sources of information from which the 'map' is made differ over time, both in regard to producer and to quality. Although much is being done on the part of the map maker, you cannot be sure that all the necessary documentation is present.

You Know a Lot; Use New Angles

Two most valuable assets of the map curator are the knowledge of maps and the experience from the reading room. As the possibilities of dialogue on the internet so far are limited, the information needed shall be on the home page in an adequate and understandable form. This shall also be the most preferable service in order to decrease the number of questions.

In Denmark it is difficult to find a map book in which the starting point is the user's needs. They usually describe the content of the particular institution and in some cases also demonstrates what the content can be used for. The user in most cases does not start with a wish for a certain map — neither is he at this point interested in knowing where the map is. The user wants an answer to a question. What did this town look like in 1890? How was the shape of the coastline before the big flood in 1823? A question leads to an answer — which map groups to use and the metadata, including a description of the advantages and disadvantages of each group, in which institutions these specific maps can be found, etc. Another important thing is that all maps shall be included, not just those of one's own institution.

Having these principles in mind, I have written a book on Danish maps presenting the most important Danish maps from the present back to about 1750. It has been well received and shall soon be sold out. When that happens, we are considering putting a copy on the KMS home page for downloading. As it is the duty of KMS to be up to date with modern spatial data, it is thought to be the duty of the KMS archive to be up to date with the knowledge of historical spatial data.

Although most of the archive shall be gone in a few years, hopefully turned over to the National Archives and the Royal Library, the archive shall continue to function, partly with the new data, partly with the scanned maps, but mainly because of our knowledge of the maps, old as well as new. Maybe old dinosaurs can survive by learning new tricks.

Websites Referred to in the Text

KMS, Kort & Matrikelstyrelsen, http://www.kms.dk/