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SUBSCRIPTION FORM TO BE SENT TO THE EDITORS

**Yes, I/we want to receive CCN in the future**

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Modem: .....

I want to receive the questionnaire about databases

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CONFERENCE FORM TO BE SENT TO THE EDITORS

**I/we plan to arrange a conference**

Contact person: .....  
Museum/institution: .....  
.....  
Telephone: .....  
Fax: .....  
Subject(s): .....  
.....  
Number of participants: .....  
Location: .....  
Date: .....  
Costs: .....  
Open to all interested?  Yes  No

# Coins and Computers

## NEWSLETTER

No. 2, December 1993

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### CONFERENCES

30 April 1994, Kaiserslautern, Germany. Pfälzische Numismatische Gesellschaft E.V., Zweibrücken, arranges a conference with the following subjects: catalogue, picture databases, and numismatic fonts. The conference is open to all interested and free of charge. For more information contact Dr. Wolfgang Becker, Washingtonstr. 17, D-80639 Germany, tel. 089-1781433, fax 089-1784145.

Spring 1994. Historical department, University of Rome will be one of the organizers of a conference in Rome as part of a wider theme which includes coins.

October 1994, Taipei. National Museum of History. Multi-media guided system.

Spring 1995. Casa de la Moneda Museum, Madrid. In connection with the International Congress of Monetary Museums.

### SYMPOSIUM ON DATA AND NUMISMATICS IN NORWAY

Numismatists from Denmark, England, Finland, Sweden, and Norway gathered at Isegran in Fredrikstad (c. 100 km south of Oslo) 19-20 November 1993 for a meeting discussing the use of computers in numismatics. The nature of Scandinavian monetary history has favoured a close cooperation among numismatists. The purpose of the symposium was to take advantage of each other's experiences, exchange ideas and to discuss the possibilities for a Scandinavian cooperation within future work on computerization.

In view of the relatively short history of computers within the field of Scandinavian numismatics - they were first employed seriously at the end of the 1980s - the different institutions take great interest in the use of data technology. Four major Scandinavian projects were presented.

1) Documentation of the collection of coins and medals at the Uppsala University Coin Cabinet is in progress using a dBASE system incorporating photographs using the Swedish system

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International Numismatic Commission/Commission Internationale de Numismatique  
Internationale Numismatische Kommission

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ImageDB. Presented by Harald Nilsson.

2) A research database of Danish civil war coins dating from the 13th and 14th century using Paradox at the Royal Collection of Coins and Medals at the Nationalmuseum in Copenhagen. Presented by Keld Grinder-Hansen.

3) A research database of Viking-Age coins (c. 75.000 coins registered) using dBASE and ImageDB at the Numismatic Institute, Stockholm University. Presented by Kenneth Jonsson.

4) Documentation of the collection of coins and medals at the Oslo University Coin Cabinet as a part of the Norwegian Documentation project. A relational database catalogue (c. 130.000 items registered) using dBASE. Presented by Christian-Emil Smith-Oré, Sølvi Andersen, and Svein H. Gullbekk. Both the Lund University Coin Cabinet and the Royal Coin Cabinet in Stockholm are planning documentation of their respective collections.

Taking advantage of his experience from the international scene and work done in other subjects, the former secretary of the INC's Subcommittee for computerization, Terence Volk, presented "Learning the hard way; 10 years of numismatics and the computer" and "Gold Coinage in the early Roman Empire; a relational approach to collections management". Since this was the first time Scandinavian numismatics had gathered to discuss the use of computers, specialists from adjacent disciplines had also been invited. A Scandinavian project for transferring digitalized photographs within the field of art history, ScanArt, was presented by its leader Einar Pettersson, Oslo University. The possibilities when using data network were presented: "Into the great wide open", by Harald Jakobsen, also the University of Oslo. The importance of checking the registrations against the items in the collection were stressed by both research assistant Henning Laugerud and Jon Anders Risvaag, Oslo University.

In the discussion session many questions addressed future work and possibilities for future cooperation within the field of computerization, issues which are also discussed internationally. Different administrations, different number of available people and working on different levels, the launching of a big scale cooperation project on computerization within Scandinavia was considered difficult in the present situation. There was nevertheless general agreement on supporting each other by exchanging information, ideas and relevant experiences. During the symposium it was made clear that all Scandinavian projects on computerization presented were using ready available and easily compatible shelf packages, a fact which will make future cooperation possible.

Svein H. Gullbekk

## **QUESTIONS AND ANSWERS**

Q: How do I avoid shadows when I take video photos of coins?

A: Place the coin on a glass plate c. 100 mm above a table. The light will now project the shadow away from the background. Be sure to light up the background where you have placed a white paper which will reflect the light into the camera.

Avoiding shadows is important when you want to print the pictures in a publication. Otherwise the printer will have to "paint away" the shadows manually which is a very costly process.

## **HINTS ON HOW TO ARRANGE A DATABASE STRUCTURE**

The benefit of storing data about a collection of coins in a database is that the coins can easily be sorted in almost any way you desire. The two common orders, alphabetical and numerical demands that it is logical to order the data in one of these two orders. In the case of, for example,

CCN is currently supplied free of charge and distributed to all INC/CIN members and others interested.

There is evidently a great demand for information about data and numismatics. However, there is no backlog of manuscripts waiting to be included in the next issue of CCN. Thus we urge readers who have information, comments or questions to contribute which might be of interest to others to send it to us. Reports on computer activities at museums, institutions etc. are also welcome.

Contributions to CCN should preferably be delivered to one of the editors as ASCII, Wordperfect or Pagemaker files on disk. The present editors regret that they can only use disk operating under the MS-DOS system. However, contributions can also be delivered typed on paper. Contributions are accepted in English, French, and German. Proofs are not sent to the contributors. Deadline for contributions are 15 April and 15 November. Illustrations are preferably limited to line drawings because we use a simple copying machine to "print" CCN.

**If this is the first number of CCN you have received, please fill out the subscription form at the back if you wish to continue to receive CCN in the future. Those who have already indicated in the questionnaire that they wish to receive information in the future do not need to fill out the form.**

a database including the denominations taler, mark, and pfennig in alphabetical order will not sort the denominations in descending order. However, if you add an extra numerical field "xx" to your database structure you can in this case tell the computer to insert (i.e. replace) "1" to this field whenever the denomination field includes "taler" and "2" for "mark" and "3" for pfennig. Then it is easy to sort the database on the "xx" field before the denomination field. Using two fields for the denomination, one (numerical) for the denomination figure and one (alphanumeric) for the name of the denomination. This also prevents denominations being sorted in the order of 6 mark, 4 mark, 12 mark, and 1 mark, which would occur if they were in a common (alphanumeric) field.

Commercially available database programs allow you to make changes in the field structure, for example adding or deleting fields. If you are not planning to use a commercial database program be sure to include a sort field in your structure from the start since later alterations may take time and cost money.

### DEBATE - A VISION OF STANDARDIZATION

Anyone who set out to create a database based on a museum collection faces the problem of having to deal with a wide range of fields within monetary history. Hundreds of years of numismatic scholarship have provided an immensely important literature, which serves as a basis for what we know about the history of coins and money today. It has also given us a wide range of different ways and words to describe a coin, medal or other piece related to the field of numismatics. The habit/trend has been (and still is) to do most things differently from scholars in the past, the problem of computerization is partly to tie these differences together, choose a way to describe an item and to pick what terms are to be used. Is the national way of spelling names of rulers and mints acceptable to those part of another language-family? Hardly so if the database aims at being applied and used by people outside the world of numismatics, at least if a numismatic library is not within reach! What about the norms of one's own country (if they are clearly outlined)? First, working one's way through the monetary history, one will meet a lot of cases where no rules have been fixed. Second, who will use your database if you do not belong to either the English, German or French language groups?

The solution I suspect many of us choose is to play on several horses. We set out to use what often is naively thought of as standardized English terms which often really are Latin-English, German-English or likewise. Habits of spelling introduced by historians and numismatists based in different camps.

To meet the demands of computerized numismatics it would be very helpful to have something like a standard code of how to spell historic and numismatic terms. How pleasant it may be to think of the time when this information has been compiled and is easily available in catalogues for most areas and periods. However, this is not the case today! It may sound simple but one solution to this situation would be that numismatic scholars in their respective countries and areas compile such lists for their own area. Three reasons for delegating this task are:

- 1) one seldom has access to a library which have all important catalogues and work in stock
- 2) the task of creating such reference lists is not possible for a limited staff within a reasonable time
- 3) who can better make up a list of Catalonian mints, issuers and denominations and the accepted way of spelling than the Catalonians themselves (secondary: an outside connoisseur of Catalonian history and numismatics).

Ideally such a list should be available in all major languages. It must be possible to list alternative spelling; e.g. Oslo in Norway is referred to as both Oslo and Asloia in the Middle Ages, Christiania in modern times and finally Oslo again from 1925. Similarly it should not be required to work out full lists before they are distributed. A list covering 70% of the information is far better than nothing.

Having a set of multilingual codes available, one could take a relational database and use the stored codes as reference for all such information. A system like this is also ready to handle several sets of references, for example containing different language codes. The availability would increase several times if anybody connected to a network could choose between handling your database in e.g. English, German or Spanish.

Who should coordinate such a big scale project? The Subcommittee for computerization is a strong candidate, but it can be anyone in a position working with numismatic computerization connected to a collection or research institute. The question is rather if different scholars are willing to contribute!

Svein H. Gullbekk

#### **DIE DATENBANK MACCOIN AM MÜNZKABINETT DES KUNSTHISTORISCH-EN MUSEUMS IN WIEN**

Ziel dieses, vom Jubiläumsfonds der Österreichischen Nationalbank geförderten Projektes war es, eine numismatische Datenbank zu errichten, mit deren Hilfe die Sammlungsbestände des Wiener Münzkabinetts nach den neuesten wissenschaftlichen Erkenntnissen entsprechend gespeichert und verwaltet werden können. Es soll damit auf längere Sicht ein Forschungsinstrument geschaffen werden, das instande ist, ein möglichst breites Spektrum wissenschaftlicher Fragestellungen zu beantworten und das gleichzeitig eine umfassende geldgeschichtliche Dokumentation darstellt.

Die in Zusammenarbeit mit der Firma Kopfwerk/Wien entwickelte Datenbank MacCoin fußt in ihrer Grundkonzeption auf jener der American Numismatic Society, wobei darüber hinaus vor allem mit dem Institut für Numismatik der Universität Wien und der Staatlichen Münzsammlung München reger Gedankenaustausch gepflegt wurde. Mit ausschlaggebend für die Gestaltung der Datenbank waren aber nicht zuletzt auch die gewachsenen organisatorischen Strukturen der Sammlung sowie die personelle Situation am Wiener Kabinett.

Grundsätzlich wurde davon ausgegangen, das weite und doch sehr heterogene Feld der Bestände sinnvoll in verschiedene in sich geschlossene *Sachgebiete* zu unterteilen, wobei die bereits vorhandene inventarstruktur natürlich den Ausgangspunkt der Neugliederung bildete. Insgesamt wurden 24 Sachgebetsgruppen geschaffen, mit denen alle Sammlungsbestände erfaßt werden können: Münzen (für die weitere Untergliederung s.u.) - Medaillen - Modelle - Stempel - Siegel - Signetten - Fundgefäße - Naturalgeld - Papiergeld - Wertpapiere - Patente Gewichte/Waagen - Orden - Archiv - Bibliothek. Für jedes einzelne dieser Sachgebiete wurde auch ein eigenes *Eingabeformular* (Kriterienkatalog) entwickelt.

Für die Sachgebetsgliederung der Münzen wurde für die Antike die von Robert Göbl in seiner "Antiken Numismatik" vorgelegte Ordnung weitgehend übernommen. Es ergeben sich damit folgende in sich geschlossene Abschnitte: Griechen - Rom/Republik - Rom/Kaiserzeit - Rom/Provinzen - Antiker Orient - Barbaricum. Hinzu treten die Sachgebiete Byzans - Mittelalter - Orient - Neuzeit. Die Gliederung ab dem Sachgebiet Mittelalter entspricht im großen und ganzen

Collection of Coins and Medals, Copenhagen, the National Museum in Athens, the Centre Ernst Babelon, Orlean, and the Dipartimento di Storia of the Università di "Tor Vergata", Rome, all had projects relating to hoards and finds in various stages of completion. The most sophisticated system is that in Ljubljana, under the direction of Dr. Peter Kos: the program NUMIZ, which was especially developed to deal with coin finds in the Republic of Slovenia, even incorporates typesetting.

Obviously the level of activity involving computers is increasing, and it is heartening to see that many institutions have moved toward systems that have the capacity to store images: nine respondents indicated that images were part of their current operation, and five others indicated that the technology is planned. It is ironic that so many of the respondents are unable or unwilling to provide printouts or disks with data downloaded from their databases; only 20 indicated a willingness to provide printouts, and 13 to provide disks. Virtually all institutions that provide disks or printouts do so at cost. (In fairness it should be added that many questionnaires were left blank at this point, and several institutions noted plans to make their data available in one form or another.)

Compatibility will continue to be a problem for the transfer of information. Even if we as a community recognize this as a desideratum, we have to ask whether it is feasible. Only governments, it seems, are capable of imposing national standards; and the variety of institutions we represent, with varying financial means and hardware needs often dictated by concerns other than the purely numismatic, seems to guarantee a certain variety among operating systems, hardware and software configurations. In the meantime it is the more necessary that institutions and individuals make available data requested at least in hard copy.

As was noted in the first CCN, the editors look forward to individual contributions describing work in progress; and we expect to make further reports regarding improvements at individual institutions. Information may be forwarded to either of the editors at the addresses given on page 1. We will also publish, among other things, more detailed information on a country by country basis.

In view of the increase in the number of responses when the questionnaire was sent out a second time we will distribute the questionnaires a third time (enclosed with this issue) to those museums/institutions which have not yet replied. Some will now also receive the questionnaire for the first time. Thus we will wait to the next issue of CCN to include a list of those who have not replied.

William E. Metcalf

#### **EDITORIAL SECTION**

This is the second issue of a semi-annual newsletter published in the spring and at the end of the year. The aim is to provide information to all interested in numismatics who are also working with computers. The name of the newsletter has been chosen for convenience only and it will encompass all branches of numismatics: coins, banknotes, medals, tokens etc. from ancient Greece to modern times.

We envision a wide selection of subjects, but also regular topics which might include: past and future conferences, reports from museums/institutions on their work, current projects, debate, publications etc. CCN (the acronym for the newsletter) depends upon reader contributions to fulfil its purpose.

work out a more definite application to fulfil the needs being forwarded in research and the administrative operations in the day to day work at the Coin Cabinet.

Svein H. Gullbekk

## COMPUTER SURVEY (2)

In issue no. 1 a preliminary report was presented on the results of a survey of numismatic collections with computers. The number of respondents has now approximately doubled. 66 responses have been received from 25 countries, as follows:

Austria	2	Germany	10	Morocco	1	Switzerland	2
Belgium	4	Greece	1	Netherlands	4	Taiwan	1
Canada	2	Hungary	3	Norway	1	United Kingdom	8
Denmark	1	Iceland	1	Poland	1	United States	2
Estonia	1	Italy	4	Slovenia	1		
Finland	1	Japan	1	Spain	4		
France	5	Luxemburg	1	Sweden	4		

Only seven of the respondents indicated that they had no computer or no plans to acquire one. Of those who indicated an operating system, DOS continued to be the favorite:

### Operating systems (some use more than one system)

DOS	Macintosh	Unix	OS/2	Prime
32	12	2	2	2

The earlier survey showed a strong preference for dBASE as a database program, and that trend has continued: there are 20 users of dBASE, 4 of Paradox, 3 of ImageDB, 3 of Filemaker, and 2 of Foxpro. Not surprisingly there is a large number of proprietary, custom-designed systems in use. These do not seem to break down across regional or national lines, and the compatibility of these systems with commercially-available packages is unknown.

There are two major categories of objective among those institutions that use computers: inventory of holdings (largely confined to museums) and recording of finds (largely confined to research institutions). The largest reported inventory-oriented databases are as follows (number of records):

New York, The American Numismatic Society	485,000
London, British Museum	350,000
Belfast, Ulster Museum	330,200
Oslo, University	93,000
Madrid, Casa de la Moneda Museum	80,000

The survey did not attempt to elicit information regarding the detail included in individual records.

Among projects devoted to hoards and excavations, the University of Stockholm has a database of over 100,000 coins, most of which have been found in Sweden; at the time of reporting FMRD in Frankfurt had 6,000 coins recorded, with expected growth at a rate of 50,000 per year; the Royal

deralten inventarmäßigen Erfassung dieser Bestände. Gerade hier erscheint es jedoch überlegenswert, ob nicht eine weitere Aufgliederung dieser doch sehr großen Bereiche nach dem antiken Beispiel sinnvoll bzw. überhaupt durchführbar wäre.

Für die Eingabe der Münzen wurde ein Maximal-Formular erarbeitet, das jedoch in seinem Umfang jedem der verschiedenen Sachgebiete entsprechend angepaßt ist. Der Kriterienkatalog umfaßt hier maximal 39 Datenbankfelder, die auf insgesamt 3 Bildschirmseiten aufgeteilt sind. Die Größte der zu beschreibenden Felder ist verschieden und reicht von 2 bis max. 235 Zeichen - so etwa für die Bildbeschreibungen. Einzelne Felder erlauben nur numerische Eingaben, andere stellen durch Anklicken eine entsprechende *Auswahlliste* zur Verfügung - so etwa bei *Material* und *Nominale*. Der Inhalt dieser Auswahllisten kann jedoch je nach Sachgebiet variieren: so z.B. stellt das Feld *Nominale* stets die in einem Sachgebiet am häufigsten vorkommenden Münzwerte zur Auswahl. Die dabei verwendeten Abkürzungen entsprechen in der Antike den Usancen des TNRB (Thesaurus Nummorum Romanorum et Byzantinorum), für das Mittelalter und die Neuzeit jenen des CNA (Corpus Nummorum Austriacorum) bzw. mußten hier auch neue Abkürzungen gefunden werden. Ebenso wurden für die Bildbeschreibungen verbindliche Abkürzungsregeln entwickelt, um möglichst einheitliche Beschreibungen zu gewährleisten - diese sind vor allem für den optimalen Suchlauf unumgänglich.

Der Zugriff auf die Datenbank ist mit einem Paßwortsystem gesichert, womit auch unterschiedliche Zugriffsfunktionen gesteuert werden. Es sind dies: *Münzkabinett* (alle Zugriffsrechte für administrative Arbeiten), *Lesen* (es können keine Änderungen vorgenommen werden), *Extern* (museumsinterne Angaben gesperrt).

Die Grundfunktionen der Datenbank sind in jedem Sachgebiet über eine Befehlsleiste einfach zu wählen: *Eingaben - Bearbeiten - Löschen - Bearbeiten - Drucken - Suchen - Sortieren*, etc. Mit Hilfe des Such-Editors kann jede beliebige Eintragung in einem Datenfeld innerhalb eines Sachgebiets aufgefunden, sortiert bzw. mit anderen Datenfeldern verknüpft und damit weitere Einschränkungen bzw. Spezifizierungen im Suchlauf vorgenommen werden.

Für den Ausdruck der gespeicherten Daten erschien es sinnvoll, häufig benötigte Listen fix zu installieren: So enthält die Benutzerliste (für den externen Gebrauch bestimmt) alle wichtigen Informationen über eine Münze, womit Anfragen entsprechend rasch und eindeutig beantwortet werden sollen. Die Ausdrucke *Inventarliste* (A3-Format) und *Karteikarten* sind ausschließlich für den internen Gebrauch bestimmt. Darüber hinaus ist es über die Funktion *Report* möglich, die Datenfelder eines Sachgebietes in beliebige Listen zusammenzufassen und ausdrucken zu lassen.

Nacheiner umfangreichen Erprobungsphase, in der die Datenbank in jedem einzelnen Sachgebiet getestet und bei Bedarf immer wieder modifiziert werden mußte, wurde das Schwergewicht der Arbeiten auf das österreichische Mittelalter, im speziellen auf den Wiener Pfennig gelegt. Hier sollte auf der Basis der Wiener Sammlungsbestände eine elektronische Datendokumentation geschaffen werden, die imstande ist, jede an sie gerichtete numismatische Fragestellung entsprechend zu beantworten. Die dafür notwendige Basis bildete eine optimale Eingabe der jeweilige Münzdaten, d.h., jede verfügbare Information wurde pro Münze unverschlüsselt in die Datenbank gespeichert. Eine eigens dafür halbtätig angestellte Fachkraft benötigte 9 Monate, um die ca. 8000 Wiener Pfennige mit einer kompletten Beschreibung in die Datenbank einzugeben. In einem zweiten Schritt ist nun geplant, den Friesacher Pfennig (gleichfalls ca. 8000 Stück) auf gleiche Art und Weise in die Datenbank einzuspeichern. Dabei soll erstmals auch die neu hinzugekommene,

mittels Videokamera arbeitende Bildspeicherung (auf externer Festplatte) Verwendung finden, wobei aus der Textdatenbank stets direkt auf die Bilder zugegriffen werden kann. Die so geschaffene Datendokumentation soll die Ausgangsbasis für eine komplette Neubearbeitung und -publikation des Friesacher Pfennigs bilden. Bereits in Arbeit ist die Neuaufnahme der Münzen von Kaiser Maximilian I. bis Ferdinand I. Auch hier bildet die zu erstellende Datenbank gleichsam eine Neuinventarisierung der betreffenden Bestände und die Basis für ihre Publikation im Rahmen des Corpus Nummorum Austriacorum.

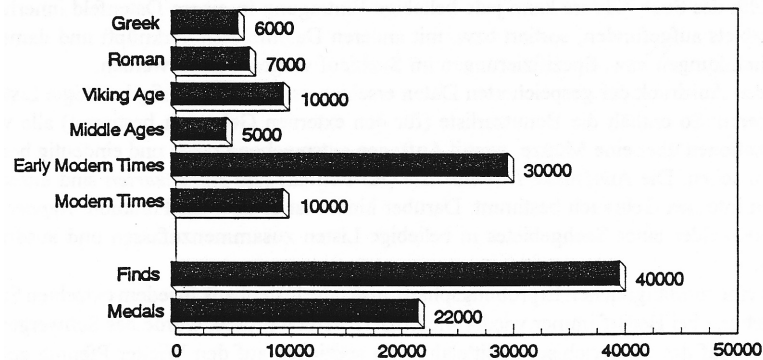
Michael Alram

### THE DOCUMENTATION PROJECT OF THE COLLECTION OF COINS AND MEDALS, UNIVERSITY OF OSLO

The Norwegian Documentation Project aims to achieve a large scale computerization of the collections and museums at the Art Faculties of the universities in Norway. This will result in a network-based national information system for the humanities called Databases for language and culture of the Norwegian universities.

The Collection of Coins and Medals at the University of Oslo consists of more than 200,000 items. The first year of this project was devoted to systematizing the existing paper-based catalogues and other information about the coins, and to make formal data models.

The most central task in the project is data conversion. This is the least prestigious, but the most important part of the project.



The University Coin Cabinet - number of objects registered in the database (in all c. 130,000).

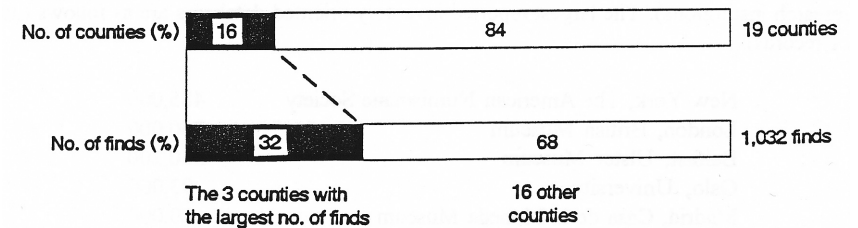
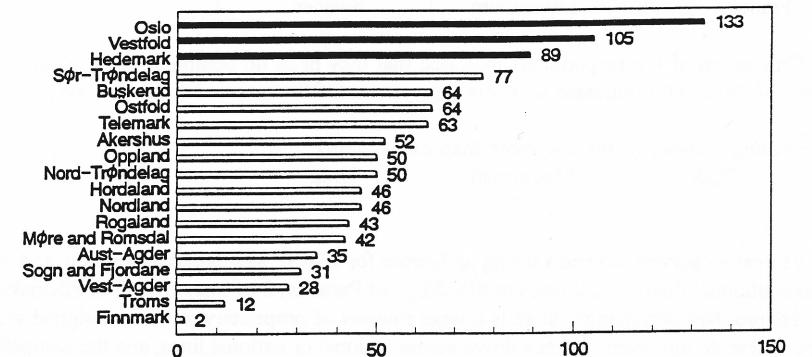
Three groups placed at a distance from the University (c. 100 km south of Oslo), each with 6-7 people carried out the conversion of c. 130,000 objects from paper-based catalogues within a period of 13 months.

The project has now advanced to the phase where converted material (stored data) are being compared to the objects in the collection and errors are corrected in the database. This demanding

task has begun with the collections of orders and medals and coins from the period c. 1500- c. 1850. The work covering coin finds will start in January 1994.

One aim is to make the database as standardized as possible, the applications for the conversion work contain tables with information about countries, regions, mints, issuers, mintmasters and finds represented in the collection. The reason for making these lists of information available in the system was that the conversion work was mainly going to be done from handwritten archive cards by people not familiar either with the terminology of numismatics or with history. These references have been of principal importance in the work with the data conversion.

The reference tables of finds comprise information covering the year when the find was discovered, in which county (fylke) it was found and what category it belongs to. The list is under progress, but by 1 November it contained 1,028 coin finds. Divided by counties the coin finds of Norway show a wide distribution from 2 recorded finds in the northern-most county Finnmark to 133 finds recorded in Oslo.



Norwegian coin finds distributed on counties.

The conversion work has been carried out using a dBASE application. The result is a relational database catalogue for large parts of the collection. In the next phase one of the aims will be to