

PANU KAILA:

Myllymäki – a test Project of Preserving wooden Monument as Museum Object

Buildings in the collections of museums

One of the main tasks of museums is the preservation of material cultural property in their collections. The use of objects owned by museums (e.g. in exhibitions) should never risk their existence, not even cause damage to them. Opposite to everyday utensils, museum objects should not be worn out by normal use. Originally they have been made for some purpose, but when becoming part of museum collection they have lost this purpose and are not allowed to «work» any more. (With works of art the original purpose may not differ much from their existence in museums).

Buildings from a very important part of the cultural property of mankind. It is no wonder that efforts have been made to preserve also some wooden buildings as museums objects. One of the first museal collections of buildings, Skansen in Stockholm was opened to public in 1892. It soon became a prototype of open air museums especially in the Northern countries. The idea of Skansen was to create a milieu where objects of folk art and culture could be presented with their original background. Although the authenticity of these buildings was important, they still were functioning as buildings. This is the case with most buildings in open air museums today. Ten of thousands of people walk on their floors (actually many more today than when these houses were alive). The roof have to protect the house from rain and snow, the paint must shelter the weather-boarding from the heat of sun. Consequently these structures suffer from deterioration, and must be repaired and renewed at certain intervals. Continuous rebuilding, even partially, is in conflict with museal principles.

We must admit the fact that in most cases this continuous replacement of details of buildings cannot be avoided even in museums, and thus the authenticity of these buildings is limited. On the other hand we should also do our best to protect some selected samples of historic wooden architecture as true museum objects, following with the general principles of museology.

Myllymäki farm

Myllymäki farm in Nummi-Pusula lies in the middle of large woodland in Southern Finland, some 70 kms from Helsinki. This tenant farm has never had road connection, only small paths passable by horse lead to it. There is no electricity, no farming machi-

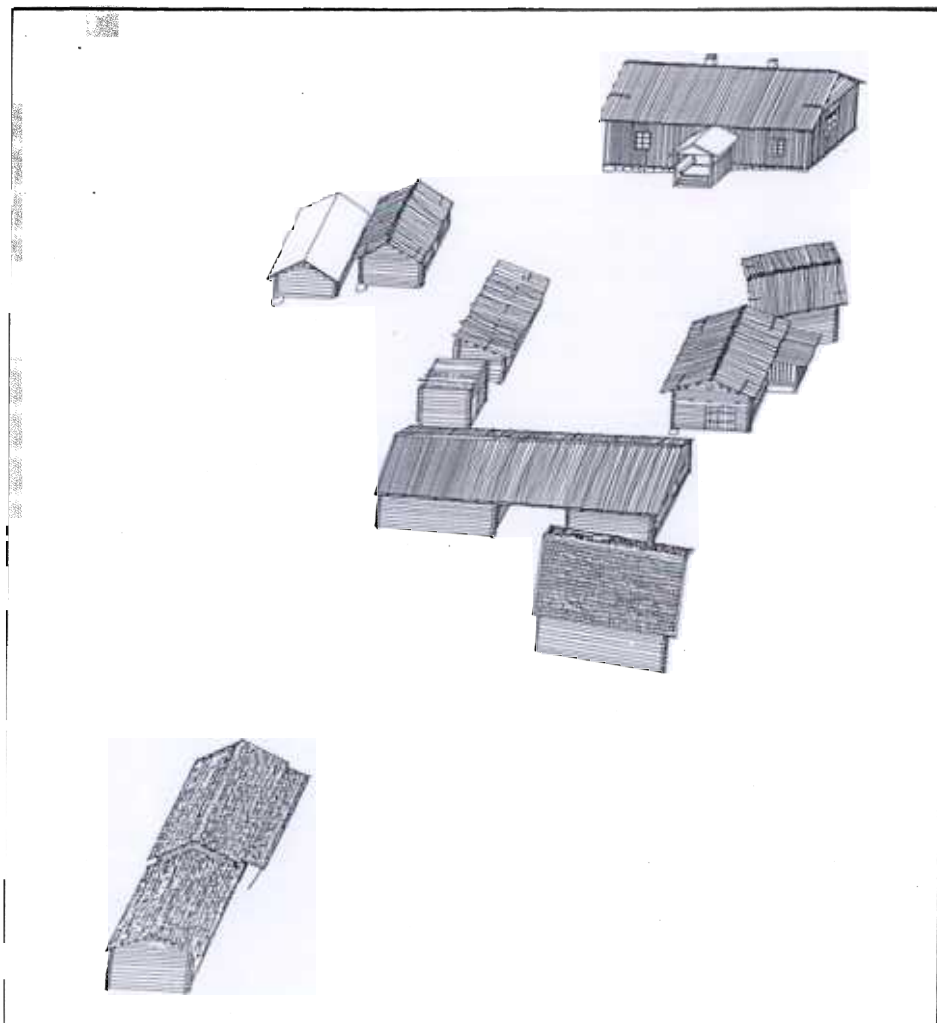


Fig. 1 Myllymäki farm. The main building is seen above right. It consists of two separate rooms of different age, connected with a porch with entrance on both sides of the house. The other buildings near to the main one are granaries, stores, stables, two cow houses, pigsty and a wood shed. The one below is a drying and threshing barn, situated a bit aside for danger of fire. Sauna is situated outside this picture, like some other buildings of the farm.

La ferme de Myllymäki: en haut, la maison d'habitation consiste de deux pièces datant d'époques différentes reliées par un porche. Il y a une entrée des deux côtés de la maison. Les autres bâtiments sont des greniers, garde-mangers, écuries, étables, porcherie, et une remise pour le bois. Le bâtiment un peu à l'écart est une grange. D'autres bâtiments, dont le sauna, sont en dehors de l'illustration.



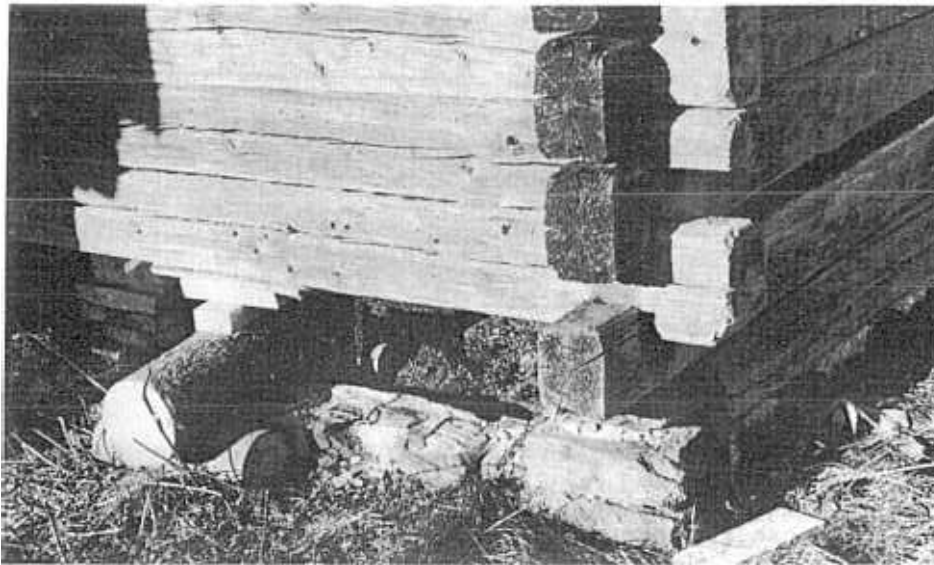
Fig. 2 The main building with its protective tin roof. The eaves might well have been longer to provide better protection against sun and rain.

La maison d'habitation avec la toiture protectrice en tôle. Celle-ci aurait pu être plus couvrante afin d'assurer une meilleure protection contre la pluie et le soleil.



Fig. 3 This former granary (marked 1839) was standing in water every spring and autumn. Now the old ditch was opened again. The sill beams were impregnated with toxicant.

L'ancien grenier datant de 1839 a subi les inondations continuelles du printemps et de l'automne. L'ancien fossé d'irrigation est maintenant rétabli. Les parties basses ont été enduites d'un produit chimique.



*Fig. 4 A building has been lifted up and the sill beams removed for treatment.
Un bâtiment a été soulevé et la poutre de base enlevée pour être traitée.*

nery, the whole complex is a product of man with his axe and his horse. The fields around the house are small; moose, deer and wolf still move round its corners.

The exact age of the 16 different buildings still existing in Myllymäki is unknown. The oldest year marked in the timber of a former granary is 1839. At least one part of the main building might well be older. The newest buildings were constructed in 1930's. During his last the old farmer was no more able to take care of his buildings, cows were sold, farming decreased. Many buildings became unused, some of them even collapsed. The lonely farmer left Myllymäki with all his personal property to the National Board of Antiquities by his will in 1980.

When Myllymäki was received it was obvious that the main task was to protect and preserve this exceptional ethnological monument. There were no financial resources to run it as a common open air museum in situ, with a curator, guards and other personnel. Neither was its transportation to the central open air museum Seurasaari in Helsinki even considered – some decades ago this might well have happened. The farm was classified by the National Board of Antiquities not as a museum, but as a reserve of historical architecture. It will be kept as an object for study and research, which for the present is not open to the public.

Protection of wooden structures

When a close study was made it became apparent that the condition of many of these 16 structures was alarming. The first thought was to start the restoration with original materials and traditional methods, like it were an ordinary museum. Thus the wonderful

*Fig. 5 The sill beams in their boxes waiting for transportation to the impregnation plant. No reparation was made, nor lichens or moss removed.
Les poutres dans leurs caisses avant d'être transportées. Elles n'ont subi aucune réparation préalable, on n'a enlevé ni lichens ni mousse.*



atmosphere of this unique wilderness farm could have been preserved. The illusion of a living tenant farm would have continued. But with research object, with a document of the past, the truth even in worn shape is more important than the illusion. In fact the deterioration of materials is also one part of the truth. So a decision was made to try to conserve the buildings as museal objects, with minimal intervention to the structure itself but with less respect to the visual illusion.

A museum object need not be in working order. To avoid intervention even the defects are not repaired. However the continuous deterioration must be stopped, or the monument will be lost altogether. In Myllymäki the principal causes of decay of the structures are dampness of the ground which promotes fungal growth in sill beams, rain on wooden roofings and solar radiation on roofs and southern facades. These environmental factors can be effectively controlled in closed shelters.



Fig. 6 The nightmare in the sub floor space. The mycelium of dry rot is covering both the wooden beams and the ground. The effort is made to eradicate it with ventilation and drainage and with some toxicants, without removing any timber.

Vue de cauchemar sous le plancher. Les champignons couvrent le sol et le bois. On a essayé d'en venir à bout par une bonne ventilation et le drainage ainsi que l'enduit de produits toxiques, sans toutefois déplacer les poutres.

The first step to protect Myllymäki's buildings was to cover them temporarily, at first just with cheap plastic wrappings and then with tin roof shelters. The new rafters of tin roof were placed on original wooden roof. A better but more expensive way would have been a separate construction supported directly from the ground, which would also allow a better ventilation and less condensation between these two roofs. Only in one structure which was quite badly damaged this kind of shed was built.

When the roofs were protected, the sill beams lying on wet ground were in danger. An effective drainage will help in many cases, but sometimes it is very difficult to get the ground dry enough without extensive constructions. In two small buildings the sill beams were therefore treated with toxicants. The structures were lifted slightly from the ground. – The floors inside were carefully collected away in advance. The sill beams and 2-3 timbers above them were taken away and placed into wooden boxes of frames, to avoid damage during transportation and treatment. Then they were taken to an impregnation plant, dried naturally and vacuum-pressure treated with pentachlorophenol. After this the timbers were placed back to their original position.

In the main building we were faced with a problem: the dry rot. The farmer had closed the traditional ventilation openings in the foundation wall already many decades ago. As long as the house was heated, the warmth was leaking easily under the room through the plank floor thus keeping the ground dry. When Mykkymäki was abandoned, a very active dry rot attacked the sill beams and other timber constructions in the sub floor space. The missing gutters of the new tin roof also contributed to the high dampness of the ground.

The dry rot have been repelled by digging an effective ventilation to the sub floor space. The ground was drained by an open ditch. None of the infected timber was removed. The fungus was scratched off from the surface and the timber was then brushed with creosote oil. In couple of places the fungus was left untouched and a piece of green board was placed on it. If the fungus is not capable to go on its growth on the board, it shows that the wood is now too well ventilated for the dry rot and the situation is in control. The visible fungus was also removed from the ground where some borax was then strewn. The final success of these operations is still unknown, but with a regular follow up there is no danger of a sudden destruction.

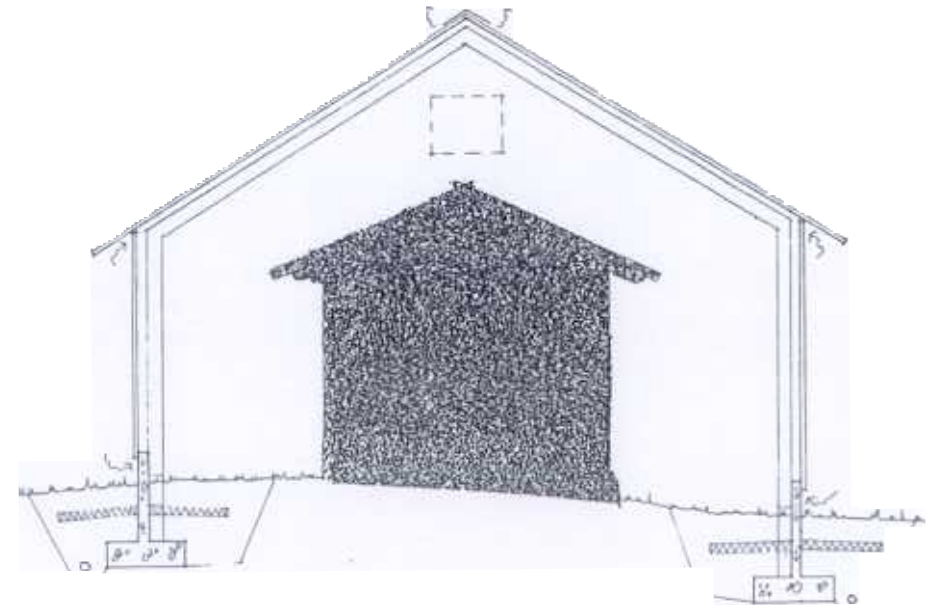


Fig. 7 A first sketch of the shelter to be built around the sauna. The ground will be provided with an effective drainage system. The walls will be made of opaque fiberglass-plastic sheets with adjustable ventilation openings.

Premier projet d'abri qui recouvrira le sauna. Le sol sera bien drainé, les murs seront de fibre de verre opaque avec des ouvertures réglables aménagées pour la ventilation.

The shelter

In long run these first-aid measures are however insufficient. The attempt is to get a total control of the deterioration of these timber structures by closing them inside. When they will be preserved in situ, this means that the sheltering sheds will be built around the buildings. The idea of building a museum around a monument was realized in Finland as early as in 1857, when a neo-gothic brick building was erected to protect a historic timber structure from 12th century, the oldest one in Finland. A more recent museum building in situ is the construction protecting the rests of a Roman villa in Piazza Armerina, Sicily.

In Myllymäki the first test building will be constructed this year to protect the sauna which stands a little aside from the other buildings. The inside climate will be controlled for several years to gain information of the effect of this closed hall, its humidity, temperature and ventilation. An open shed would be quite effective, too, but the control of ground humidity and the protection against housebreaking is better achieved by a more closed structure. Only after the results of this test project the future of the whole area will be decided.

Résumé

Les bâtiments traités comme objets de collection.

La tâche principale d'un musée est d'assurer la conservation de ses collections. Les objets collectionnés étaient conçus à l'origine pour un certain usage, mais cessent de servir à partir du moment où ils entrent au musée (Le cas des oeuvres d'art est un peu différent étant donné que leur usage est à peu près identique qu'ils soient au musée ou pas.)

L'idée de mettre des bâtiments au musée n'est pas nouvelle. Une des premières collections de ce genre se trouve à Skansen à Stockholm, ouvert au public en 1892. Skansen devint du reste le prototype du musée de plein-air, surtout en Scandinavie. Dans ces musées les bâtiments continuent à fonctionner comme tels: des dizaines de milliers de visiteurs piétinent leurs planchers chaque année, si bien que l'on peut affirmer qu'ils sont plus exposés à l'usure dans un musée que pendant les siècles de leur vie antérieure. En plus, les structures ne sont pas plus protégées des intempéries ou des radiations solaires. En conséquence ces «objets de musée» doivent subir de continuelles réparations ou restaurations, ce qui est à l'opposé de tout principe muséologique.

La ferme de Myllymäki

Cette ferme de métayer, isolée dans une région de grandes forêts sauvages à quelque 70 kilomètres de Helsinki n'a jamais été accessible par la route. Seul un étroit sentier muletier y accède. L'électricité n'y a jamais été installée et les machines y sont inconnues. Cette ferme est composée de 16 bâtiments dont l'âge est inconnu, tous taillés à la hache par les maîtres du lieu. Une poutre porte la date de 1839, mais l'édifice est sûrement plus ancien. Le bâtiment le plus récent date des années 30. D'année en année la ferme est tombée en friches, les bâtiments n'ont plus été entretenus et certains même se sont

écroulés. En 1980 le vieux fermier solitaire testamenta sa propriété à la Direction des Antiquités.

La tâche la plus pressée était de trouver un moyen de conserver ce monument ethno-sociologique in situ. Il n'était pas question de le transporter ailleurs, et les crédits manquaient pour en faire un musée de plein-air ouvert au public. C'est alors qu'est née l'idée d'y créer un centre expérimental sur la préservation de l'architecture en bois, chaque bâtiment étant considéré comme un document en lui-même.

La protection des structures

Après une analyse poussée il s'est avéré que la situation était assez alarmante. Les bâtiments n'étant pas destinés au grand public mais aux spécialistes et chercheurs on abandonna tout de suite tout projet de réparation ou restauration. Il fallait avant tout arrêter le processus de détérioration dû à l'humidité du sol, aux intempéries et aux radiations solaires. En premier lieu on recouvrit les bâtiments de feuilles de platic, ensuite de plaques de tôle directement posées sur la couverture. La meilleure solution aurait cependant été de construire un abri autonome partant du sol, ce qui aurait assuré une meilleure ventilation. Une fois les toitures protégées, on dû s'occuper des parties basses, tout d'abord drainer le sol, ensuite assurer une bonne ventilation sous les planchers, enfin traiter les poutres les plus exposées au pentachlorophenol. Toute trace de moisissure fut aussi nettoyée aussi bien sur le sol que sur le bois.

L'abri

Ces mesures de première nécessité sont encore insuffisantes. L'idée de construire un abri autour d'un monument n'est pas nouvelle en Finlande. En 1857, un édifice néo-gothique en brique avait été érigé autour d'une maison en bois du 12e. siècle, la plus ancienne conservée en Finlande. Un musée de ce genre, mais plus récent, a été construit en Sicile autour d'une villa romaine.

A Myllymäki, un premier édifice témoin sera construit cette année autour du sauna. On essaiera ensuite pendant quelques années d'étudier les effets de cet abri fermé sur le bâtiment qu'il recouvre. Les résultats de cet essai nous indiqueront ensuite la marche à suivre.