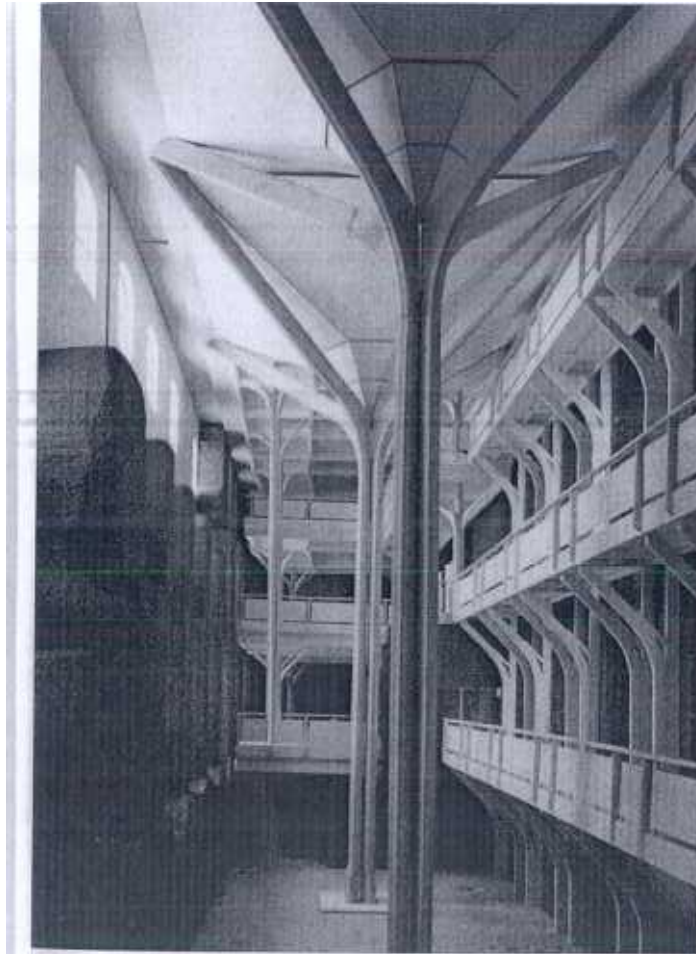


Koldinghus: the conversion of an old royal Danish castle

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FIG. 1. A model photograph showing the ruined hall in the second proposal which was accepted and is now in progress. The load-bearing constructions are made of laminated timber. The closing of the aperture in the south wall (left) is a curtain-wall of timber, painted white internally and faced externally with oak shingles. (Photograph: *Ernst Kallesee*)

Buildings are like human beings. They are born and develop; they become ill and are cured; they grow old, waste away and die. They show the influence of events, people and adversities. They change from the freshness of youth through maturity, sometimes attaining beauty in their old age. Thus their identity is not only the one that was given to them at birth by the architects and artists who created them; it also reflects all the changes, additions and influences that they have experienced during their life. If that life has been historically eventful, it is a serious matter to remove or obliterate the impressions the building has received in order to restore it to its appearance at birth or to stop the historical process in any way. As we know, one of the ideological difficulties of the profession of restoration is to handle this problem in the right way, and to do it properly in each different case.

The old royal castle of Koldinghus is an example of a building which has lived an active, eventful life. It has changed several times during its history, from Gothic, through Renaissance and Baroque, until a fire in 1808 reduced it to a ruin. Some preservation and maintenance was undertaken during its long years as a ruin, but it is only recently that actual rebuilding has been started; and since this rebuilding has caused considerable debate, it is presented in this article as a contribution to the ceaseless discussion about the treatment of old buildings.

Koldinghus is the property of the State, but the town of Kolding and the province of Sonderjylland/North Schleswig regard the castle as a very important part of the history of their area. In 1964 the Ministry of Housing appointed a committee which reported on Koldinghus and the future of the ruins after an interval of five years. Whether the castle should remain as a ruin or be rebuilt was the subject of great debate. To many people the romantic hilltop ruins had become part of the identity of themselves, the town or the area; while others regarded them as a public eyesore, something somehow degrading since they were a constant reminder of a lack of respect, will and ability to rebuild the old royal castle of North Schleswig. But for our part, as a result of our preliminary investigations, we came to believe that the question in the report about whether to recommend 'either ruins or rebuilding' should be resolved as 'both ruins and rebuilding'.

Before offering a further explanation, it is necessary to summarize the architectural history of the castle, which can be divided into five main periods.

1. The Gothic Koldinghus

The original stone building is contained, so far as it still exists, in the north and west wings of the present structure—principally in the west where the facades reveal visible remains of the three-storeyed house that was begun in the thirteenth century. In several places the stones and

jointing of the fine Gothic masonry are well preserved, and the south gable can be observed by those with a keen eye in the later Christian III's chapel. There are fewer remains to be seen in the north wing, where several alterations and restorations have obliterated the early work (Fig. 2). No doubt more profound investigation would add to our knowledge of the Gothic house, but it will have to wait until time and money allow. The work being undertaken at present does not hinder future investigations.

2. Christian III's Koldinghus

Christian III (1534–1559) and his queen, Dorothea, were responsible for some extensive alterations and additions. By constructing south and east wings, they turned the castle into an irregular square building around a courtyard. The existence of defensive moats probably accounted for the irregularity, since these would have had to be avoided when the additions were built. However, archaeological excavations have shown that the south wing was constructed on the edge of a moat, and this explains the



FIG. 2. An exhibition room in the north wing. The vaulted room was reconstructed in 1892 after the discovery of the octagonal granite columns in the town of Kolding. (Photograph: Ernst Kallése)

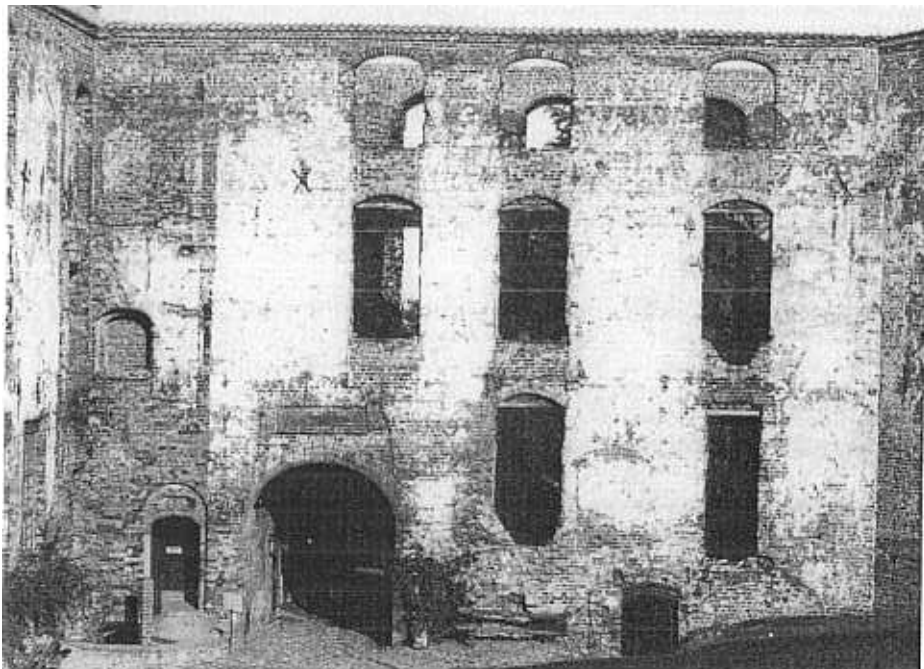


FIG. 3. The west facade of the east wing in 1979, showing the archaeological and documentary value of the fabric. The present window openings belong to the Baroque castle, but the facade contains many traces of the windows of the Renaissance castle. On the left are traces of the Queen's Tower and its spiral staircase.

outward lean of the south wall which was corrected when C.F. Moller was in charge of the work in the castle. During the current restoration, archaeological investigations of the south and east wings (Fig. 3) have enabled us to understand the history of their construction, stage by stage, and we have been able to determine the original level of the floors and the plan of the royal residence during Christian III's time. The facades reveal important traces and vestiges of windows and doorways. In the south-west corner of the castle there are traces of Christian III's chapel, which was the first Protestant place of worship in Denmark; it was two-storeyed, with tall windows to the west and south, and an upper gallery leading directly from the king's apartment. The colour and sequence of layers of remaining plaster show that the change from a red castle to a white probably dates from this period.

3. Christian IV's Koldinghus

Architecturally the most prolific of Danish monarchs, Christian IV

(1588–1648) made a comprehensive restoration and remodelling of the castle after a fire in 1597. The north and south wings were rebuilt, and in the north-west corner the building was extended by the very large and characteristic *Kampetårnet* (Warriors' Tower); this was so called because of the figures of Hercules, Hannibal, Scipio and Hector which were placed at the corners. A long ballroom or gallery was made in the west wing, and beneath this and the Warriors' Tower a new chapel was constructed to replace Christian III's in the south-east corner where a kitchen was made which still shows traces of ovens.

Christian IV's chapel was a stately and richly furnished room with galleries along three sides; on the fourth was a large window to the north, in front of which was placed the altar. The exact arrangement cannot be established, as this room was destroyed when the Warriors' Tower

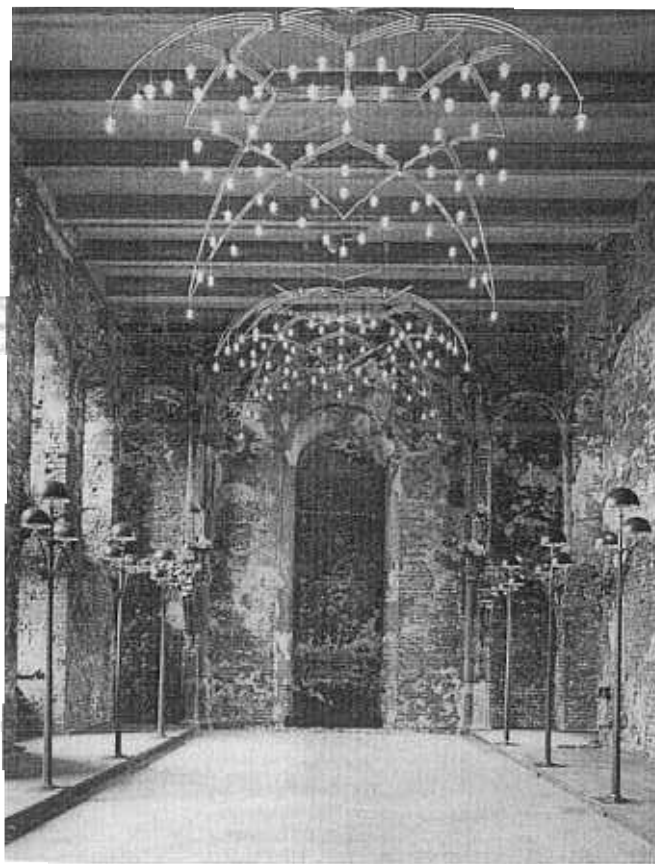


FIG. 4. Christian IV's church hall after restoration in 1980. The ruinous state of the room has been retained, but new floors have been laid and electricity and heating have been installed. The room is now used for concerts, lectures and exhibitions.

collapsed during the fire of 1808; it remained an open ruin until the 1930s when the tower was rebuilt by V. Norn who also constructed a ferro-concrete roof over the chapel. Several proposals for its reconstruction have been made, but even though important fragments have survived and we know about Christian IV's church building from other examples, there is insufficient reliable material on which to base a reconstruction. Our proposal was to leave the ruined structure intact, only adding what is necessary for its use, such as flooring, heating and lighting (*Fig. 4*).

As well as the chapel, the west wing contains on the first floor the White Hall, which was originally a part of the Royal Library in Copenhagen. It dates from the early nineteenth century, when it was designed by Jorgen Hansen Koch, and part of the interior was placed in Koldinghus during the restoration of the west wing in 1911–17 (*Fig. 5*). Although it has nothing to do with the castle, the interior is a fine example of the craftsmanship and design of its time, and the room's proximity to



FIG. 5. The fixtures and furniture in the White Hall were originally part of the Royal Library in Copenhagen, designed by H.V. Koch in 1824. It has nothing to do with Koldinghus, but was placed there in 1914 as an exhibit. The fixtures are light and refined, and the room presents a dramatic contrast to the dark ruinous interior of Christian IV's church hall which is immediately next to it. (Photograph: Ernst Kalluse)

the ruined chapel creates a piquant contrast of experiences. For that reason we thought it worthwhile to retain the library in its present setting, and in our opinion it also illustrates a now historical attitude towards preservation and restoration by a previous generation of architects.

4. Frederik IV's Koldinghus

Frederik IV (1699–1730) made some comprehensive reconstructions according to the taste of the time. In order to meet Baroque notions of order and symmetry, gables, attics and garderobes were removed. Irregularly placed windows were walled up and new ones were inserted according to a regular pattern. There were extensive alterations to the plan and interior, and floor to ceiling heights were changed in the east wing. The facades of the castle were plastered white, and a doorway surmounted by Frederik IV's monogram and the date 1720 was placed in the middle of the courtyard facade of the west wing. Laurids de Thurah's engraving in *Den danske Vitruvius* (1746–49) gives a good impression of the appearance of the castle in the eighteenth century.

5. Ruined period 1808–1969

As a result of the fire of 1808, which was caused by heavy firing by Spanish mercenaries, the castle was totally burnt out. In particular, both the ballroom and the chapel in the west wing were severely damaged when they were crushed by the fall of a mass of bricks from the Warriors' Tower. The south wall of the tower had been carried on a large timber construction which spanned the wing, and when this burnt the tower split vertically and the south part fell down. After the fire the castle ruins became a quarry for the people of the town and the province (*Fig. 6*). However, in the late nineteenth century some measures of protection and reparation were taken, including the provision of a flat roof over the north wing. In 1890 the Kolding Historical and Antiquarian Society was founded and established in the north wing and then in 1914 in the west wing which was also roofed over. In the 1930s V. Norn carried out the work already described to the Warriors' Tower and the chapel, and then after World War II repairs continued under the supervision of C.F. Moller. This brief account of the castle's fortunes has brought us back to 1969 and the report submitted by the Koldinghus committee.

Ruins or reconstruction?

In their report, the Koldinghus committee considered the question of whether the castle ruins should remain ruins or be rebuilt. There are four points of view: the value of the ruins as a romantic monument with

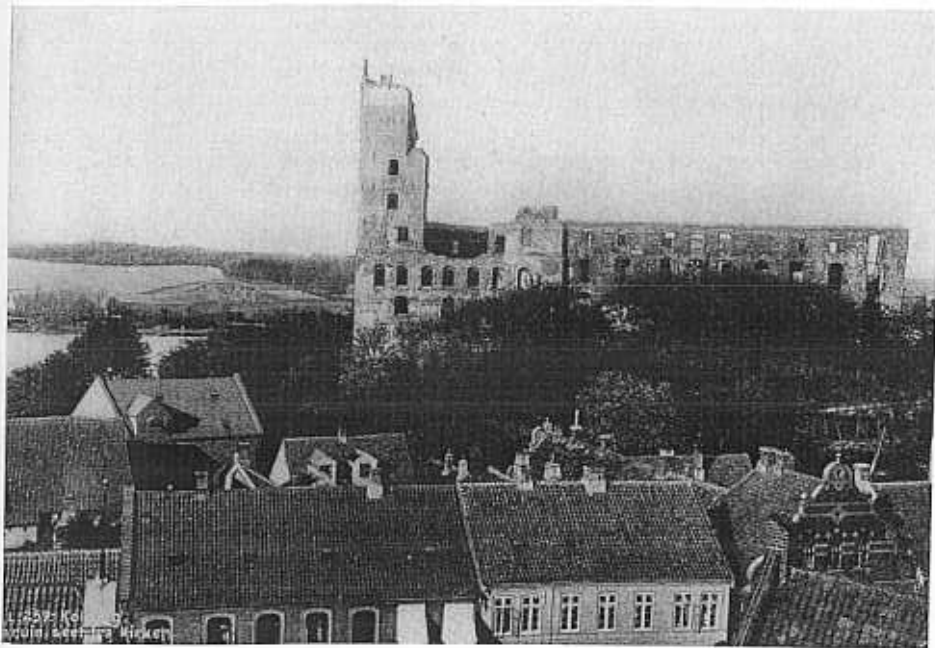


FIG. 6. The ruins of the castle as seen in the 1890s from the west, showing the split Warriors' Tower and the damage caused by its fall.

emotional and imaginative appeal; the reuse of the building, e.g. as a museum; the protection of the ruins from further decay; the possibility of reconstruction. The committee rejected the last, deciding that there was insufficient evidence to reconstruct the pre-1808 fire appearance, and even less to reconstruct the earlier form. They recognized that in its ruined state the castle could transmit an emotional reaction to visitors, but its maintenance solely as a picturesque object would be both difficult and expensive. Finally they decided

'to aim at a solution that makes preservation possible by encapsulating or enclosing the remaining brickwork in a newer construction that will serve some useful purpose'. They favoured 'a practical renewal and repair of the original brickwork and what has been added already and a roof covering, but any attempt to plaster the brickwork must be rejected . . . As to the interior there is a free hand'.

The report contained a description of the castle's building history written by the historian Professor Otto Norn in which he drew on his knowledge of Sonderborg Castle which possesses many similarities to Koldinghus. Others, including P. Eliassen, had written about the castle

previously, and there had already been a survey of the ruins; but an archaeological investigation had never been made. When the Ministry assigned to us the task of rebuilding the castle in 1972, we began to make a systematic investigation.¹ This disclosed a fabric that was unusually rich in archaeological evidence, which added considerably to an understanding of the building. Many of the disfigurements proved to be due not only to fire, weather and wind, but also to changes and additions which had been hidden until revealed by the fire in 1808. The ruins and the brickwork became for us a document which described the building's eventful life in such an exciting way that we were convinced that the ruins with all this evidence should remain visible to visitors, for the benefit of schoolboys as well as specialists. It was while we were making our surveys and investigations that the idea was born of changing the problem raised in the report from 'choice between ruins and building' to 'ruins as well as building'.

A proposal to protect the ruins by means of a simple structure supporting a roof and walls, otherwise maintaining the ruins untouched, was worked out and approved by the building committee. We believed the proposal would be well received by all the parties concerned, but local opposition arose and *Det Saerlige Bygningsyn* (building surveying committee) would not approve. The result was a compromise which is now being carried out, in which the castle's exterior is being given a general form corresponding to the time before the fire, while the ruins appear mostly in the interior.

We evolved a basic principle that the main periods of the castle's history were to be respected in such a way that its long and eventful life was clearly illustrated (*Fig. 7*). As it was to be a museum, it was obvious that the most important exhibit was Koldinghus itself, and the different historical periods and events would have to be emphasized architecturally in the various parts of the building.

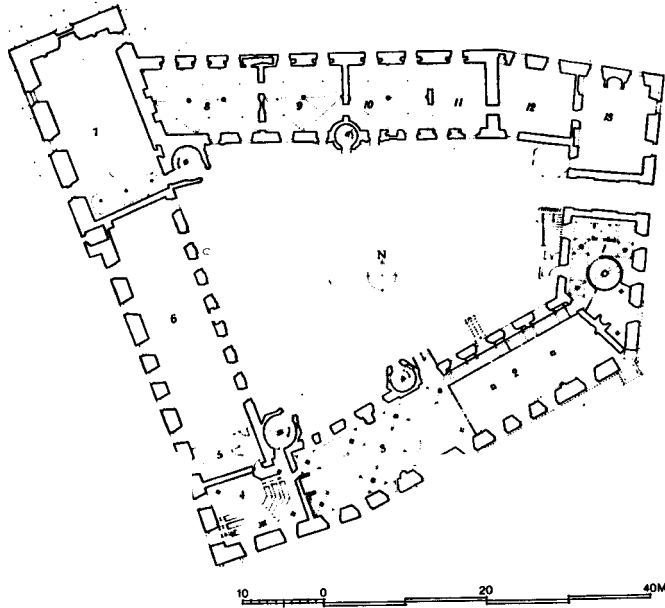
1st period, the Gothic building in the facades and brickwork of the west wing.

2nd period, Christian III's Renaissance castle including the brickwork of the south and east wings with traces of the chapel in the south-west corner, the later kitchen made by Christian IV, and subsequent Baroque changes.

3rd period, comprising Christian IV's building activities with the Warriors' Tower and the chapel in the west wing. The latter is maintained in its ruined state with all the remaining evidence of its subdivisions and fittings. To help a visitor understand what he sees and imagine its former appearance, the suspended frames for the lighting fittings suggest the vaulting, and the floor standard lights indicate where there were columns supporting the galleries.

¹ Architects for the restoration are Inger Exner and Professor Johannes Exner, with the collaboration of Thomas Meedom-Bæch and Erik Schmidt (architects), Mogens Vedso (archaeologist), Moller Pedersen and Holm Christensen (engineers).

FIG. 7. Ground floor plan. 1. ticket office, kiosk, stairs, left. 2. gallery in the ruined hall. 3. special exhibitions. 4. Christian III's chapel. 5. stores. 6. exhibition room. 7. Christian IV's church hall. 8-12. exhibitions. 13. the guard-room, temporary exhibition space.



4th period, Frederik IV's building, which can be seen in the main form of the castle with its hipped end roofs and much archaeological evidence in the brickwork, such as walled-up Renaissance windows, carved Baroque windows, fragments of plaster, changed horizontal divisions, etc.

5th period, the ruined state which is most apparent in the east and south wings, and in the ruined hall with its untouched walls.

6th period is now under construction.

In this article we are concentrating on what is being done in the east and south wings where the ruined state is being maintained and presented as a major element in the museum. In selecting the type of supporting structure we were going to insert, we had to consider the fragility of the brickwork and the foundations. If these were to be made load-bearing parts of the structure such extensive reconstruction and consolidation would be necessary that little untouched and original fabric would remain. As already explained, this part of the castle had been built partly on the edge of a moat, and this presented its own problems of stability (*Fig. 8*).

In order to keep the ruins untouched and to preserve their 'narrative value', a framed structure has been designed to fit within the walls of the ruin (*Fig. 1*). Columns carry the floor decks and roof, and the design also

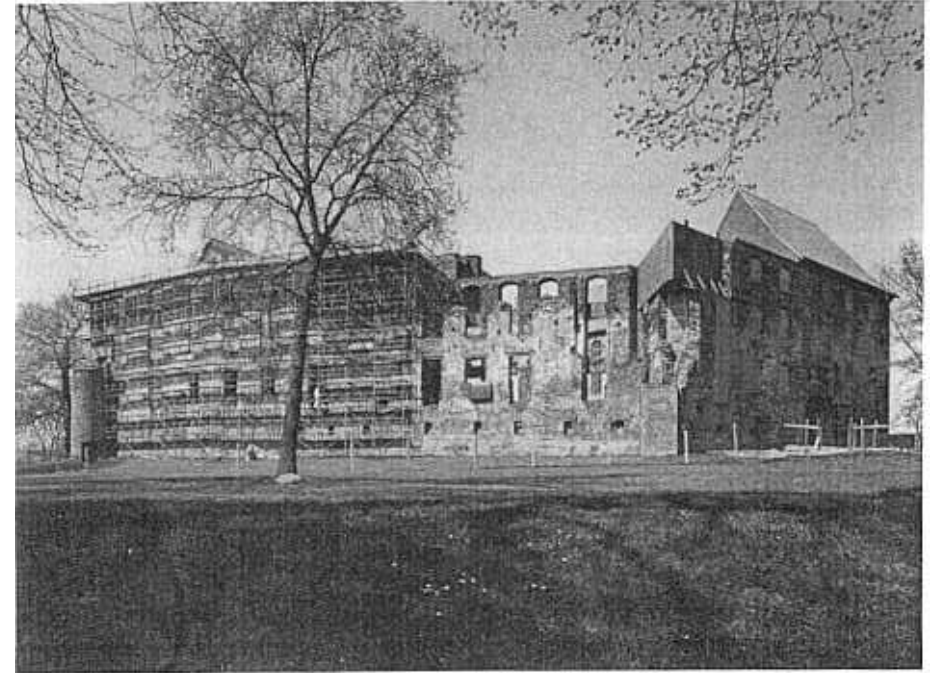


FIG. 8. A view of the castle from the south-east during restoration. The work is being carried out in stages simultaneously from west and east, and the large aperture in the south-east corner has been closed. The roof construction incorporates a horizontal steel truss which connects the east and west wings, simultaneously fixing the load-bearing columns and stabilizing the ruined walls.

includes a timber wall that fills in the gap in the brickwork of the south-east facade. This new structure is virtually free-standing within the ruin, and the elements do not touch the old brickwork (*Figs 9, 10*). One might say that 'air' is used as the connecting material. This solution also offered the possibility of using pre-fabrication methods for many of the parts, which allows a more precise programming of the work, both in time and cost. The structure consists of columns reducing in section as they rise through the height, with 'bases' and 'capitals', and with branching elements which create a vaulted effect (*Figs 11, 12*). The 'capitals' are made with sliding carden-frames, and the bases are cast-iron hemispheres. Above the columns is a horizontal lattice beam spanning from east to west. As a contrast to the heavy red brick walls, the inserted structure and walls are light. The capitals of the columns and the ceilings will be covered with white plates reflecting the daylight from the white painted new windows. The inspiration for the light 'heaven' in the ruined

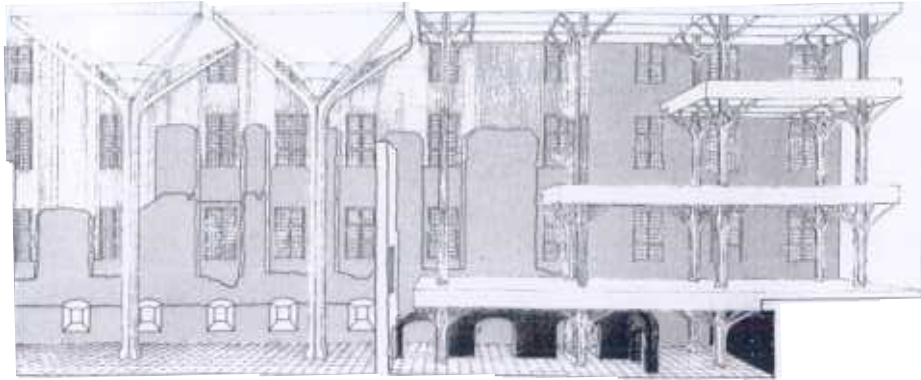


FIG. 9. A longitudinal section of the south wing. The principle of the construction is based on load-bearing columns and beams of laminated timber placed independently of the ruined walls. The aperture in the south wall is closed with a timber curtain wall.

hall came first of all from the ruins themselves, but it was suggested also by the characteristics of Baroque architecture, with its manipulation of light and space.

We thought it was important to consider the spatial experience of visitors when moving through the building, as well as leading them through the ruins in such a way that it is possible to read the exciting

FIG. 10. A cross section of the south wall. The south and east wings were erected by Christian III and placed partly on a filled-in moat, which has caused problems with the stability of the foundations. One of the two columns in the ruined hall can be seen in this section; on the left is the curtain wall suspended on the outside of the ruined wall, and on the right are the suspended galleries.

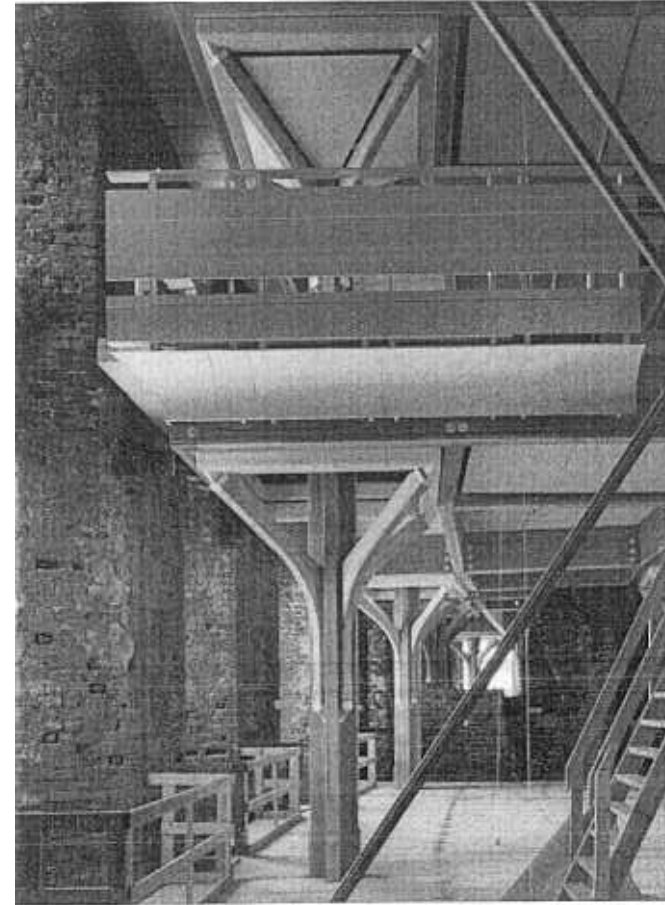
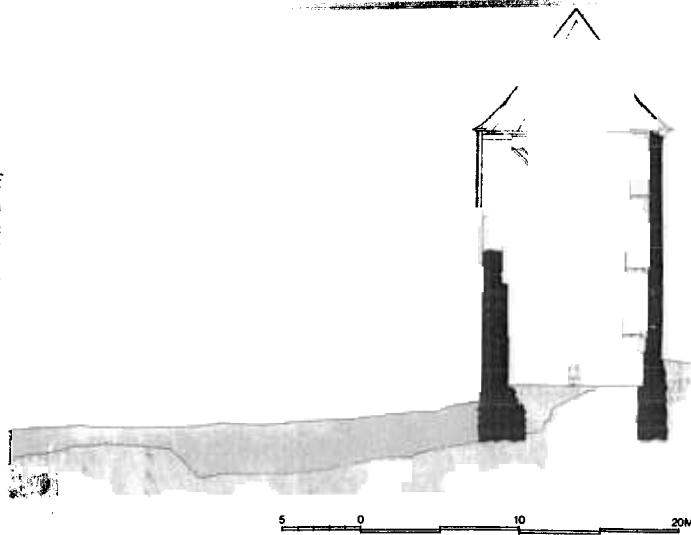
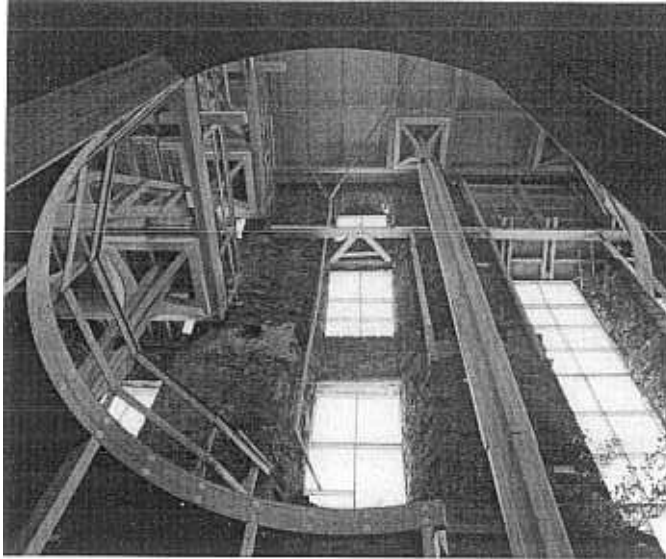


FIG. 11. The interior of the south wing. The new load-bearing structures have been erected; the laminated timber columns with their 'branches' continue through the storey partitions and terminate with a white pyramidal capital. The protective railings, struts and stairs seen here are temporary. (Photograph: Ernst Kallese)

archaeological evidence and to receive an impression of the drama and history of the castle. And so they will make their visit on different levels of landings and floors, across pedestrian bridges and down stairs between ruined walls, over great depths and through contrasting dark and light areas. Colleagues have compared the effect with walking through one of Piranesi's *I carceri* engravings, but we hope that visitors will be encouraged also to start wondering and later to study and understand all the influential events a building such as Koldinghus may pass through during its life.

FIG. 12. The interior of the east wing. The new constructions can be seen as well as scaffolding, temporary props and railings. The circular gap is where a spiral stair will be erected (Photograph: Ernst Kallesøe)



The treatment the castle is receiving at present, during the sixth period of its history, is based on extreme respect for the authenticity of what remains and a clear presentation of the historic fabric with all its wear, weathering and patina. It is the antithesis of reconstruction, which has been discussed many times since the fire in 1808. Some proposals have been made for reconstructing the whole building, and others for reconstructing individual parts such as the chapel. But it seems obvious to us that such attempts would be found to fail, since there is insufficient evidence on which to base a reconstruction, and the result would be a brand new hypothetical castle. At Koldinghus, the historical changes in the fabric, and its visible weathering, are both parts of the building's history, and both would be lost if it were to be reconstructed. Its great value is that in its present state it can tell us so much, and so we have placed great emphasis on preserving its narrative value and its ability to help visitors understand and feel that what they are seeing is genuine history as they walk through it on our inserted platforms and staircases. We have preserved what remains, but nothing has been done to hinder the building from developing or changing. If that happens some time in the future it will be a continuation of the castle's history, to which we have made our individual contribution; and that seems to us infinitely preferable to those attempts either to put back or to arrest a building in time.

Resumen

El antiguo castillo real de Koldinghus es un ejemplo de edificio que ha tenido una vida activa, llena de acontecimientos. A lo largo de su historia ha cambiado varias veces, desde gótico, renacimiento y barroco, hasta que un incendio en 1808 lo dejó en ruinas. Aunque se llevó a cabo cierto nivel de conservación y mantenimiento, es sólo recientemente que se ha empezado la reconstrucción.

En 1964 se comisionó un informe sobre el futuro de las ruinas. ¿Debían dejarse como tales o ser reconstruidas? Como resultado de nuestra investigación, llegamos a la conclusión de que la solución era 'tanto ruinas como reconstrucción'. El comité constituido para decidir el futuro del castillo falló en contra de la reconstrucción a causa de no haber plena justificación. Reconoció la calidad pintoresca y emotiva de las ruinas, pero creía que conservarlas como ruinas sería caro y difícil. Finalmente decidió que debía hallarse algún uso para el edificio y que esto podría conseguirse encerrando las ruinas en una nueva construcción y limitándose a reparar la vieja fábrica de ladrillo donde fuese necesario.

Cuando se nos confió la tarea en 1972, empezamos una investigación sistemática que reveló una fábrica desusadamente rica en datos arqueológicos. Esto aumentó considerablemente nuestro conocimiento del edificio y de todos los cambios y adiciones hechos desde que se construyó la primera parte en el siglo XIII. Nos sentimos convencidos de que se construyó la primera parte en el siglo XIII. Nos sentimos convencidos de que todos estos nuevos datos debían permanecer visibles para los visitantes. Nuestro principio básico fue que los periodos principales de la historia del castillo debían respetarse de tal modo que su larga y animada vida quedase claramente ilustrada. Puesto que iba a ser un museo, resultaba claro que la pieza más importante era el propio Koldinghus; y el presente artículo hace hincapié en lo que se está llevando a cabo en las alas este y sur, donde las ruinas se mantienen y se presentan como elemento importante del museo.

La fragilidad del ladrillo y de los cimientos significaba que no podían emplearse como soporte de ninguna nueva estructura, de manera que, a fin de mantener intactas las ruinas y conservar su valor narrativo, se ha diseñado una armazón que encaje en el interior de los muros. Suelos y techo se sostienen por medio de columnas de madera, y, como nos pareció importante tener en cuenta la experiencia espacial al moverse por el edificio, diseñamos diversos niveles de rellanos y pisos, con puentes y escaleras entre muros en ruinas. Atraviesan grandes profundidades y zonas

con contrastes de luz y sombras, en una manera que se ha comparado a los grabados de *I carceri*, de Piranesi.

El tratamiento que está recibiendo el castillo se basa en un gran respeto por la autenticidad de lo que queda y en una presentación clara de la fábrica histórica con todo su desgaste y la pátina del tiempo y de las inclemencias. Es la antítesis de la reconstrucción que, en nuestra opinión, hubiese fracasado a causa de la falta de datos suficientes. En Koldinghus, los cambios históricos de la fábrica y su visible desgaste forman parte de la historia del edificio, y todo esto se perdería si fuese reconstruido. Hemos mantenido lo que queda, pero no se ha hecho nada que impidiera al edificio nuevos cambios futuros. De tener lugar, será una continuación de la historia del castillo, a la cual hemos dado nuestra aportación individual.

Résumé

Le vieux château royal de Koldinghus est un exemple de bâtiment dont la vie fut pleine d'action et d'événements. Il changea de style plusieurs fois au cours de son histoire de gothique, à Renaissance et baroque jusqu'à l'incendie de 1808 qui le transforma en ruines. Certains travaux de préservation furent faits depuis mais c'est seulement récemment que sa reconstruction a commencé.

Un rapport fut demandé en 1964 sur l'avenir des ruines. Le monument devait-il être reconstruit ou non? Le résultat de notre enquête aboutit à la réponse suivante: 'et des ruines et une reconstruction'. Le comité se déclara contre la reconstruction car il n'y avait pas suffisamment d'informations sur l'état original du bâtiment. Il admit la valeur pittoresque et sentimentale des ruines mais déclara que leur entretien serait difficile et coûteux. Finalement il fut décidé que le bâtiment serait utilisé et pour ce faire les ruines feraient partie d'une nouvelle construction, avec les réparations nécessaires des murs de briques.

Lorsque nous fumes chargés des travaux en 1972, nous entreprimes d'abord une investigation détaillée qui révéla une construction spécialement riche en vestiges archéologiques. Nous acquîmes ainsi une bien meilleure connaissance du bâtiment et de toutes les transformations et additions qu'il avait subies depuis sa construction au XIIIème siècle. Nous étions d'avis qu'il fallait que toutes ces découvertes restent visibles pour le visiteur. Notre principe de base fut que les périodes principales de l'histoire du château devaient être respectées de telle manière que sa longue vie agitée fût clairement illustrée. Etant donné qu'il

s'agissait d'un futur musée, il était évident que l'objet d'exposition principal devait être Koldinghus même. Cet article décrit les travaux des ailes est et sud où les ruines sont préservées et présentées comme une composante majeure du musée.

La fragilité des murs de briques et des fondations empêchaient qu'ils portent le poids d'une nouvelle structure aussi, pour garder leur valeur descriptive, celle-ci a été dessinée de façon à s'inscrire à l'intérieur des murs. Des colonnes de bois soutiennent les planchers et le toit et, parce que nous pensions à l'expérience de l'espace au cours de promenades à travers le bâtiment nous créâmes différents niveaux reliés par des passerelles et des escaliers entre les ruines. Ils dominent de grandes profondeurs et passent à travers des zones contrastées d'ombre et de

lumière, ce qui rappelle, on l'a dit, les gravures des Carceri de Piranèse.

L'intervention actuelle est fondée sur le respect total des vestiges et sur leur présentation claire avec toute leur usure, leurs déchirures et leur patine. Il s'agit véritablement du contraire d'une reconstruction qui n'aurait pas pu être un succès à cause du manque d'information. A Koldinghus, les transformations historiques et l'usure du bâtiment font visiblement partie de son histoire alors qu'elles auraient été perdues dans une reconstruction. Nous avons conservé ce qui restait mais rien n'a été fait qui puisse empêcher le bâtiment d'évoluer. Si cela arrive, ce sera la suite de l'histoire du château à laquelle nous aurons fait notre contribution propre.