

Ulrike Herbig

DOCUMENTATION AND OTHER MEDIA

Interdisciplinary recording-Why?

Architecture is the most obvious visible feature of a people's collective memory. The process of building itself is the result of action influenced by multitudinous components, starting with the simple idea of building something, to the planning, the design, the construction, the use and finally the destruction of the object. In that way shape, characteristics and quality of a building or a group of buildings is affected by numerous factors, which are interacting on different layers. Their weighting within the process of building is complex and changing depending on global, regional and local conditions within a certain timescale. Therefore a house can't be described in just measuring its shape or making pictures. A comprehensive documentation needs an interdisciplinary approach to define and explain an object far behind its mere structure.

Background

My interest in Nias started in 1989 in a journey through Indonesia when I visited the traditional villages in the vicinity of Bawomataluo. The traditional architecture shape and layout of the villages impressed me in a way that I kept it in mind. In 2003 I returned as a member of the Institute for Comparative Research in Architecture with a group of scientists on a field trip to Northern Sumatra and Nias with the task to make a brief recording of the remaining objects of traditional architecture of Batak and Nihha people. During the journey a number of houses have been measured, people interviewed, performances attended and the life in the villages observed. We documented the work of the team with in film. This film was edited just during the time a severe earthquake close to Nias caused the Tsunami of December 2004. As the people of Sumatra and Nias had supported us so kindly in our work we decided to use our documentary film to collect money to help the people in Nias.

In close cooperation with Father Johannes Hämmerle we started this initiative which became even more urgent after the earthquake in March of 2005 that had a mayor impact to the people of Nias Island. It showed that the traditional architecture of Nias which impressed us so much fulfilled the aim of secure its inhabitants against earthquakes far more than modern concrete buildings. So we decided to begin a more detailed research on the traditional architecture of Nias.

Task of the survey

The intention of the new project was to make a comprehensive survey about the traditional houses with different aspects form the detailed structural recording, the investigation of used material and its availability to the investigation about the meaning of the traditional building in the contemporary life of Nias people. With this multilayered approach it is possible to analyse the technical performance of the houses as well as the possible use in future planning. Our presumption was that the performance of the houses during earthquakes will not be the base for the traditional architecture. People who are living in traditional style houses have to have confidence in their quality and safety and there has to be still a relation to the traditions. Only if the relation of the people to their traditional housing still exists the vernacular architecture will have a chance to survive in the future.

Equipment

To fulfil the task of the comprehensive recording different types of equipment have been used, such as GPS, hand-held laser meter, total station, digital and analogue cameras, video camera and booklets for interviews. Following will describe the use of the tools and how the results will be used in a project to analyse the earthquake resistance and the chance for traditional techniques for contemporary architecture in Nias.

- GPS

Although the region of Nias and North Sumatra has become an area of special interest after the Tsunami the maps of the region are still not very reliable. It is still quite hard to define the position of some objects or even places exactly. GPS was used for different purposes. A number of houses were photographed and related to their GPS co-ordinates to start with an inventory of existing traditional houses. Exact positions will help to build up a collection of data that is reliable and will make it possible to start a monitoring of the buildings. If this inventory will be made available via internet different people could provide their contributions in form of records, plans, photographs or other documents and will support to manage to control the condition of the buildings.

The recording of the tracks along the routes in South Nias and Gomo helps to describe the access to the villages in a better way. In that way the records will be related not to names which are often misinterpreted or changing over the times. Especially for those villages which can be only reached on footpaths thoughts about logistics are very important. A good definition of the tracks also allows supporting planning and scheduling of transportation of material. During the field trip in 2005 all house location points and all tracks have been recorded.

- Handheld Laser Meter

The handheld laser meter was used for the conventional building survey. 2 houses of each building style of Nias have been recorded very detailed. Based on these measurements 2d and 3d plans were drawn. The models help to understand the construction and analyse all parts of the buildings. It will help to define in detail the functionality and performance of each element and connection.

It allows investigating how single parts are adapted to climatic or other environmental conditions. That fore besides the building survey samples of the material used in the construction have been collected and tested.

By means of a complete comprehensive building survey details can be analysed concerning the safeness during earthquakes. 3d geometrical drawings with all standard eccentricities are the basis for the 3d engineering model. The analysis is done with software of strong non-linear options (e.g. RFEM, MARC)

Based on a quasi-static analysis the final analysis will be done with help of the response spectrum method. Resulting from this method the safety level of the structure or eventually the reason of failure can be defined.

Using 3d visualisations of the results of the building survey can be presented to a wider public. By means of a realistic modelling the construction can be explained broadly understandable. The model can be animated to show all aspects of the building or even the construction progress. Embedded in a film sequence buildings can be shown and explained within their natural environment and being used.

- Total Station

A total station combines a theodolite (an instrument to measure angles) and a distant meter. Nowadays this kind of instruments is standard for surveying. They are used to measure the special coordinates of points within a distance between 2 and 30 meters.

For building survey the total station can be used to measure elements which cannot be reached with a handheld laser meter. In that way heights and dimension especially of the roofs of Nias houses can be recorded.

In addition the layouts of settlements have been surveyed. Elder documents mostly just had a rough scale and no information about different levels within the streets. The maps of the villages are used to plot all the houses and add data about their type (modern or traditional) and their condition. In all this kind of recording allows compile a statistic that may show up in numbers the relevance of the traditional architecture in contemporary life.

Also the maps can be used for the inventory about traditional Nias houses. By means of defined geographical positions information about the objects can be collected and a geographical information system compiled. If the system is accessible by everyone who wants to participate in the preservation of traditional Nias architecture may put in additional records and reports from time to time. A system like that could be for instance installed at the Pusaka Nias Museum at Gunung Sitoli.

- Digital and Analogue Cameras

A photograph contains much more information about an object than it is obvious at first sight. It may show the shape and the stile of a building. On a closer look someone will also see details, like the used material colours and maybe also the condition of a construction. Depending on the angle of view the surrounding will be seen, neighbouring objects, nature or people in their built environment.

For a comprehensive recording the planning of the photographic recording is very important and may cover different aspects. At the survey in Nias we used photographic recording Pictures of details can support traditional building surveys. They will describe measured parts and details and makes the understanding of the construction easier for those who are drawing the plans.

The intention of filming the procedure is to summarize the outcome of the scientific work with a medium than can explain above simple drawings or even 3d-visualisation as it provides the possibility of movement and impressions of the life around an object.

Just in the time the film of 2003 which finally became a 45 minute documentary broadcasted in the Austrian Television Network

Integration of the data

Processing and integration of the data is still in progress, for the simple reason that the project takes place more or less unfunded, and work can only be done in sparetimes and with the help of students. Follow up projects are in the course of being applied for with Austrian Funding Agencies and will hopefully start in the near future.

Jesper Kurt Nielsen

“TRADITIONAL ARCHITECTURE AND CULTURE”

Collecting and photographing on Nias in 1925-2003 for the National Museum of Denmark

The National Museum of Denmark began collecting and photographing on the island of Nias as early as 1925.

The Danish medical doctor Agner Møller (1892-1976) was commissioned to take up service in the military in Dutch East India. His first posting was on Java, but he was transferred relatively quickly to Nias with his wife and children.

Dr. Møller was kept well occupied; in a letter to his father he described his daily routine and titles:

“Military Commander/doctor, Chief Military physician, garrison physician, military chief pharmacist, district physician for south Nias, chief physician for the civil hospital, in charge of the meteorological observations (thermometer readings), veterinarian”.¹

As if that were not enough, he also began to study astrology and the calendar of Nias in conjunction with collecting eels for professor Johs. Schmidt and specimens of mosquitoes, for a lab in Batavia.

In addition to this, he received a request for help in collecting ethnographical artefacts to document the local culture and architecture. This request came from Thomas Thomsen the curator of the Ethnographic Department at the National Museum of Denmark.

Thomas Thomsen (1870-1941) began his academic career as a chemistry student, but subsequently stopped and instead, took up studying Danish and history. He was employed at the National Museum as an assistant in 1894, His work prevented him from finishing his exams and it also hindered his progress that he became interested in archaeology. He participated in many epoch making excavations in Denmark.

He also travelled to west Greenland, where he participated in excavations and collected ethnographical objects from the local population.

He became curator in 1919 and head curator of the ethnographical department in 1921. In the following years he received large and important collections of artefacts from around the globe. He was known as being a quiet and friendly man; his personality often helped him in achieving his goals.²

Thomsen knew that there was a rich and unique culture on Nias and he wanted to procure a few objects for the National Museum.

In 1924 he wrote to a Danish pharmacist Alb. Mattiesen on Nias, but he did not have the time to find and buy any objects, so he recommended Agner Møller. Møller on his part was very positive and Thomsen wrote to say thank him:

“We have to rely on Danes abroad, objects that we receive directly have more value than the ones we receive second hand” he described which objects the museum would like to receive **“Loincloths, bags for carrying fish, dibble”** He ended the letter by writing **“we will be able to procure objects for approximately 200 kroner, that’s all the money we have at the moment”.**

Thomsen would eventually use 10.426,73 kroner. a substantial amount of money at that time.

Agner Møller immediately threw himself vigorously into the task and in august 1924 he was able to send the first small package (180 kg) to Copenhagen. He also wrote to tell Thomsen that he would like to continue collecting, but he was unsure about how long his employment would last.

Møllers commanding officers and colleagues where not happy about all the time he was spending on matters not related to his job as a G.P. (general practitioner), later he would in fact receive a formal reprimand from his superior officer.