Legenda:
1 Subsoil; varied layers of lapilli and colluvium; this soil was formed since ca 7500 BP.
2 Coarse top of subsoil 1; erosion plane; the line is the base of the secondarily formed soil.
3 Brown soil; fine material.
4 Yellow division layer; lowest part of the secondarily formed soil.
5 Brown soil.
6 Pseudo-mycelium: zone colored white by down-wash of calcium. A = below midden; B = beside midden.
7 Discolored areas below hearth/fire place locations.
8 Coarse shell midden. The top in the north section has been removed by erosion. A = centre; B = offshoots.
9 Ashy layer without calcium.
10 Coarse colluvium.
11 Deep (sub)recent digging.
12 Top soil, (sub)recently ploughed.
13 Buried original surface dating from the period of initial Indian inhabitation at GR–1.

Fig. 1 Vertical section of midden GR–1 (28 m S–N).
INTERPRETING GOLDEN ROCK: THE VIEW
OF AN OLD WORLD' ARCHAEOLOGIST

L.P. Louwe Kooijmans

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St. Eustatius is a small island (21 km$^2$). It consists of an old volcano-ruin in the north, and a recently extinct volcano in the south, the 600 m high Quill. These mountainous parts are connected by the Cultuurvlakte (Culture Plain). The Golden Rock site is situated exactly in the center of the island on the flattest part of it, near the present airport (see map frontispiece).

Location-analysis teaches us that this site is optimal for the exploitation of the different ecological zones of the island. When we study the prehistoric community that lived there from an economic point of view, we conclude that the whole island probably was the exploitation area of the inhabitants. The site-location, near the best soils, primarily is an agricultural one.

From a European's point of view the food procurement is unusual: manioc$^3$ cultivation combined with protein procured from the sea (fish and shellfish): farmers without cattle,$^4$ or a fish–tuber–combination.
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Fig. 2
Review of all settlement elements GR-1 site.

S(structure)1 – S14
B(ural)1 – B11
C(ache)1 – C4
H(earth)1 – H3
Midden: grey zones
Pits: _±_

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It is not evident whether we have excavated the whole settlement. The settlement may have been larger, but it is quite probable that we have excavated one social unit: a sub-site.

Cees Schinkel was able – by a straightforward, careful analysis of all soil marks (the features) – to distinguish 5 phases or periods within this sub-site. In spite of the fact that this seriation has some aspects and parts that are hypothetical, it should be stressed that all data available support it as the most probable interpretation. The settlement starts with one small house. This has been replaced after some time. A large house was built subsequently; that was later replaced by a similarly large one. The latter was replaced, but at another location, next to its predecessor. The inhabitation ends with a structure with a very specific floorplan.

**Spatial aspects**

All these rebuildings and relocations occurred within a rather small area: some floorplans intersect; in total we have a good insight into the lay-out of the settlement. Generally speaking, there is some continuity. Two aspects are striking:

1. The houses were relocated within a small area and within strict boundaries.
2. New houses were built on the spot of older houses. At one location three structures were built on the same spot.

There certainly was some tradition, some continuity, in the spatial arrangement of the houses and the lay-out of the settlement.

First we will discuss the larger, circular, houses; subsequently, we will pay attention to the lay-out of the settlement.

The large houses are impressive indeed. For instance, the floorplan of structure 4 (The large, round maloca with a central position in Fig. 2, nearest to the grey middens) had a diameter of 19 m, it had roof supporting posts up to a depth of 3 m, and it featured an axis that was oriented east – west. Two posts were in the center of this
Maloca S5 (diameter 14 m) with two large windbreaks. East part of GR–1.

house, surrounded by a circle of 8 posts. The latter were encircled by 16 posts. This configuration of 26 main vertical posts results in regularly shaped squares and isosceles triangles.

Structure 5 (Fig. 2 and 3) has a similar shape, but it is slightly smaller, the house posts are slightly less deeply founded, and the axis is oriented north – south.
Fig. 4 The postmold of feature 149 (see also Fig. 120) is well visible. Much midden material intruded into the postmold, after the post had decayed. This posthole of Structure 4 is situated near the midden. Note the rounded-off tuff layer at the right side of the posthole (right arrow). This facilitated the introduction of the post into the posthole: the post was pushed from the right into the posthole. During the introduction of the post, it hit the opposite wall and damaged it, just below the tuff layer (left arrow).

A striking aspect of all structures, but especially of the large ones, are the large and deep postholes in which the posts were founded. The vertical sections of the postholes indicate that heavy, large posts were used indeed. Special slipways were made to push the posts into the postholes, and some walls of postholes were damaged during this pushing-in process, usually just below the hard, concrete-like, tuff-layer (Fig. 4).
**Fig. 5** A round **maloca** with a conical roof in recent use in Amazonia.

*References from ethnography* 

We have the complete floorplan of a large number of structures, and of course we have tried to reconstruct the built-up part of them. For this purpose we have – and this is specific to the archaeology of the Caribbean region, especially in contrast to Europe, where we completely lack this aspect – a body of references from ethnology. Indeed, this data-set is ca 1000 years younger, and it is derived from an area at a distance of more than 1500 km, but – and this is important – that is the hinterland of the area of origin of the Saladoid Culture.
The use of these ethnographic references is legitimized by this spatial aspect. One thousand years are bridged in temporal aspects. Seen from a prehistoric perspective (ca 40 generations) that doesn't make the use of these references impossible.

The economic and social backgrounds of the prehistoric Saladoid groups on the one hand, and those of the Orinocan/Amazonian groups of the ethnographic references on the other, are about similar. In this respect it should be noted that the ecology of small Statia made another protein-source necessary (and possible) as compared to the mainland: the marine component of the diet which we already discussed above.

Within the complete cultural setting we should not neglect the differences in living conditions, specifically the sea which is so predominant in the Antillean context. Certainly new ideas were derived from it, and certainly new natural phenomena and animals became meaningful. But that did not upset the basic features of the original Saladoid Culture, as far as we can judge from our archaeological data.

The conclusion is that we have to do with differences in economical, spatial, and temporal aspects. But the archaeological data and the ethnographic ones are so similar (especially the maloca floor-plans and the plaza – houses – midden – lay-out), that we can only come to one conclusion: basic concepts are shared by these groups.

The Indians of the Orinocan and Amazonian area use large multi-family houses (malocas) on open areas in the forest and slash-and-burn plots at some distance; there is a large variation in shape. They are not all circular, but there exist malocas that perfectly fit the St. Eustatius ones. Such houses are 19–20 m high. They have a roof-slope of ca 50 degrees necessary for a good run-off of rain, and they supply data for the height of the house-walls. The ethnographic references greatly facilitate the understanding of the technical aspects of the St. Eustatius houses.
Symbolism within the structures

It is striking that time and time again the ethnographic data report *malocas* – of any shape – to have symbolic meanings. The house is a reflection of the cosmos, and the house posts are the mountains which carry the heaven (the roof).

The height of these houses indeed is impressive; we may well speak of a *cathedral-effect* to give an impression of the three-dimensional effect of these large Indian structures.

The symbolism becomes understandable: the house was a *micro-cosm* for the inhabitants, counterpart of the large cosmos outside. It should be noted that humans have their specific place within this *microcosm*. The central areas are not for them, but for community activities, such as rituals, festivities, dancing, and the welcoming of guests. This central area, near the two central posts, is a symbolization of the world axis. The nuclear families have their living quarters outside the central area, in the triangles of the peripheral part of...
the maloca. Each nuclear family has a hearth and hammocks for 4–5 persons, sometimes above each other.

This symbolism is not derived from one or a few examples, but it is a wide-spread phenomenon of many Orinocan and Amazonian groups, and strengthens the argument to consider the same ideas and ideology part of the Saladoid culture. Therefore, it is relevant for our St. Eustatius Saladoid site.

A second model, a solar-cycle model is also noticeable. It is related to the sun that rises at the entrance, sets at the exit, and returns to its starting point below the house. The solar-cycle model is part of the basic cosmos model and the east–west direction.

It is a surprising fact that still another symbolism – fundamentally different – is associated with the same houses: that of the body (body model). The house represents a body that accommodates humans. It can even be a womb. It has an entrance at the front side, a mouth that is kept clean, and an exit (anus) that is dirty at the back side. The latter is associated with the dump, our archaeological midden.

Both extremities have their specific activities such as the cleaning of food (back side), and the welcoming of guests (front side). Men are associated with the entrance, the work of women primarily with the exit.

It is clear that we have to do with more than one set of symbolic references, and that these concepts are supplied in multitude by ethnography. The different sets of references are met one by one, together, and in a mixed manifestation.

We first did a conventional archaeological study of the postholes, floorplans, etc of Golden Rock. Then we studied the whole body of relevant ethnographical references. After that study, we went back to our archaeological GR data and studied them again, with a mind changed by the ethnography, and had the impression that our data were "completed" by the other set, that we did now understand purpose, ideas and background of the excavated GR structures. This was a quite unique sensation for a European prehistorian!

We see that the orientation of the houses is not uniform. They
have different orientations, but all are oriented to one front and one back side. The front side to the clean plaza with caches (Fig. 7), with burials of young individuals, and also to a special structure (the rectangular one) that might be a men's house (Fig. 2).

At the back side was the large midden, or, even more probable: two large middens (grey areas in Fig. 2). One was excavated completely; in and near it were found burials of adult individuals without gifts, and also zemis.
Fig. 8 Skeleton of an upturned Hawksbill sea turtle (*Eretmochelys imbricata*). Buried complete in normal anatomical context, below the midden. The head was fragmented. Carapace and plastron present. The silica stomach content facilitated the species identification. This find is interpreted as a cache.

This is a spatial arrangement that is more difficult to interpret. What is the function of a considerable number of cult-objects, related to fertility, in a dump?? Without doubt this has something to do with deposition processes: obviously there was a routing towards the dump at the end of their life cycle.

**Finally**

So we have a midden, including the zemi-component. We have burials and caches in association with beads and complete pottery vessels. All are elements in the lay-out of the settlement, in the spatial patterning. The Saladoid Culture shows up its striking beauty and richness, especially in the caches (Fig. 7).
Fig. 9 Maloca S6 (diameter 16.5 m). This structure was the last one in the east part of GR–1. Structure 5 (Fig. 3) is an older structure on this spot (see also Fig. 2)

If the whole complex is rethought and reconsidered, the researcher familiar with European prehistoric cultures is struck by the exotic aspects. Then it becomes clear how interesting this is and how this all broadens one's horizon, especially when seen against the background of the ethnographic body of references. In European terms: a combination of La Tène pottery combined with a settlement system that approaches Ertebølle: cultures very far apart indeed, in time as well as in distance!
Intriguing questions remain, such as the function and meaning of the sea turtle. Animals play an important role in the spiritual life of Indian communities. They are symbols of the biotope or ecozone in which they live, and they symbolize ancestors. Animals also are meaningful for fertility; they are associated with birth and womb, and the turtle especially is conceptualized as an uterine animal.

When we see that the sea turtle is the most important and most impressive animal on these islands, and that two Golden Rock caches contain a complete animal without head and a head and neck (both of the species Hawksbill turtle [Eretmochelys imbricata]), then it becomes extremely intriguing that the floorplan of the last maloca of this sub-site shows up a striking similarity to precisely this sea turtle. Whether

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Fig. 10
this is an accidental similarity or meant to be so by the maloca-builders remains uncertain. It is an intriguing question, however, specifically in the context of these island-Indians.

It would imply a next step in the symbolization of the houses, and a specification of the body model: a sea turtle, a uterine animal, as a container or womb of humans. This and similar questions set research aims and goals for future investigations. This approach is a method to explore the boundaries of interpretation-possibilities.

The spatial arrangements and the lay-out of the Golden Rock site are clear and understandable from – and they can be correlated with – their island, world and cosmos. It is expressed in their malocas, in their caches, in the smaller houses, in the plaza and the dump and the way this all was arranged and organized in their settlement. There is a striking continuity and stability in their concepts over a long time and distance, within one Saladoid cultural tradition.

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References cited

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Notes

1. A Dutch version of this paper was read during the yearly Conference for Prehistoric Archaeology in the Netherlands (Reuvensdagen) on 28 November 1993 in Leiden. The editor thanks Mrs. Marjorie Doran (Tortola) for the correction of the English text.

2. The author is professor in prehistoric Archaeology at Leiden University. From 1984 on he was supervisor of the archaeological projects of Leiden University in St. Eustatius. He visited St. Eustatius during the 1984 and 1985 field seasons.

3. or cassava (*Manihot utilissima*), a tuber.


5. Before the actual extension of the airport, the Island Government decided to make the location of the *malocas* a monument. In this way this archaeological zone was rescued. This option seemed totally impossible in 1984, on the basis of the then available drawings of the planned airfield.

6. On the basis of the data collected by De Josselin de Jong in 1923, the most probable interpretation is that the complete Golden Rock site consists of 4 or 5 sub-sites in a circular lay-out around the present airfield. See for more information: Versteeg & Schinkel (1992:209/10).


9. The zemis typically show a difference between the ethnographic and the archaeological data. These data-sets possibly do not fit; the interpretation of the function of the zemis is supplied by De las Casas (*the first ethnologist of the Americas*) who tells about the use of the zemis in Puerto Rico and Hispaniola in the early 16th century: these stones were buried in agricultural plots to promote the growing of manioc. The archaeology of Golden Rock suggests – whether this function is valid for St. Eustatius and Saladoid culture, or not – that there was eventually a routing towards the dump.

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