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TOWN HOUSES. A NEW METHOD OF INVESTIGATION

Like all other towns Danish towns are also the victims of redevelopment and demolishing. In all our towns, buildings in the city have been demolished or changed and big areas have been cleared off and developed to fulfill the demands of modern traffic and housing. In very few years the townscape will be totally changed. The quarters which were formerly occupied by smaller, old dwelling-houses are now covered by huge office- and business-buildings.

Investigations of buildings shortly to be pulled down were begun in 1953, as it was foreseen that like many other towns, Copenhagen would undergo extensive clearance programmes. The aim of these examinations is to clarify the building and living conditions of the past. Through the last ten years we have succeeded in gathering material, which gives us valuable glimpses of the cultural history of daily life in the past. This documentary material is now in the archives and in storage at the Danish National Museum.

The material consists partly of objects brought to the museum from the old houses, partly of measuring, surveys, photos, descriptions and documents from the archives. In the collections of the museum we have for instance characteristic forms of doors, windows, wainscoting profiles, painted wall-decorations and wall-paper from the various periods. In addition we have acquired to the interior-collection series of complete apartments, which show the development in this field in the various social layers from the beginning of the 18th century to the end of the 19th century.

In the archives of the museum we have collected documentation about a great number of buildings which now have been demolished. This material, which is what has been left of the buildings, gives us important information partly of the objects we have brought to the museum from the buildings, partly about the history of the houses, their functions, plan and equipment.

The researchwork, which I have mentioned here very briefly, was started to prevent destruction of objects and information, which are valuable for the research of our civilization. The investigation was started as soon as we knew that the building concerned was going to be demolished.

However, as conditions for research normally were very unsatisfactory it was natural to try to forestall the demolishing contractors. So since 1961 we have investigated a series of houses, which were not threatened immediately by demolishing. Through these investigations we have compiled a register of the houses and their contents so that we, if the houses later on are to be pulled down, know what they contain and what ought to be preserved. This index or register will no doubt be of value not only for the research in our history of civilization, but also

for the work in practice with the preservation of old buildings and for the town-planners.

After this short view of the general researchwork I shall turn to a special field of this work, namely, the investigation and preservation of painted decorations.

During the work in the houses we find very often decorations which have been painted on walls and ceilings. If the decorations have been painted on the plaster we strip all the plaster with decorations off the wall and later on in the restoration laboratory the decorations are transferred to a sheet of wood to be kept in the museum. If the decorations have been painted on wood it is necessary to make some preliminary investigations, but these are reduced to a minimum. When decorations have been discovered in the houses, the objects will be brought to the museum for further examination. This examination consists of x-ray photos and cross-sections of the layers.

Until recently this method has only been used in the research of paintings on canvas, but at the National Museum the method has been developed further, so that it is now possible to work with objects covered by 20 or more layers of paint. By x-ray examination it is possible to establish the form and the conditions of the decorations and to find out if there should be several layers of decorations. When the decorations, which are still covered by plenty of newer layers of paint, have been x-ray photographed, the x-ray photos are placed on the object. In this way it is possible to point out the spots where the cross-sections should be taken.

The cross-section consist of a small sample of all the layers taken so that the original stratification is intact. The cross-section is cast in transparent plastic and then ground so that the layer division can be studied under a microscope. The cross-section is photographed in colours through the microscope and the diapositive can be further enlarged through a projector, 500 times for example. In this way it is possible to identify the types of layer accurately, to decide whether a layer is a first coat, a glaze, a top coat or a film of dirt. The last mentioned, the dirt, is very important because it shows whether a layer has been used as surface for a shorter or longer period.

The method is invaluable as it avoids damaging large areas of paint, which is the case when layers are uncovered one by one. Yet the method still supplies all necessary details of hidden earlier layers and it is possible to distinguish the various layers from each other and to study them in detail. It is possible to separate one layer from the other with the greatest accuracy, which is very important in cases where a particular layer is to be uncovered. Finally, the method is indispensable when ascertaining the chronology of the layers and the subsequent dating of related objects.

All this means that the method is of great value to the archaeology of buildings and to the work in many other fields of research.

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TRAVAIL D'ÉTUDES DANS DES MAISONS URBAINES  
DES XVIII<sup>ème</sup> ET XIX<sup>ème</sup> SIÈCLES AU DANEMARK.  
RÉSUMÉ.

*Le Musée National danois a fait, sur plusieurs années, un travail d'études et de recherches dans un grand nombre de maisons urbaines des XVIII<sup>ème</sup> et XIX<sup>ème</sup> siècles, qui devaient être démolies à cause du développement des villes danoises.*

*On trouva souvent, dans ces maisons, des décorations sur les murs et sur les plafonds. Quand les décorations étaient faites sur le plâtre, on détachait du mur tout le plâtre... avec la peinture, pour transport au Musée sur un plateau de bois ou de toile. Si les décorations étaient peintes sur bois, la pièce était transportée au Musée pour investigations ultérieures.*

*Au Musée, les décorations, qui étaient souvent couvertes par d'abondantes couches de nouvelles peintures, étaient photographiées aux rayons X, ce qui montrait la forme des différentes décorations, et une section transversale de toutes les couches était également photographiée, en couleurs, à travers un microscope. Cette photo qui montrait la stratification était alors projetée agrandie 500 fois.*

*La méthode a été tirée et développée de la technique qui est employée dans l'étude des peintures sur toile, et il est maintenant possible de travailler sur des pièces couvertes de 20 couches de couleur, ou plus. Avec l'examen aux rayons X, il est possible d'établir la forme des décorations et avec les sections transversales on peut, avec certitude, distinguer les diverses couches l'une de l'autre et découvrir quelle est leur nature et quelles sont leurs conditions. De cette façon, il est possible d'établir une chronologie, ce qui est très important dans le cas où, par exemple, l'âge et les conditions réciproques entre choses diverses peuvent être déterminés. En outre, il n'est pas nécessaire d'ôter les nouvelles couches puisqu'on peut démontrer aussi bien les formes que les couleurs d'une décoration même couverte. La méthode, qui apporte une aide indispensable au restaurateur qui découvre les décorations originales, peut aussi révéler des réparations et des falsifications. Tout cela signifie que la méthode est extrêmement valable pour l'archéologie et pour le travail à accomplir dans beaucoup d'autres domaines de la recherche artistique.*