Evaluation of the Research at the School of Conservation

Final Report

June 2000

Table of Contents

VI Appendices

I Main Conclusions and Recommendations

The research of the School of Conservation has been evaluated on behalf of the Ministry of Culture. The evaluation was carried out by a panel consisting of

Head of department, Dr. *Jonathan Ashley-Smith*
Department of Conservation, Victoria and Albert Museum, London

Head of department, Dr. *Judith H. Hofenk de Graaff*
Conservation Research Department of the Netherlands,
Institute for Cultural Heritage, Amsterdam

Director *Jan Skamby Madsen* (chairman)
Moesgård Museum, Århus

with the following terms of reference:

The task of the evaluation panel is set to examine whether the research at the School of Conservation is of such a scope, quality and relevance

- that The School of Conservation under the Royal Danish Academy of Fine Arts carries out research into the science of conservation-restoration "up to the highest level" and thereby may rightly be designated an establishment of higher education (Act on Establishments of Higher Education in the Fine Arts under the Danish Ministry of Culture, amended by Act no. 142 dated 17 March 1999)
- that there is a sufficient scientific basis for the Ministry of Culture's setting into force section 1, no. 2 of Act no. 142 dated 17 March 1999, whereby The School of Conservation under the Royal Danish Academy of Fine Arts attains the status of an establishment of higher education, and thereby the right, within the jurisdiction of the Kingdom of Denmark, to give instruction and confer the Ph.D.-degree into the science of conservation/restoration.

The Panel has been assisted in its work by consultant Else Marie Kjerkegaard and the Research Committee at the School of Conservation.

The evaluation has been carried out in the period March-June 2000 on the basis of a comprehensive self-evaluation material presented by the School of Conservation, and a three day visit to the School at the beginning of June.

The Evaluation report has been unanimously agreed upon by the Panel and includes the following conclusions and recommendations:

1. Research at the School of Conservation has the scope and quality necessary for it to be characterized as an institution of higher education within the area of conservation and restoration. In many areas the research is clearly up to the highest international level and there is obvious potential for advance in the other areas.

2. The School should be given the opportunity to develop its own PhD programme and the right to confer the degree of PhD in the field of conservation and restoration.

3. In order to do this it will need to move toward an employment structure equivalent to that found in higher education establishments. The appropriate financial resources must be made available to implement the new structure.

4. Teachers who do not have a formal research qualification should be encouraged to register for a PhD in a relevant topic. The Panel noted that there was both willingness and potential among staff for this to be achieved. Staff should be allowed the necessary research time to complete this programme within a reasonable period.

5. The School is unlikely to achieve its full research potential unless there is a considerable increase in the space available for research activity.

6. The age profile of existing staff suggests that there will have to be careful succession planning to avoid sudden loss of expertise in some areas. This may mean that additional younger PhD qualified staff will have to be appointed. In some cases these will be PhD graduates from the School's own programme. Additional financial resources may be necessary at appropriate times to ensure a smooth transition.

7. The School should review its research culture in the light of the proposed changes. There may need to be an increase in seminars and discussion groups in research subjects. There may be a need for a more systematic approach to the teaching of the theoretical basis and methodology of conservation research.

8. There is a need to establish clear distinctions between the different activities of the School so that an order of priorities can be fixed and appropriate time allocated. This applies especially to the distinction between time for research and time for investigations and experiments that are designed primarily for the professional development of staff in their role of teaching a rapidly developing subject. To acheive the expected increase in research activity the School might consider a more formal method of time budgetting.

9. The School could establish a more specific strategy for research, defining areas of activity and broad goals to be achieved. This should be clearly understood by staff and students. Notwithstanding the right of researchers to choose their own topic, the School should concentrate its activities to areas that are specific to the established areas of teaching and which are not likely to be found elsewhere.

10. To secure the further development of research the School should consider strenghtening the role of the Research Committee. It should take a clear role in strategic planning and in the critical review of new proposals, current projects and individual productivity.

II Terms of Reference, Evaluation Panel and Procedure

1. Terms of Reference

The terms of reference for the evaluation of the research activities at the School of Conservation was set by the Ministry of Culture and specified in "Plan for the International Evaluation of Research Activities at the Royal Danish Academy of Fine Arts, School of Conservation", dated November 11th 1999.

The evaluation should follow the guidelines for research evaluations under the Ministry of Culture, using the concepts of research laid down by the Research Committee of the Ministry of Culture as its basis. The evaluation should cover the period 1989-1999. For the researchers the process should be transparent and offer the opportunity for dialogue about the organisation and execution of the evaluation.

The task of the evaluation panel was set to examine whether the research at the School of Conservation is of such a scope, quality and relevance

- that The School of Conservation under the Royal Danish Academy of Fine Arts carries out research into the science of conservation/restoration "up to the highest level" and thereby may rightly be designated an establishment of higher education (Act on Establishments of Higher Education in the Fine Arts under the Danish Ministry of Culture, amended by Act no. 142 dated 17 March 1999)
- that there is a sufficient scientific basis for the Ministry of Culture's setting into force section 1, no. 2 of Act no. 142 dated 17 March 1999, whereby The School of Conservation under the Royal Danish Academy of Fine Arts attains the status of an establishment of higher education, and thereby the right, within the jurisdiction of the Kingdom of Denmark, to give instruction and confer the Ph.D.-degree into the science of conservation/restoration.

2. Composition of the Evaluation Panel

The terms of reference stated that the evaluation should be carried out by a chairman and two panel members who between them should cover the scientific subject areas of the School. The members of the Panel should be researchers at the highest scientific level. The chairman should be Danish.

The evaluation panel was established by the Ministry of Culture as follows: Firstly, the Ministry appointed the chairman upon recommendation from the Research Committee of the Ministry of Culture. The chairman was given the overall, professio-

nal responsibility for the evaluation and the task to direct the work of the Panel. The chairman then chose the other panel members on the basis of proposals made by the Research Committee of the Ministry of Culture and the School of Conservation. The final appointment of the Panel was made by the Ministry of Culture.

Below, the reader will find a short presentation of the evaluation panel. In appendix 1 the reader will find addresses of the Panel members.

Jonathan Ashley-Smith

Professor Jonathan Ashley-Smith, born 1946, has been in charge of the Conservation Department at the Victoria and Albert Museum, London, since 1977. He studied the synthesis and spectroscopic properties of transition metal complexes at Bristol University and later at Cambridge. During five and a half years of chemistry research he was co-author of thirteen papers. In 1973 he moved from academia to the museum sector. There one major investigation was of the manufacture of bronze statuettes. This technical study, relying heavily on X-radiography, led to a clear understanding of the studio techniques of Severo da Ravenna and Giovanni da Bologna. During the 1980's he developed an interest in the philosophy of conservation, writing seminal papers on the ethics of restoration. At the same time he and his colleagues in the science section of the Conservation Department began their involvement in practical aspects of passive conservation methods. In the late 1980's he instigated the V&A's postgraduate programme of training and research in collaboration with the Royal College of Art. In 1994 he was granted a year's research leave to study the application of risk methodology to strategic and tactical conservation decision-making. The outcome of this study was a number of conference papers and four publications on the world wide web. A book, Risk Assessment for Object Conservation, was published in 1999.

Judith H. Hofenk de Graaff

Judith H. Hofenk de Graaff, born 1936, dedicated most of her career to conservation research. She is a textile chemist and holds a doctorate in history of The Free University of Amsterdam. She started her career at the Technical University of Delft in the department Textile Technology with Professor Jentina E. Leene who stood at the cradle of the conservation research of textiles. Since 1963 she specialised in the history of textile technology and the identification of natural dyestuffs. Since then she has carried out research on many important textile objects from which many are published in the pre-prints of the ICOM Committee for Conservation triennial meetings. Since 1972 she extended her research into paper conservation and was until 1999 vice president of the Internationale Arbeitsgemeinschaft der Archiv- Bibliotheks- und Gra-

phikrestauratoren. In paper conservation research she concentrated on the degradation of paper and focussed on research into conservation treatments of paper artefacts. She initiated research on the degradation of cellulose at the wet/dry interface and into the problem of iron gall ink corrosion. Since 1984 she was co-ordinator of the scientific department of the Central Research Laboratory for Objects of Art and Science in Amsterdam (founded in 1963) and since 1997 head of the department Conservation research at the Netherlands Institute for Cultural Heritage (Instituut Collectie Nederland). Drs. Hofenk de Graaff was member of the directory board of the ICOM International Committee for Conservation, from 1972-1989 co-ordinator of the working group Textiles and assistant coordinator of the working group Graphic documents. She is chairman of the Dutch Textile Committee since 1975. She is a member of the Preservation Committee of the International Council of Archives (ICA). She lectures regularly at the Scientific Principles Programme of the ICCROM in Rome and is involved in an advisory capacity for UNDP/UNESCO and ICA/UNESCO.

Jan Skamby Madsen (chairman)

Jan Skamby Madsen, born 1947, MA in prehistoric archaeology 1978. Curator at the Viking Ship Museum in Roskilde from 1980-83, director of the same museum from 1983-96 and since then director of Moesgård Museum near by Århus. He has been in charge of the extension of the Viking Ship Museum in Roskilde, and in connection with the maritime archaeological research of the museum, he has been a member of the Council of The Centre for Maritime Archaeology at the National Museum - a centre funded by the Danish National Research Foundation. Regarding research he has specialized in prehistoric boatbuilding traditions and since 1982 he has carried out a number of archaeological excavations concerning the location of harbours from the Viking Age and Middle Ages. An essential element in this context has been the research into old Danish placenames. Throughout the years he has been a member of different committees and today he is among other things General Secretary of the Jutland Archaeological Society and member of the governing body of Queen Margrethe II's Archaeological Foundation.

3. Evaluation Procedure

As specified in the terms of reference the evaluation procedure followed the guidelines for research evaluations under the Ministry of Culture. Consultant, cand. polit. Else Marie Kjerkegaard, who is experienced in executing research evaluations, had the overall responsibility for the practical planning and execution of the evaluation, including the arrangement of the self-evaluation, the schedule for the Panel visit and

the editing of the report.

During the preparation of the evaluation the consultant was advised by the Research Committee at the School of Conservation with representatives from the teachers and with the Rector as chairman. In addition, the teachers at the School was invited to an information session where the consultant informed about the principles behind the evaluation procedure and answered questions from the staff.

The research and the conditions of research was described through a self-evaluation questionnaire, which was prepared by the School and the consultant in cooperation, then discussed in the Research Committee, and finally presented to the chairman of the Panel for approval.

Seen overall, the self-evaluation questionnaire provided information about all relevant factors relating to research activities. The questions dealt with such matters as the historical background of research, organisation and management of research, planning of research, extent of money for research and sources of funds, research facilities, staff profile, research projects in progress, scope and quality of research results, communication of research results, external research collaboration, and the PhD education of the researchers at the School. Adding to this, the School was asked to present a number of evaluations of its research.

The self-evaluation questionnaire included the preparation of a number of appendices: A list of the names and the professional background of the researchers, a list and a description of the research projects in progress, a list of the research publications in the evaluation period, and a description of the communication profile. Finally, the School was asked to select 15-20 articles or monographs, representing the scientifically best works within the subject areas and the research of recent years.

The completed self-evaluation questionnaire with all appendices was submitted to the Panel five weeks before the Panel visit to the School. The statistical information in the self-evaluation questionnaire is shown in appendix 4. A list of the background information given to the Panel is shown in appendix 2.

The evaluation panel was gathered in Copenhagen for three full days. The first day was arranged as a seminar where the researchers had the opportunity to give supplementary information and discuss their research activities and the issues in focus. The schedule was organized with 2/3 of the time available for a free and open discussion between the teachers and the Panel.

On the second day of the visit the Panel carried out follow-up and in-depth interviews with selected teachers, students and the Rector. This part of the programme was decided upon by the Panel at the end of the first day.

The third day (and the evenings of the other days) the Panel used for discus-

sing its evaluations, conclusions and recommendations, and for the preparation and writing of the report.

The consultant functioned as moderator during the seminar and as secretary of the Panel during the whole process. The schedule for the Panel visit is shown in appendix 3.

Before the final completion the Research Committee and the School was given the opportunity to comment the report.

In total, the evaluation procedure was arranged with the double aim of carrying out an independant, international evaluation of the research at the School of Conservation and to arrange the process in such a way that it could in itself be fruitful for the School.

The Panel is responsible for chapter I and V. The School is responsible for chapter III and IV. The consultant is responsible for chapter II and VI.

III Historical Background. Present Organisation and Management of the Research

1. Legal Status

The School of Conservation was established in 1973 as an independent school under the auspices of The Royal Danish Academy of Fine Arts. By establishing the School the Danish Parliament decided that the preservation of the national cultural heritage should take place on a scientific basis. By order of August 1998 from the Ministry of Culture, the School of Conservation changed its educational structure to that of the Danish university system. The School now offers a three year BS in conservation-restoration in five main areas (graphic art, object conservation, pictorial art, monumental art and natural history), and a two year MS in conservation-restoration. Moreover, the School of Conservation can establish a three year PhD study in cooperation with other institutions of higher education. According to the amendment no. 993 of 14th December 1999 to section 4 of Law no. 289 of 27th April 1994 on Advanced Artistic Educational Institutions under the Ministry of Culture, the official status as a higher educational institution and the introduction of the PhD level cannot be implemented until an external evaluation of the research of the School has taken place.

2. History

When the School of Conservation started in 1973, no real research in conservation and restoration was taking place in Denmark. Most people working in the field of conservation-restoration were trained craftsmen. Today the School has 17 permanent teachers (including two part-time). Of these, nine have graduated from the School. Throughout the history of the School and to this day, the main part of financial and human resources have been and are devoted to development of the educational activities from craftmanship to research-based practical and theoretical science as well as to the development and production of teaching materials including textbooks. Until the mid 1980's, the number of permanent teachers was very limited and the formal right to practice research in 25 per cent of the working time was not established until September 1992.

Before around 1985 only minor, sporadic real research activities took place at the School. These activities consisted of minor research projects carried out by individual researchers, and cooperation between internal and external researchers was rare. With the start of two European joint research projects in 1991, funded by the European Commission and coordinated by the School of Conservation, more attention and interest was focused on research by the School. Conservator-restorers graduated from

the School of Conservation began their PhD studies at Danish and European universities in 1991. Large parts of the research were now based on cooperation with researchers and research institutions and universities within and outside the cultural heritage area on national and international level. Lasting and fruitful cooperation networks have been created. However, internal research cooperation among the researchers of the School was limited until recently.

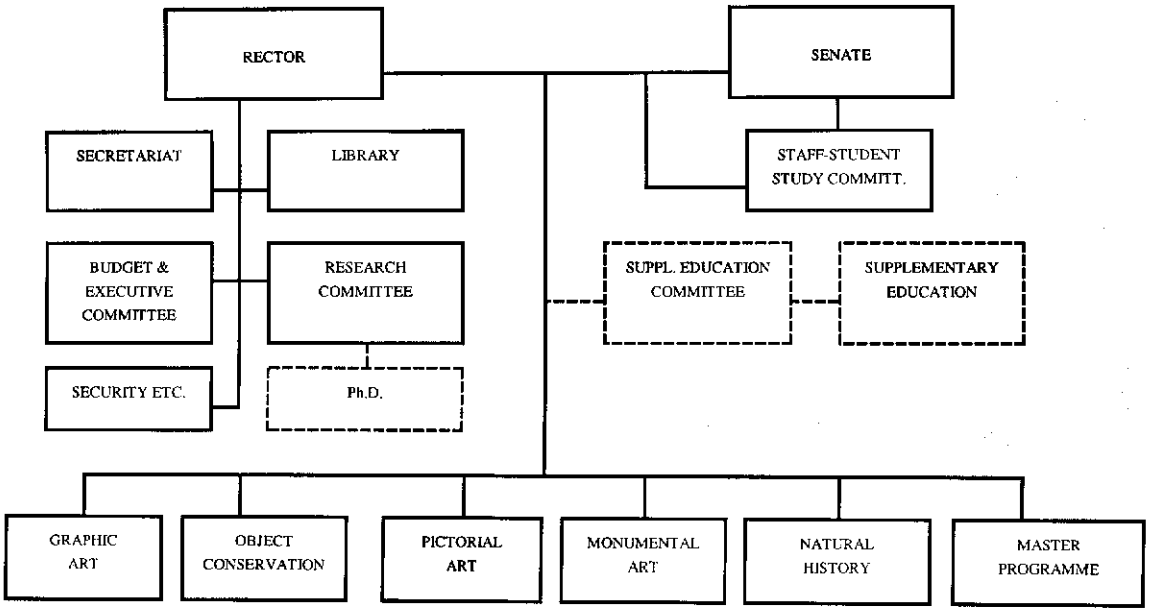
With the introduction of the new statutes of the School in 1995, the responsibility for research planning and the establishment of a Research Committee fell to the Senate of the School. The Research Committee was established in 1996 and more money for research was granted by the Senate. To strengthen research cooperation, the chairman of the Research Committee of the Department of Preservation and Conservation at the National Museum of Denmark became a permanent member of the Research Committee of the School and vice versa in 1999. Some years before the two institutions had established a common strategy for coordination of investment in and use of advanced analytical equipment in their respective laboratories. Further-more, during the last three years exchange of ideas, definitions and subjects of re-search etc. have been discussed at seminars with the researchers from the two institu-tions.

3. Research Areas

The research of the School of Conservation covers both humanistic and natural scientific directed research as well as technical and practical experiments in relation to conservation and restoration. The research projects may belong more or less exclusively to one of these disciplines or they may be a mixture of these. The subjects of research cover basic studies in deterioration of materials including biological, chemical and physical deterioration causes and mechanisms. Further, it covers environmental factors and their influence on cultural heritage objects, artificial ageing, development and testing of conservation and restoration materials and methods. Other research areas are the development of non-destructive and micro-analytical techniques, diagnostic methods, historical crafts and techniques, the ethics and philosophy and history of conservation and restoration. Due to the complexity and many different types of materials, objects and problems of conservation-restoration, all permanent teachers are responsible for one or several main areas of the discipline and education.

4. Organisation and Management of the Research

The rector, who is elected among the full time permanent teachers, is head of the School and has the overall responsibility. The rector decides all matters which do not



come under the sphere of other governing bodies according to law or other statutory provisions. The following chart shows the organisation of the School.

The Senate, which is the School's chief governing body, consists of rector as ex-officio chairman, members elected among the permanent teachers, technical-administrative staff, students and one external member appointed by the Minister of Culture. The duties of the Senate are laid down in the abovementioned executive order. The Staff-Student Study Committee approves curricula and draws up study programmes.

The overall management of research lies within the mandate of the Research Committee which is appointed by the Senate of the School of Conservation with rec-tor as chairman. In addition the Committee consists of three of the permanent teachers at the School as voting members and the chairman of the Research Committee at the Department of Preservation and Conservation of the National Museum of Denmark who has status as an observer. The aim is that the research areas and specialisations of the School's members of the committee cover the research activities of the School as widely as possible. The Senate of the School approves the rules of procedure and the terms of reference of the Research Committee. The Committee informs the Senate about its decisions. The background for this framework is to be found in the existing rules and practice of management of research within the Danish universities and public research institution system. The School of Conservation adopted this system with the new statutes of the School in 1995.

IV Conservation-Restoration as Research Discipline. Relationship to Other Research Institutions in Denmark and Abroad

1. Conservation-Restoration as Research Discipline

The purpose of the School of Conservation as a higher educational institution is to pursue research within conservation and restoration on a scientific basis as defined in section 2.1 of amendment no. 993 of 14th December 1999 to section 4 of Law no. 289 of 27th April 1994 on Advanced Artistic Educational Institutions under the Ministry of Culture. In the explanatory memorandum to the Law of 27th April 1994 it says that the law aims at strengthening the research within conservation and restoration and to commit the School to offer education to the highest level within the area. In addition is said that an extension of the research in the conservation and restoration area is required due to the very special nature of this research area. Finally, in the explanatory memorandum to the amendment no. 993 of 14th December 1999 it is stated that it is a characteristic of a higher educational institution that the education is based on a continuous process of research and development, which is necessary to maintain the high level of education.

The law texts do not define in detail the research discipline of conservation-restoration. Apart from the research within the fields of architecture in relation to restoration of buildings etc. which is within the province of the School of Architecture, the School of Conservation is the only educational institution in Denmark that is devoted to research within conservation and restoration of cultural heritage objects. However, the amendment no. 993 of 14th December 1999 recognises the special situation of conservation-restoration as a small field and states that "a considerable and acknowledged research is taking place at the School of Conservation today, and the School forms part of a close cooperation among research institutions and universities in Denmark and abroad. In spite of the relatively modest size of the School of Conservation, the environment of the profession is in actual fact large."

Apart from the research of the School of Conservation considerable research within conservation and restoration is taking place only at the Department of Preservation and Conservation at the National Museum of Denmark. This research however is mainly applied and experimental development. Thus, in addition to its contribution of the School to these areas of research, the School of Conservation is in fact the only contributor of basic research within the area.

The research into conservation-restoration is a young discipline belonging to the global science of cultural heritage conservation, which has an overall humanistic

basis. The political and philosophical basis for its activities is defined in 1996 in the report of the UNESCO World Commission on Culture and Development "Our Creative Diversity"[1] and other documents of this organisation defining the cultural heritage as a legacy belonging to all humankind. More specifically, the research of conservation-restoration is defined in the documents of international organisations within the field[2-5].

The discipline of conservation-restoration may be defined as an empirical science devoted to the prevention and treatment of the decay of objects of cultural heritage. Like e.g. medical science it is characterised by being a mixture of practical and theoretical skills, which has its origins in craftsmanship as well as humanistic, technical and natural sciences. However, the scientific approach with cogitative and systematic analysis, diagnosis and solution of problems as the basis for practical conservation and restoration skills is what differentiates the conservator-restorer from the craftsman. On the other hand, the strong basis in practical skills and knowledge on the complexity and interactivity of object material behaviour and information including the environmental influence, is what differentiates the conservator-restorer from the pure natural scientists ("conservation scientists"), art historians and other academics. These definitions form the basis of and characterises the research of conservation-restoration.

Thus, the research within conservation-restoration covers both humanistic and natural scientific directed research as well as technical and practical experiments in relation to conservation and restoration. The research may belong more or less exclusively to one of these disciplines or they may be a mixture of these. The subjects of research cover basic studies in deterioration of materials including biological, chemical and physical deterioration causes and mechanisms. Further, it covers environmental factors and their influence on cultural heritage objects, artificial ageing, development and testing of conservation and restoration materials and methods. Other

[1] Our creative diversity. Report of the UNESCO World Commission on Culture and Development, 1996

[2] The conservator-restorer. A definition of the Profession. The International Council of Museums-Committee for Conservation. International Triennial Meeting, Copenhagen, 1984.

[3] E.C.C.O. professional guidelines I-III. European Confederation of Conservator-Restorers, 1993-1994.

[4] The Document of Pavia. European Summit. Preservation of cultural heritage: towards a European profile of the conservator-restorer. Pavia 18-22 October 1997.

[5] Clarification of conservation-restoration education at university level or recognised equivalent (working paper). ENCoRE Newsletter no.4, 2000.

research areas are the development of non-destructive and micro-analytical techniques, diagnostic methods, historical crafts and techniques, the ethics and philosophy and history of conservation and restoration.

2. Relationship to Research at Other Higher Educational Institutions in DK

The research of the School of Conservation is very much directed towards the profession of practice of conservation and restoration. The situation resembles that of professions like e.g. medicine, odontology and pharmacy. First of all it is directed towards the conservation and restoration activities which takes place at archives, libraries and museums. This means that a large part of the research falls within the categories of applied research and experimental development. However, due to the nature of the problems subject to research, a considerable part of fundamental basic research is needed as basis for the applied and experimental activities.

Much of the applied research and experimental development is performed in cooperation with other institutions within the field or within fields of specific relevance to the given research subject. These may be within the humanistic, natural and technical sciences. As the School of Conservation is the only institution in Denmark performing basic research, this activity is in many cases performed in cooperation with universities and other institutions in Denmark which possess the expertise and interest in a given specific sub area of the research subject. In all cases, the research activities of the School of Conservation may contribute also to the research of other profession areas.

Due to its unique nature and specificity there is no competition from other higher educational institutions in Denmark to the research of the School of Conservation. On the other hand, it is important that the limited resources of the School are not wasted in research in the traditional areas that are covered by other higher educational institutions. Representing a small area, it is important that the research of the School has its main focus on the aspects of conservation-restoration. Therefore, the research cooperation with institutions outside the field should be based mainly on the interest of these in specific sub areas of the research. Furthermore, the involvement of the School of Conservation in pure e.g. technical or natural scientific research is only to be expected in a very few and extraordinary cases. However, the transference of knowledge, methods and theories between conservation-restoration and the relevant classical sciences has become very usual and important for the development of the research within the field. Moreover, the benefit to other fields from this transference and cooperation process seems to increase. This is particularly important to maintain the interest of the present partners of the School of Conservation and to attract new

partners from the other higher educational institutions and other research institutions in Denmark.

3. Relationship to Research at Corresponding Institutions Abroad

In general, the conservation-restoration educations are characterised by being relatively small and their levels range from craftsman to university. In Europe there is a strong development towards changing the educations to university level within the framework of the European university structure (Bachelor, Master and PhD). Apart from Denmark this change has or is being or is initiated in Portugal, Greece, Switzerland, Austria and it is to follow in Germany and Italy. Most Eastern European countries offer their educations at university level. In some countries e.g. France, Norway, Spain, Sweden and United Kingdom most of the conservation-restoration educations are linked to universities. In others, e.g. Austria, Germany, Poland and Denmark, they are connected to art academies. However, in Germany and Poland, which have several schools, these are situated both at art academies and at universities (including technical universities/Fachhochschule).

The independent status of the School of Conservation as a state institution at university level, is rather unique in Europe. The positive site of this is that the School has been able to develop its own culture, ideas and traditions for the education and research taking into account all the aspects of the field. This may be difficult for a school belonging to either a humanistic, technical or other specific faculties at a university or art academy. On the other hand, the negative site of the independency is the small education and research environment and the risk of isolation. However, the small size as well as the problem of isolation seem to be a general problem also for the university based educations. There is a common understanding and interest among the conservation-restoration educations that these can only be overcome through a well organised international network cooperation.

On the European level, the cooperation on exchange of students and teachers is already well established. With regards to research, this activity has been relatively low and research cooperations have just started to develop recently. This is first of all connected with the general situation of conservation-restoration as a young academic discipline. To promote this development the European Network for Conservation-Restoration Education (ENCoRE) was established in 1997. This network includes the most outstanding European schools at university level and several research centres and workshops within the field of conservation and restorations as partners. The main purposes of ENCoRE are to promote and catalyse cooperation and coordination of research, the research education as well as the education activities in general within

the network. However, the network is open to cooperation with institutions elsewhere in the world.

The tasks of ENCoRE include also political aspects as the definition and recognition of conservation-restoration as an independent discipline equal to other academic disciplines. Especially, the tasks of ENCoRE and its members are to support the development of the culture of the research and research based education within the discipline. This includes the essential practice of cooperation within the field, but also with other professions inside as well as outside the cultural heritage area. The planned research activities of the School of Conservation, including the idea of a formal cooperation on the PhD course, with the Institute of Restoration, School of Architecture under the Royal Danish Academy of Fine Arts, Institute of Conservation, University of Gothenburg and the Department of Preservation and Conservation, the National Museum of Denmark, are considered the start of a Nordic cooperative group within ENCoRE. It is the intention that this group should also include the schools in Norway and Finland. This may develop into a kind of Nordic conservation-restoration university within the framework of HÖGUT (higher educational cooperation framework) of the Nordic Council like the initiatives established between e.g. the agricultural educations in the Nordic countries.

V Evaluation of the Research Potential of the School of Conservation

1. Introduction

The Panel bases the following description and evaluation of the research activities at the School of Conservation on comprehensive self-evaluation documentation presented by the School. This gave information about the nature and quantity of research activity over the past ten years, and included a selection of published work. The Panel also visited the School for two days. The first day the Panel spent inspecting facilities, listening to presentation by the researchers, and joining in discussions about the presentations and other subjects concerning research. On the second day the Panel carried out extensive interviews with the Rector and with teachers and students, both singly and in groups.

The self-evaluation material and the visit to the School was well prepared, and the discussions with the staff took place in an open and positive atmosphere.

A more precise account of the examination process is given in chapter II and in the School's self-evaluation questionnaire which can be acquired if wanted.

2. Staff Profile

In accordance with the terms of reference the data provided covers the period from 1989 to 1999. The statement shows that April 1st 2000 there were 17 teachers at the School who all to a greater or lesser extent carried out research. Furthermore, there was 1 PhD student, formally attached to the Institute of Prehistoric Archaeology at the University of Copenhagen but in reality working at the School of Conservation.

The age distribution among the teachers shows that there is a big group between 50 and 59 years old (more than 50 %) while all but one of the remainder are between 40 and 49. The School has strong hopes that the introduction of a new employment structure with increased research time for the teachers will make it possible to employ more young teachers.

The teachers are recruited among graduates from other higher education institutions and from the School's own graduates. Since 1992 teaching experience and research background have been specified when advertising for new teachers. The research qualifications of the applicants have been evaluated by panels set up by the School,which included external scientific expertise.

Within the group of teachers the School has several experienced researchers who have been employed for many years and whose research qualifications have not

been formally evaluated. Over the last ten years, there has been a considerable and continuous rise in the research qualifications of the group of teachers, and the motivation among the present staff is high.

In relation to the introduction of the new university employment structure it is important that the present teachers at the School, who do not have a formal research degree, are encouraged to take a PhD and are given the necessary research time to do so. The Rector and the teacher representatives on the Research Committee are well aware of the requirements for this change.

16 of the 17 teachers hold an MS degree, and 5 of the teachers have a PhD. It is the impression of the Panel that among the teachers 4-6 persons are probably qualified to hold a position as associate professor. It is also the impression of the Panel that several of the teachers without a research degree are close to PhD level.

Against this background it is the conclusion of the Panel that there is the necessary basis of experience and expertise among the teachers to implement the university employment structure.

3. Published Material

The staff of the School has come out with approximately 180 publications since January 1989, of which 110 have appeared since January 1995. This indicates increasing research and communication activity at the School. Around 20% of the more recent papers have passed through a formal refereeing process. The complex multidisciplinary nature of conservation-restoration means that it is often necessary to disseminate the same results to a number of different specialist disciplines at several levels of technical interpretation. This means that, although the total number of publications could rise, the proportion which had been formally refereed could not reasonably be increased much beyond about 30%.

The list of publications shows that the School is generally on a research level with the major institutes in Europe and North America. In a few areas it is clearly among the leaders. The staff of the School correctly believe themselves to be at the international forefront in such areas as collagen-based materials, archaeological metals, historical painting techniques and the history and theory of conservation. Involvement with the EU-funded STEP project has established the School's primacy in areas of knowledge relating to leather and parchment.

Twenty articles published since 1989 were selected by the School and submitted to the Panel as a part of the evaluation. This selection shows that research is carried out within all the areas of conservation-restoration that it teaches. Even staff who teach complementary subjects such as art-history are research active, which must

contribute to the overall research culture. The publications show good evidence of fruitful collaborations both nationally and internationally. There are examples of both long and short-term problem-solving research. Even where the research is very long-term the end goal is always clearly related to the needs of conservation.

4. Research Projects, Cooperation and Culture

Research in the field of conservation-restoration covers topics related to both humanistic and natural science studies. It also involves technical and practical experiments directly related to problems identified in objects of art and science or collections of cultural value. The on-going research projects of the School of Conservation as presented to the Panel cover all these aspects. The projects in progress represent the five disciplines as taught in the School, although not in equal distribution (this is partly due to the relatively new existence of two disciplines).

The School is internationally recognized as demonstrating high standards in training and education and its research in certain areas is of the same high calibre.This is shown in the cooperation with conservation institutes in Denmark and abroad. The material presented shows that there are groups of projects that are interrelated and of interdisciplinary character which cover the various aspects of the field of conservation -restoration. There are, however, some individual research projects which would benefit from more inter-relationship with other research activities in the School. These areas of research can be improved by exchange of knowledge and experience between the staff members of the School. They would also be enhanced by contact with specialists in Denmark and abroad.

As the research of the School is directed towards the profession of conservation, there is an obvious relationship between advanced research and the projects of the MS student. Mutual communication and discussion between researchers, teachers and students can be very fruitful and can give inspiration to new research projects. The introduction of a PhD programme completes the training programme and will provide the field with highly qualified conservation researchers. It is desirable that all three stages in training take place within the five departments of the School rather than in separated research units.

In the development of a PhD programme research must be more clearly structured. At present there is no obvious culture of formal discussions between the professional staff about recent results and the state of a research project. A beginning has been made by organizing meetings where projects are presented.

A strategy for research and a framework within which the research can be placed must be developed. In this strategy the goals and means must be clearly

identified. In this way a more interdisciplinary and inter-departmental exchange of ideas and knowledge can be reached and a culture of open discussion between researchers can be created. In the framework there is place for development of research projects on a more theoretical basis to be presented to the Research Committee for evaluation and discussion. Milestones and time planning are an essential part of the research proposal as presented to the Research Committee. Regular meetings for presentation and discussion of the results of the research are an essential part of research at a high level.

5. Strategy and Role of the Research Committee

As is common in many educational establishments the staff have school-wide, departmental and individual responsibility for teaching, administation and research. This matrix of responsibility means that there are conflicting calls on the individual´s time and relatively few long periods in which to think and work constructively. The feeling was expressed that although the importance of research was recognised it was the one thing that must be sacrificed when time must be found for more immediate tasks.

From some staff there was strong advocacy of the right of a researcher to select a topic for study and a defensive attitude against developing a strategic overview to the relevance of an individual´s research. Structured proposals for research projects including estimates for time and resources are expected from the MS students but there seems to be less compulsion on staff. Although the Rector and the members of the current Research Committee recognised the need for a more structured and strategic view, its importance and mode of implementation did not seem clear to all staff.

The ways in which the staff spent their allocation of research time was not always easily recognisable as effort relating to agreed and planned proposals. Some of what was described as research was in fact the investigation necessary for the continuing professional development of conservators and scientists. Some of the experiments mentioned were more in the nature of familiarization with new techniques rather than structured research and development. While these are absolutely necessary they should not be counted in the time that the School allocates to research. The School should agree definitions and fix priorities for the different activities.

In the proposed new structure it is important that the Research Committee is seen to have more teeth. The Committee should be responsible for developing a strategic framework which defines the current areas of interest and sets goals for the achievement of broad objectives. This strategy would ensure a continued relevance to the teaching activities of the School and also constrain research aspirations to subjects that are unlikely to be found or duplicated elsewhere.

New proposals should be costed in terms of staff and support time and the need for resources of space, equipment and money. Current projects should be re-viewed rigorously to see that they satisfy time and cost parameters.

The Research Committee would need to know that there were mechanisms by which staff were allocated appropriate blocks of time in which approved projects could be progressed on schedule.

6. PhD Students

At present the School does not have a formal PhD programme. However since 1989 10 graduates from the School have been admitted to PhD courses at other institutions, of which 4 have completed the study and 6 are still in the programme. At present the School collaborates on a case by case basis with the University of Copenhagen, UMIST in Manchester, the University of Gothenburg or others who can offer supervision and/or specialisations of relevance in the given case. At the moment Danish students are therefore forced to complete their studies abroad or register in disciplines that are not closely related to the field of conservation-restoration. It is the School's experience that PhD studies that take place in such circumstances may suffer from the host institution's lack of expertise and knowledge of the field.

It is the judgment of the Panel that the School has a sufficient number of competent researchers that can surpervise PhD students. The Panel assumes that the School will prepare a description of the programme for PhD's, and a statement about who among the present teachers can supervise within this programme.

In the light of this the Panel propose that the School develop its own PhD programme as soon as possible and be given the right to confer the degree PhD in the field of conservation-restoration.

7. Economic Resources

The main part of the funding of the research at the School of Conservation comes from the the Ministry of Culture. A large part of this finances the cost of the 25% research time of the teachers. Nevertheless, in the period 1995-99 42% of the total research funding came from external funding, which can often give an imbalance in the general research pattern, as external funding is typically given to areas which already have a high research quality and a strong profile. For the Panel it is important to stress that the ratio of internal funding must rise to secure an equal development in research across all the five departments at the School.

8. Research Facilities

The Panel was taken on a tour of the facilities at the School. They are fairly crowded for an educational establishment with such a large number of BS students, and obviously inappropriate as an environment in which to generate a thriving research culture. A number of MS students are employed elsewhere but if they all needeed to work at the School there would be acute embarrassment. As it is, the BS students have more individual space for study than do their supposedly senior colleagues the MS students and there is no room for the proposed new PhD's.

Acquisition of new relatively expensive research equipment has not been extravagant. Each piece of equipment has been chosen to be as useful to all departments as possible, for training as well as research. The places they are housed are far from adequate in terms of space, accesss and proximity to other relevant areas.

The Panel understands that new accommodation is being sought. It should be stressed that much more space than currently used will be needed. The School should develop a clear strategy for the future acquisition of equipment.

9. Main Conclusions and recommendations

1. Research at the School of Conservation has the scope and quality necessary for it to be characterized as an institution of higher education within the area of conservation and restoration. In many areas the research is clearly up to the highest international level and there is obvious potential for advance in the other areas.

2. The School should be given the opportunity to develop its own PhD programme and the right to confer the degree of PhD in the field of conservation and restoration.

3. In order to do this it will need to move toward an employment structure equivalent to that found in higher education establishments. The appropriate financial resources must be made available to implement the new structure.

4. Teachers who do not have a formal research qualification should be encouraged to register for a PhD in a relevant topic. The Panel noted that there was both willingness and potential among staff for this to be achieved. Staff should be allowed the necessary research time to complete this programme within a reasonable period.

5. The School is unlikely to achieve its full research potential unless there is a considerable increase in the space available for research activity.

6. The age profile of existing staff suggests that there will have to be careful succession planning to avoid sudden loss of expertise in some areas. This may mean that additional younger PhD qualified staff will have to be appointed. In some cases these will be PhD graduates from the School's own programme. Additional financial resources may be necessary at appropriate times to ensure a smooth transition.

7. The School should review its research culture in the light of the proposed changes. There may need to be an increase in seminars and discussion groups in research subjects. There may be a need for a more systematic approach to the teaching of the theoretical basis and methodology of conservation research.

8. There is a need to establish clear distinctions between the different activities of the School so that an order of priorities can be fixed and appropriate time allocated. This applies especially to the distinction between time for research and time for investigations and experiments that are designed primarily for the professional development of staff in their role of teaching a rapidly developing subject. To acheive the expected increase in research activity the School might consider a more formal method of time budgetting.

9. The School could establish a more specific strategy for research, defining areas of activity and broad goals to be achieved. This should be clearly understood by staff and students. Notwithstanding the right of researchers to choose their own topic, the School should concentrate its activities to areas that are specific to the established areas of teaching and which are not likely to be found elsewhere.

10. To secure the further development of research the School should consider strenghtening the role of the Research Committee. It should take a clear role in strategic planning and in the critical review of new proposals, current projects and individual productivity.

Appendix 1

Adresses of Evaluation Panel Members and Consultant

Director (chairman of the panel)
Jan Skamby Madsen
Moesgård Museum
Moesgård Allé 20
DK-8270 Højbjerg

Tel: (+45) 8942 4505
Fax: (+45) 8627 2378
E-mail: farkjsm@moes.hum.aau.dk

Head of department, Dr.
Jonathan Ashley-Smith
Department of Conservation
Victoria and Albert Museum
South Kensington
UK-London SW7 2RL

Tel: (+44) 20 7942 2132
Fax: (+44) 20 7942 2092
E-mail: jonathan@vam.ac.uk

Head of department, Dr.
Judith H. Hofenk de Graaff
Instituut Collectie Nederland
Divisie Advies en Onderzoek
Gabriel Metsustraat 8
NL-1071 EA Amsterdam

Tel: (+31) 20 305 4730
Fax: (+31) 20 305 4700
E-mail: judith.hofenk-de.graaff@icn.nl

Consultant, cand. polit.
Else Marie Kjerkegaard
Bredgade 47, 1th.
DK-1260 København K

Tel: (+45) 33 15 95 14
Fax: (+45) 33 15 95 10
E-mail: emk@post7.tele.dk

Appendix 2

List of Background Information for the Evaluation Panel

- Plan for the International Evaluation of Research Activities at the Royal Danish Academy of Fine Arts, School of Conservation
- Names and adresses of the evaluation panel members and consultant
- Curriculum vitaes of the evaluation panel members and consultant
- The answer of the School of Conservation to the self-evaluation questionnaire, including the following appendices:
  1. Research concepts laid down by the Research Committee of the Ministry of Culture,
  2. Names of staff members and the individual research area and scientific background
  3. List and description of research projects in progress,
  4. List of publications of research results since 1 January 1989, including channel of publication
  5. 20 selected articles or monographs after 1 January 1989
- Schedule for the panel visit to the School of Conservation, Royal Danish Academy of Fine Arts

Appendix 3

SCHEDULE FOR THE PANEL VISIT TO THE SCHOOL OF CONSERVATION ROYAL DANISH ACADEMY OF FINE ARTS

The panel visit will take place from June 7th (evening) to June 10th (late afternoon). The panel stays at the following hotel, situated within walking distance of the school:

Esplanaden Hotel
Bredgade 78
1260 Copenhagen K.
Tel: (+45) 33 48 10 00
Fax: (+45) 33 48 10 66

The two first days of the visit will be spent at *the School of Conservation, Espanaden 34, 1263 Copenhagen K., tel. (+45) 33 74 47 03, fax (+45) 33 74 47 77.* Meetings not held at the school will take place at the hotel, where a conference room is reserved for the Panel. The consultant will provide practical assistance during the whole process.

Wednesday June 7th 2000

19.45: Panel members and consultant meet in the foyer of the hotel
20.00-22.00: Preparation of the work of the panel

Thursday June 8th 2000: Seminar day

8.40: Panel members and consultant meet in the foyer of the hotel
Departure for the school
8.45-9.00: Welcome to The School of Conservation,
by rector René Larsen
9.00-9.05: Opening of the seminar,
consultant Else Marie Kjerkegaard, moderator
9.05-9.15: The panel presents itself to the researchers

9.15-9.30: *Issues in conservation in the 21st century*
Beate Knuth Federspiel, teacher

9.30-10.20: Discussion

10.20-10.35: Coffee break

10.35-10.50: *The state of preservation of artefacts from the agrarian landscape*
Helge Brinch Madsen, teacher

10.50-11.40: Discussion

11.40-11.55: *Establishment of an international website based research centre*
René Larsen, rector

11.55-12.45: Discussion

12.45-13.45: Lunch with: Bent Eshøj, chairman of the staff-student study committee, head of department, René Larsen, rector, chairman of the research committee, Christina Lund, secretary *to* the research committee, Mikkel Scharff, member of the staff-student study committee, vice-rector, head of department,

13.45-14.45: *Tour of the School of Conservation*: Presentation of equipment, laboratory and workshop facilities in relation to the research

14.45-15.00: Coffee break

15.00-15.15: *Examples of cross-disciplinary research in connection with newly acquired advanced equipment*
Ingelise Nielsen, head of department

15.15-16.00: Discussion

16.00-16.45: The Panel plans the following day

16.45-17.00: Informing the researchers about the schedule of the following day

17.00: Departure for the hotel

18.00-19.45: Summing up of the day, preliminary conclusions, preparation of the following day

20.00-22.00: Dinner

Friday 9th 2000: Interviewing day

8.50: Panel members and consultant meet in the foyer of the hotel
Departure for the school

9.00-10.00: *Meeting with heads of department:*
Bent Eshøj, Monumental Art
Ingelise Nielsen, Graphics
Jane Richter, Natural History and Cultural Objects
Mikkel Scharff, Pictorial Art

10.10-11.10: *Meeting with selected teachers:*
Jørn Bredal-Jørgensen MS
Pernille Broneé MS
Grethe Jørgensen MS
Mogens S. Koch MS
Elisabeth Kofod-Hansen MS
Annemette Scharff MS
Marie Vest MS

11.20-11.40: *Meeting with selected master students:*
Jesper Søbjørn Jensen
Dorte Vestergaard Poulsen

11.40-12.00: *Meeting with Ph.D. student*
Tove Benedikte Jacobsen

12.00-12.45: Panel together: Lunch
12.45-13.30: Panel together: Preliminary conclusions

13.30-14.30: *Meeting with selected teachers:*
Jan Jørn Hansen MS, PhD
Nicoline Kalsbeek MS, PhD
Jane Richter MS, PhD

14.30-15.00: *Meeting with staff members of the Research Committee:*
Beate Knuth Federspiel MS
Ingelise Nielsen MS, PhD

15.10-16.00: *Meeting with Rector:*
René Larsen

16.00:	Departure for the hotel
17.30-19.15:	Summing up of the day, conclusions, structuring the evaluation report
19.30:	Dinner with: Beate Knuth Federspiel, teacher, member of the research committee, René Larsen, rector, chairman of the research committee, Christina Lund, secretary to the research committee, Ingelise Nielsen, head of department, member of the research committee

Saturday 10th 2000: Report writing

8.00-13.00: Working session

13.00-13.45: Lunch

13.45-20.00: Working session (cont.)

Departure of the Panel

Appendix 4

Statistics on the research at the School of Conservation

Table 1. Research funds 1995-1999, by source, million DKK (one decimal)

	1995	1996	1997	1998	1999	Total
Basic funding [1] Ministry of Culture	2.1	2.3	2.1	1.9	3.1	11.5
Other funds Ministries/government bodies and other government sources (excl. public Danish foundations)	0	0	0.3	0.3	0.2	0.8
Other Danish sources (incl. Public Danish foundations)	0.3	0.1	0	0.5	0.4	1.3
Nordic sources	0	0	0	0	0	0
Other foreign sources	1.4	2.7	0.9	0.6	0.6	6.2
Total million DKK	3.8	5.1	3.3	3.3	4.3	19.8

[1] Basic funding includes the costs for the research time of the teachers, administration, investments in equipment, facilities etc. In 1999 the cost of 25 per cent research time of the teachers was around 1.5 mill DKK and thus it constitutes the main part of the basic funding. For comparison the estimated average total budget of the school in the period is around 22.0 mill. DKK per year. The educational costs in the period total around 9.5 mill. DKK per year.

Table 2. Number of staff members with allotted research time, by position (as at 1 April 2000) and sex

Teachers	Ph.D. students	Total	Of which are women
17	1	18	10

Table 3. Number of staff members with allotted research time, by age (as at 1 April 2000)

	Under 30 year of age	30-39 years of age	40-49 years of age	50-59 years of age	60 years of age and over	Total number of research staff members
Total	0	1	7	9	0	17

Table 4. Number of staff members with allotted research time, by awarded research degree (as at 1 April 2000)

	Doctor	Ph.D.	Ph.D. students	No formal research degree	Total researchers
Total	0	5	0	12	17

Table 5. Number of research projects in progress, by external partner (as at 1 April 2000)

Own projects	12
Projects with Danish partner	13
Projects with foreign partner	8
Total	33

Table 6. Number of scientific and other publications of research results since 1 January 1995, by channel of publication

Scientific publications, published nationally	
Refereed before publication	2
"Refereed" by editorial board	7
Other scientific publications	10
Scientific publications, published internationally	
Refereed before publication	18
"Refereed" by editorial board	23
Other scientific publications	42
Other publications of research results	8
Total	110

Table 7. Number of foreign visiting researchers who have stayed at the School of Conservation since 1 January 1995

	From Nordic countries	From European countries (excl. Nordic countries)	From USA	From the rest of the world	Total number of visiting researchers
One week to one month	18	42	11	2	73
One month to three months	0	0	0	0	0
Over three months	0	1	0	0	1
Total	18	43	11	2	74

Table 8. Number of researchers at the School of Conservation who have stayed at foreign research institutions since 1 January 1995

	To Nordic countries	To European countries (excl. Nordic countries)	To USA	To the rest of the world	Total number of researchers
One week to one month	2	13	2	1	18
One month to three months	0	1	0	0	1
Over three months	0	0	0	0	0
Total	2	14	2	1	19