

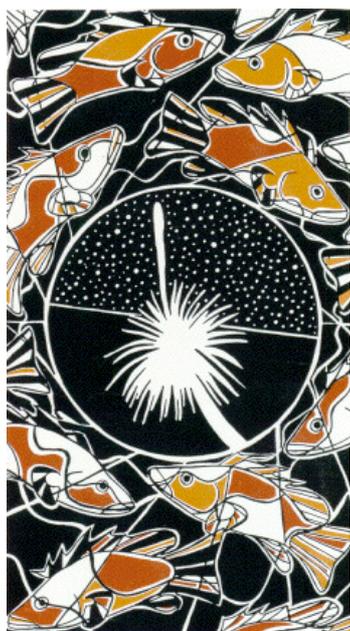
CHARLES STURT
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THE JOHNSTONE CENTRE
REPORT N° 197

***A Rapid Assessment
of the
Library of the
Joachim deBrum
House, Likiep Atoll,
Republic of the
Marshall Islands***

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Jon O'Neill
Joan O'Neill*



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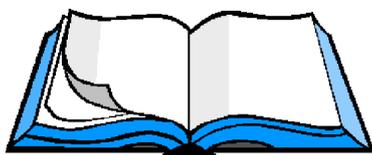
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PRESERVATION

JON O'NEILL

Environmental conditions at Likiep

Likiep Island is at the south-eastern most point of Likiep Atoll. Although far enough north to escape most of the typhoons that develop in the northern Pacific, Likiep has endured its share of these devastating storms. The highest point in the Marshall Islands (12 metres) occurs on Likiep and is a direct result of the power of a typhoon as coral rubble was torn from the reef platform, combined with coral aggregate from the island and piled into a wall by storm driven waves.

At its widest point Likiep Island is less than 200 metres from ocean to lagoon. In most places it is less than 50 metres. Trade winds are an almost constant presence as they gently blow across the island bringing moisture, salt laden air, and a perception of coolness into every house and building. Average temperature is about 28 degrees Celsius with a variation between summer and winter of only 2 or 3 degrees. Coral sands, swaying coconut palms, tall spreading breadfruit trees, translucent water and sun combine to present a stereotypical picture of a quintessential tropical coral island. Such descriptions sound ideal to many and perhaps they are, but they are also ideal conditions for most elements of decay.

It is true that decay is inevitable, but in the warm, moist, tropical conditions of Likiep it is accelerated markedly. Micro fauna and flora are abundant and prolific in these conditions and are critical to the environment on coral atolls such as Likiep which are the most marginal human habitats on earth. Their impact on cultural heritage material is just as marked and they provide continuing and very considerable difficulties for preservation management.

Decay processes observed

All cultural property is subject to naturally occurring processes of decay, and Lowenthal¹ says that regardless of its origin none can "...survive without interference" for long. Decay factors may be categorised by their origin and speed of action² and it is unlikely that any individual process or decay factor will operate alone³. Several factors usually combine to contribute substantially to the strength and speed of these processes. Even issues that may

not be direct causes of decay themselves may still contribute to deterioration of historic property by providing enhanced conditions for other factors. Under such circumstances preservation management can become a difficult and complex task.

Determining the possible combinations of factors involved in any decay process is an essential step in planning effective management of historic property. Several were seen to be active during the survey on Likiep (Table 7-1). Those most immediately relevant to books stored in the bookcases in Joachim deBrum's house and others found in Likomju deBrum's house were biological in nature and included moulds and fungi, and insects. However, it must be acknowledged that anthropological factors have also contributed. This may be most clearly seen through neglect of basic maintenance procedures, which if properly implemented could have reduced the impact of these biological factors, and lack of use.

Table 7-1. Observed Decay Factors

Decay Factor	Element	Likiep
WEATHERING	Mechanical	X
	Chemical	X
BIOLOGICAL	Moulds and Fungi	X
	Higher Plants	X
	Insects	X
	Animals	X
ANTHROPOGENIC	War	X
	Salvage and Reuse	X
	Vandalism	X
	Tourism	X
	Construction/Maintenance	X
CLIMATOLOGICAL	Moisture	X
	Wind	X
	Sun	X
CHEMICAL	Biological	X
	Salt	X
	Corrosion	X
EROSION		X
NATURAL DISASTER	Tropical Cyclones	X

Optimal conditions for cryptogamic growth (fungi, algae, mosses and lichens) at the tropical temperatures of 25°C to 30°C occur at a relative humidity of 70 per cent or higher. The definitive tropical climate (such as experienced on Likiep) with its regime of high average temperature, small diurnal range and abundant moisture is a close match.

Timber is a hygroscopic material subject to damage by higher lignivorous fungi⁴ and Ebeling⁵ refers to the complex relationships existing between several wood-damaging insects and fungi that are usually beneficial to the insects. Some fungi provide important

nutrients, others provide the entire food supply for some wood-destroying insects. Ebeling also suggests that fungi probably cause as much damage to wood structures as termites and shows they require similar environmental conditions, an important observation from a control perspective. Lyon⁶ shows that most wood decay fungi will only grow on wood with a moisture content of 20 percent or more. This factor varies with relative humidity and ambient air temperature but occurs frequently in tropical regions, particularly when timber is exposed without effective protection. Damage to the timber frame and cladding of Likomju deBrum's house on Likiep is an effective example (Figure 8).

Paper and other materials used in books are also hygroscopic in character and excessive humidity or damp will permit development of moulds and fungi particularly when those conditions are allied with high temperatures.

Apart from cryptogamic growth, tropical climates also provide ideal conditions for insects involved in processes of decay⁷. Two insect Orders in particular are damaging in the tropics. During this survey both were active on Likiep: Isoptera (termites), and Thysanura (silverfish).

Termites represent some of the most destructive pests of structural timber in the tropics⁸. They are an ancient group belonging to the order Isoptera and have a highly developed social structure consisting of three main classes of individuals – workers, soldiers and reproductives. As they have very thin cuticles, most require high humidity to survive and are cryptobiotic, living in enclosed passageways⁹. Szent-Ivany¹⁰ claims colonies can sometimes consist of several million individuals. Ebeling¹¹ refers to a study by Gay and Wetherly who estimated one colony to contain more than 2.5 million individuals of which "...about 87% were of the wood destroying worker caste." Hadlington and Marsden¹² and Creffield¹³ show that all cellulose material is vulnerable to termites.

Various species of silverfish are recognised as potential pests in libraries¹⁴ and three occur frequently throughout the tropics. The common silverfish *Lepisma saccharina* is probably the best known and is abundant on Likiep. It is an 8-13 mm long shiny, silvery-grey insect that is cosmopolitan and common throughout the world. Silverfish feed on the paper, starch and sizing in the bindings of bound volumes and the linen in some book covers¹⁵, and stored papers, books and other printed material are especially susceptible to damage. Temperature is the most important factor influencing these insects while low relative humidity restricts population growth and can even eliminate them. They prefer 75 to 95 percent relative humidity, which is very common on Likiep in normal circumstances. In sealed timber houses with little ventilation such as occurred in both houses on Likiep these conditions are even more common.

Regular monitoring, enclosure of vulnerable material in insect-proof containers, and unfavourable environmental conditions are simple but effective controls of silverfish. The management regime of the Joachim deBrum library at the time of this survey did not include any of these controls with the result that the insects were very active.

An issue of paramount importance to heritage preservation generally is that involving knowledge of, interest in, and ownership of, historic property. Government interest in Joachim deBrum's library as part of Marshallese heritage is high. Ownership is clearly recognised and accepted. Nevertheless, historically and culturally important books were found stacked in very poor environmental conditions in a disused and leaking house. This happened only because they were not recognised by local villagers as having any relevance

to the Capelle/deBrum heritage so much a part of their history. When their historic importance was recognised, immediate steps were taken to protect them temporarily until more permanent and effective archival could be arranged.

JOACHIM DEBRUM'S HOUSE, LIKIEP ATOLL

When surveyed, this highly significant example of early 1900s domestic architecture, influenced by a combination of island trader, German colonial, and Marshallese history, had been sealed to protect its contents from damage or theft. Although it would not greatly hinder a determined attempt to enter, the manner in which this was done detracted greatly from the site's visual appeal and ambience.

All external doors were locked and barred, and windows were locked with wooden shutters fastened over them. A piece of heavy plywood was nailed to the veranda posts at the front steps and blocked access to the veranda. To restrict access to the underfloor area, nine strands of barbed wire were nailed to the wooden piers below the veranda and ran around the house. Access doors to the attic were also fastened shut. Unfortunately, in most cases these well-meant measures contributed to further deterioration. Apart from the physical damage caused by nailing timber planks to window frames and veranda posts and a consequent highly negative visual impact, other damage is occurring from follow-on influences.

For example, airflow within the house was greatly reduced by the closed doors, windows and shutters and naturally humid conditions retained for extended periods, particularly in the northern and southern rooms. These conditions permitted several critical elements of decay such as mould, termites, and silverfish to become very active in a largely undisturbed environment. A rubberised canvas wall extended the length of the northern veranda (Photo) and was securely nailed to the fascia, handrail and floor. Similar material was fastened between floor and handrail on the southern veranda, with a section of blue tarpaulin extending from floor to the fascia attached along the eastern end of this veranda for approximately six metres. In both circumstances an ideal environment had been established for termites. As a consequence, the northern veranda was infested for its entire length, while the southern was also infested for most of the length of canvas.

The north-eastern floor of the veranda was repaired during the 1977 Stabilisation Project¹⁶. New Californian Redwood planks were used to replace original timbers destroyed by termites and rot and to maintain historical integrity with the original material. However, because it was no longer available in the same size (twelve inches by one inch) or quality as that used by Joachim deBrum, smaller (six inches by 5/8 inch) and lower quality timber had to be used instead. At the time of this survey this section of the veranda had again become so badly affected by termites and rot that it was unsafe to walk on. Sliding windows were intended to protect the eastern veranda and house from extremes of weather but these had been removed, with many stacked against the wall of the eastern wall of the house. The wooden rails on which these windows were intended to slide had also deteriorated through exposure and rot. Paint was weathered in many areas, particularly on the eastern or weatherly side where extensive areas of timber were almost totally stripped of protection from the elements. Sections of roof capping had corroded, some roof panels were missing, and water stains were apparent on the eastern internal

parlour wall. Although of only brief duration, some typically heavy showers of rain resulted in rafters becoming wet¹⁷.

LIKOMJU DEBRUM'S HOUSE, LIKIEP ATOLL

Likomju deBrum¹⁸ lived in a smaller dwelling built by Joachim in 1907¹⁹ that was about 80 metres north of his own house. Although this house had the same basic layout as Joachim's own house (three rooms surrounded by a substantial veranda), it was smaller and built on a concrete slab (Figure 7-1) rather than elevated on piers. As with Joachim's house, the parlour was lined with timber and had four doors, two of which were external and one internal door on each of the northern and southern walls opening into the other rooms. Two small windows were mounted, one above each of the two external doors opening onto the eastern and western sides of the veranda. Two large windows in each of the southern and northern walls opened wide and together with the six external doors provided an excellent and uninterrupted flow of air throughout the building. The gable roof also had a large vent at each of the northern and southern ends that could open to grant access and permit air to flow through the roof to reduce heat build-up. Several other constructions associated with this house were also present. They included a well, a large fish pond, a kitchen, a dining room and a bathroom, although the latter was not built until the Japanese period.



Figure 7-1 - Likomju deBrum house - looking southwest and showing eastern and northern veranda. Likiep, Republic of the Marshall Islands.

When surveyed, the house and curtilage were in poor condition. Veranda supports had collapsed, rubbish (including a dog carcass) covered the western veranda, and doors and windows were sealed. On the eastern side of the house, external doors to the northern and southern rooms had lengths of laminated timber nailed across the doorways. Other external doors had lengths of timber securely fastened across them on the inside. Fungal decay had rotted timber frames and cladding so extensively in the south-eastern corner

The Library of the Joachim deBrum House, Likiep Atoll, Marshall Islands

(Figure 7-2) that cladding had completely separated from the corner stud. The corrugated iron roof had extensive corrosion, some sheets were completely missing and others were loose or had large holes resulting in extensive water ingress and consequent damage. The eastern veranda and southern room were the worst affected areas while the central and northern rooms were in reasonably good condition. The southern room was wet, mouldy and filled with rubbish, discarded timber, and corroding tools. A corner stand, a larger decorative stand, and a display stand with three drawers and cupboards were the only items of furniture remaining in the house. All were constructed of solid timber and in a surprisingly good condition, indicating that they were used until fairly recently. Three photographs were found in a drawer of the large display stand. When shown to Leonard deBrum, they were identified as being of various family members and have now been included in his personal collection.



Figure 7-2 - Likomju deBrum House – looking northwest and showing decay of the southeastern corner. Likiep, Republic of the Marshall Islands



Figure 7-3 - Business Books standing in rubbish and water in the northern room; Likomju deBrum House, Likiep, Republic of the Marshall Islands



Figure 7-4 Books spread out to dry, Likomju deBrum House, Likiep, RMI

During this survey, forty historically and culturally significant business books (Figure 7-3) were found roughly stacked in a broken styro-foam container and resting in a pool of water surrounded by corroding tools and decaying rubbish. Ledgers, journals, invoice books, and receipt books associated with Jaluit Gesellschaft and A. Capelle & Co. recorded transactions²⁰ dating between 1908 and 1920.

Naturally, despite the high quality of material from which these books were made, they were deteriorating in the poor conditions. Pending professional curation by the RMI's Historic Preservation Office, they were removed from the southern room, carefully separated and placed on wooden palettes and other stands in the parlour to dry and air).

ALELE MUSEUM, MAURO ATOLL

An '*alele*' is a traditional Marshallese container that is tightly woven from *Pandanus* leaves and made specifically to hold cultural property that is highly valued. This concept of a lightweight bag capable of safely holding and transporting a society's most valued possessions contrasts powerfully with 'western' ideas of treasures stored in bank vaults made from super-hardened steel. Alele Inc. is a not-for-profit organisation that was chartered in 1970 and operates a museum, library, small retail store, video production unit as well as providing archival storage.

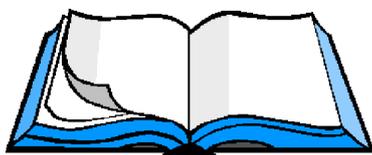
When working through the archived material held in the Alele Museum, Spennemann encountered a file folder replete with gecko eggs, some of them freshly laid. The presence of these eggs suggests that geckos find ample food in the supposedly vermin-free environment. The air conditioner, which is constantly running, also served to cool and adjacent office and the door was left wide open. The free flow of air within the collection was also inhibited by packaging material inappropriately stored in a archival storage facility.

While researching material in the Pacific Studies room, O'Neill also found silverfish, spiders, gecko lizards and their eggs in folders and filing cabinets. Unindexed material was stacked in several areas. Environmental control consisted of a single overloaded air conditioner in a corner of the Pacific Studies room operating off an unreliable power supply. Filing cabinets placed around the air conditioner vents inhibited the flow of conditioned air. The door to this archival room was intentionally kept open to allow some "cool air" to reach library staff working in the much larger but not air-conditioned office outside. Additionally, some archival material was stored separately in an ex-US Army shipping container that had been placed on foundations on the southern side of the building, air-conditioned and converted into an office and archival storage area.

During heavy rain, substantial water leaks were observed²¹ in the building particularly in the stairwell between the Museum and the Library. It is not known how extensive these leaks were throughout the building.

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 - 18 United States Department of the Interior, National Register of Historic Places Inventory - Nomination Form, Item number 7, page 4 and see also (PLATE 24)
 - 19 U. S. National Park Service. (1984). Likiep Village Historic Reserve. *National Register of Historic Places Inventory - Nomination Form*.
 - 20 These books included details of voyages between various islands to collect copra, as well as standard books of business accounting.
 - 21 Pers. Obs. O'Neill, October and November, 1999
- (continued)



SIGNIFICANCE

DIRK H.R. SPENNEMANN

In a coastal tropical environment such as Micronesia organic material culture dating to the 1880s to the 1930s does not often survive. Climatic events, such as typhoons, as well as biological agents such as termites and fungi destroy what human disinterest and neglect does not achieve earlier. Moreover, much of Micronesia was ravaged by the fighting and bombing during World War II, resulting in wide-spread destruction.

As a result heritage properties dating to that period are rare. Even more rare are properties that have retained much of their original appearance and, moreover, still contain much of the original furnishings. Historically, large private libraries were rare throughout Micronesia. There is only one library that dates to the late 1890s to 1930s: the deBrum library on Likiep.

In the light of the discussion set out in the preceding chapters the deBrum library on Likiep is culturally significant because:

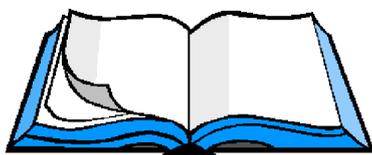
1. it forms an integral part of the deBrum House, a unique entity comprising of the building itself, outbuildings and curtilage, as well the material culture associated with the property, namely the furniture, the glass plate negatives, the phonograph records and recordings and, last but not least the library;
2. it is associated with Joachim deBrum, a largely self-educated true ‘renaissance man’ who through his interests and activities was the ‘pater familias’ for Likiep Atoll and as such shaped the fate of Likiep Atoll and its inhabitants during part of the German and the critical early part of the Japanese administration period;
3. has been compiled by an individual of mixed Portuguese and Marshallese parentage, thus bridging indigenous Marshallese and colonial European cultural traditions, against a background of German administrative and business concepts and spiritual influences by American Protestantism of the American Board of Commissioners for Foreign Missions
4. it is the only surviving privately collected colonial period library in Micronesia and as such demonstrative of the reading habits of colonial planters in Micronesia and has informative value for the entire Pacific;

5. it spans the period from the 1890s to the 1930s and in its composition (through the imprint dates) is reflective of the political and trading history of the region;



Figure 8-1. Children reading and studying on the verandah of the deBrum House in the 1910s.¹

¹ United States Department of the Interior, National Register of Historic Places Inventory - Nomination Form



FUTURE

DIRK H.R. SPENNEMANN & JON O'NEILL

What does the future hold for Joachim deBrum's once extensive library? Such an eclectic collection of books, journals, magazines, business ledgers and other personal documents has enormous historical and cultural significance.

The condition of the books is an issue of considerable concern. In many cases the decay is very far advanced and as a result current and potential future loss is severe. In addition, substantial losses have occurred between 1977 and 1984 and between 1984 and today.

We need to ask, whether in that state of decay the books can be saved and whether they are indeed worth saving. Many of the books in the collection can be easily and cheaply obtained on the second-hand book market and thus are neither unique or rare items. Following this line of thought, the knowledge of the contents of the library as such and the combination of books kept by deBrum is of greater significance than the individual books themselves. It is therefore recommended that a detailed recording of *all* books be undertaken. This process has been complicated by the fact many books have been taken out of the shelves and piled on a table, thus mixing the shelf order of books as recorded by Joan O'Neill in 1999 (figure 6-9 to 6-12). Since then, the books have been reshelfed (figures 6-13 to 6-16). In this light then, a complete reassessment needs to be carried out rather than just an assessment of those books and shelves which O'Neill did not extract and document.

While the printed material has lower cultural value as individual items, the same cannot be said for the non-printed material. Jon O'Neill found forty highly significant business journals and diaries relating to the business operations of the Jaluit Gesellschaft between 1908 and 1920. Many of the books contained entries in Joachim deBrum's own distinctive handwriting. Diaries were filled with careful records of trading visits to several atolls and islands with details of goods delivered and copra loaded. These records were piled haphazardly in a box that was itself standing in a pool of water and rubbish on the floor of an old timber house on Likiep. More material is supposedly kept in sea chests, the internal condition of which is unknown.¹ In 2003, staff from the Micronesian Cultural Center, Kwajalein Atoll, visited Likiep to research material relating to the digitisation project involving Joachim deBrum's photographs.² Sue Rosof advised these books were no longer in the parlour.³ but it was not known who was holding them, where they had been taken, or whether they were being conserved.

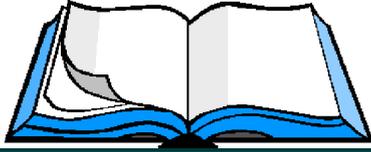
There is an urgent need for a paper conservator to assess the state of preservation of the *non-printed* material, which was supposed to have been taken to the Alele Museum and archives for safe-keeping.

An abundance of authoritative material on preventing decay of books, other printed material, and other paper-based records (such as hand-written diaries, business ledgers, personal correspondence, etc.) is available. Much of it concentrates on the particular problems associated with historic preservation in tropical climates. Knowing how to preserve such fragile historical material is one thing, having the desire and the resources to do so is another.

The Alele Museum and Archives have clearly failed in their mission. There appears to be little attempt at regularly assessing the state of preservation of the material under its tutelage. Despite the short comings at that institution, the conditions for preservation are still much better than at Likiep itself.

Notes to the Chapter

- ¹ This was reported to the RMI Historic Preservation Office on Majuro in a Preliminary Report of the research (Permit No. 003/1999 issued 12th October, 1999) dated November, 1999.
- ² Rosoff, Sue, Lindborg, Cristina and Lindborg, Eric (2001) *The Joachim DeBrum Photograph Project; Digital Restoration and Archiving in Micronesia*. International Cultural Heritage Informatics Meeting: Cultural Heritage and Technologies in the Third Millennium. 3-7 September 2001. Archives and Museum Informatics. Plitechnico di Milano.
- ³ Pers. Comm. March 2003.



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