Investigating the Food-Based Domestic Materiality of Nuaulu People, Seram Island: The Multiple Roles of Sago

R Suryantini, KD Paramita, YA Yatmo
Department of Architecture Faculty of Engineering Universitas Indonesia
yandiay@eng.ui.ac.id

Abstract. This paper employs the perspective of food as the basis of understanding domestic materiality in a vernacular context. Current discourse of domestic materiality tends to perceive understanding of material within a localised and enclosed context. Food demonstrates a potential to expand such arrangement, bridging the connection between domestic and the wider context, arguably demonstrating a better understanding of sustainable materiality. Similarly, the study’s focus on vernacular context is also influenced by the multiple roles of food in such a context, demonstrating a tight strong interrelationship of nature and culture.

This paper focuses on the exploration of food-based domestic materiality of the Nuaulu people, employing data from a field observation in the Sepa and Rohua Village, Seram Island. Sago becomes the particular focus of this study as it is a significant native plant that is used both for the sustenance and social-cultural life of the Nuaulu people. The study highlights the rituals, social process, and territorialisation aspects happening in sago related activities in the tribes. This paper highlights that the interrelationship of these aspects demonstrates a sense of identity for the Nuaulu people, arguably illustrating the multidimensional and sustainable characteristics of sago as part of the tribe’s domestic materiality.

Keyword: food, domestic materiality, sago, vernacular context

1. Introduction

Discussion of materiality has gained a recent surge within the field of architecture, highlighting the dialectic relationship between man and things, and recognising the social and material practices that construct such relationship [1-2]. In the discourse of materiality that spans across disciplines, the domestic setting has been a significant focus, connecting between the organisation of living spaces with the living process, culturally and socially [3]. This paper proposes to employ the perspective of food as the basis of understanding domestic materiality in a vernacular context. Food is a significant part of the domestic materiality [2-3], reflecting the “localizable idea” [4], demonstrated within the process of gathering, preparing and consumption of matter in a system [5-6].

Domestic materiality embodies an interrelationship between nature and culture [2, 5], and this paper focuses on the vernacular as a way of investigating such interrelationship. This paper argues that the focus on vernacular context offers the opportunity to do such investigation as there is a tighter relationship between the production and the consumption of food in comparison to the modern context [7].

The focus on vernacular is also driven by current limitation on sustainable architecture discourse which emphasises the material as singular entities; disconnected from the local and socio-cultural
dynamics of the context [8]. Current discourses simply determine the sustainability of a certain material based on its physical qualities such as the organic, degradable and renewable quality of such material [9-10]. Such sustainable movement often leads to formulation of some new eco-effective material, where some resources are designed to attend only a single specialized manner and function [11]. In this sense, such material only has a limited role within the broader system, leading to less sustainability of the material as a whole.

The focus on food as a perspective of seeing materiality is also encouraged by the lack of cultural and social discussion within the sustainable material discourse, despite its significant impact to a good architecture [12-13]. Food also holds an important role in the expression of social and cultural identity [14]. As the processes of food in vernacular context also constitutes and perpetuates the culture [6], reading food in a vernacular context arguably reflect their social cultural practice as the basis of a sustainable domestic materiality.

This paper explores the understanding of food-based domestic materiality in the context of indigenous people of Seram Island in the east of Indonesia. The discussion starts with the theoretical investigation of food as a potential framework to explore domestic materiality in the vernacular context. This investigation is followed respectively by the contextual description of the case study and the methods of data collection and analysis employed in this paper. This paper focuses primarily on the use of sago plants as the main staple of food for Nuaulu people, reading the practices of producing, preparing and consuming sago within the group, highlighting the rituals, social process, and territorialisation that take place. Through the relationship between these aspects, the study explores how sago plays an important role - not only feeding the kin but also sheltering them, signifying the multiple roles of sago in the Nuaulu people as part of their food-based domestic materiality.

2. Food-based domestic materiality in a vernacular context

The idea of home within the domestic discourse demonstrate the ongoing negotiation between the objects and the practices of its inhabitants to establish identity [15], and this arguably includes domestic materiality. Identity within the domestic materiality, particularly in a vernacular context is established by an array of processes. To begin with, the identity in vernacular context is expressed clearly through the rituals that are practiced regularly or occasionally in the domestic. The domestic accommodates individual or group rituals, as a response to singular events or crises in a wider context [16]. The rituals are shown through placements and ordering of meaningful objects to express the territories that are bound to the house and the social processes [17-19]. Food often becomes a significant part of the rituals, both expressed through its presence as objects or practices.

The rituals in a vernacular context are guided intimately by nature, both ecologically or symbolically. The ecological factors are driven by the condition of the site, climate, availability of materials, and so on, while the symbolic factors comprise of belief system, cosmology and meaning, both synthesized and maintained in shaping the materiality of vernacular domestics [20-21]. These factors shape the way rituals of food is placed and practiced, creating spatial and temporal dynamics. For example, the climate influences the timing of planting a certain vegetation, which then influences how and when a particular site is appropriated over time as part of the ritual.

In relation with the ritual, the identity in the domestic vernacular context is determined by the social and cultural process taking place within such settings. The shared practices of food become a significant part that shape the domestic as the ‘house of the society’ [22]. For many cultures, food practices are still primary part of the daily life [6]. An ethnic group creates a shared identity through sharing of something in common, such as food, as it creates a bond amongst them [23]. In Southeast Asia, food is strongly connected to the notion of “relatedness” or “kinship”, as it is prepared and consumed commensally in a proximate of family or collegial bond [24]. The process of food defines one’s identity and belongingness to a society, as kinship system can be interpreted as group that share food conclusively [25]. The sharing process of food demonstrate how social relationships or negotiation between certain actors in society shape food acquisition, distribution, and management [26].
The social process in establishing identity as part of food-based domestic materiality can also be seen in the use of food to showcase fortune and power in the vernacular society. The arrangements of food in the domestic depend on the availability of food and the number of people present [20, 27], which create the social, temporal and spatial dynamics of the domestic arrangement where the availability of food is limited. Food is prepared and consumed as part of the house economic status, not only for sustenance, but also to display wealth and maintain power relations of the house. For example, food may be the symbol of the prosperity and establishment; and therefore, the practice of taking and gifting food becomes the measure in dominating the political relations within the society, in addition to a way of showing generosity and affection [24, 27]. In this sense, food, both as object and practice, significantly guide one’s image among the society, in addition to relationships between them.

In addition to the ritual and social process, identity is also established by the process of territorialisation. Domestic materiality highlights the territorialisation of the home, emerging from the process of accumulation, arrangement, ordering, and maintenance of the home [4, 20, 27]. In the food-based domestic materiality, such processes can be reflected in the organisation of spaces where food is produced, consumed, or appropriated for other needs. The production of food highlights the overall process of acquiring land for plants until the plan is harvested. The consumption of food highlights the domestic process where food is prepared, served, and removed. Appropriation of food for other needs, such as dwelling material requires the process of sourcing, and making. Other than the spaces where these processes take place, the objects, technology, infrastructures and the material required for such processes are also included as part of the territorialisation [5, 20, 28]. This may range from cooking and eating utensils to infrastructures such as dams and irrigations, roads and railroads, ports, and so forth [14].

Employing food for other needs beyond sustenance demonstrates the character of food as an entity that emerge in an uninterrupted cycle of cradle to cradle, as the utilization, management, and cultivation of the food are always an intensive continuous process [29]. In this sense, surplus and remains from production, preparation, and consumption of food will always be valuable for other needs, before it dissipates safely to nature [30]. The use of food as dwelling material in vernacular context demonstrates the human response to a vast range of problems in ways of sustaining a living within a natural context, including the need to overcome the problems of scarce material resources [31].

This paper argues that the integration of the ritual, social process, and territorialisation aspect in the processes of food either as sustenance and as dwelling material in a vernacular context demonstrate the identity that builds the domestic materiality in such setting. Appropriation of food as dwelling material arranges the resources with respect to the selective and adaptive characteristics of the environment [32]. The integration of these aspects connects the material with its context, which is an important part of materiality discourse, as there are tendencies of detaching building material from its local context. The selective and adaptive use of food parts require not only certain technology, but also social and cultural knowledge, such as the working system, flow of energy, rights of access for individuals or as kinship, required routine and rituals [33-34] to do the construction, maintenance, and material existence of the dwelling. Beliefs, classification and symbolic meaning are present within the rituals of constructing the house. The social process of constructing the house, is reflected in the collective construction of the house with the participation of the whole kin, suggesting the division of labour, authority, and expenses [24]. In this perspective, employing food for domestic needs beyond sustenance offers a multidimensional and sustainable understanding of domestic materiality.

3. Context and methodologies
This paper investigates the food-based domestic materiality of Nuaulu People in Seram Island, the eastern part of Indonesia. Interviews, photographs and visual notes are collected from the field observation of Nuaulu People in Sepa and Rohua Villages, Seram Island Figure 1-2. In addition, this paper also refers to the monograph and literatures from anthropological and ethnobiological studies on
the people, their food, and their daily and ceremonial practices in the surrounding regions of Moluccas and Papua.

Figure 1. Settlement of Nuaulu People in Seram Island, Moluccas
Source drawn by author in reference to Ellen, 2006, p. 280

Figure 2. Traditional houses of Nuaulu People in Rohua Village, Seram Island, Moluccas

Sago becomes the primary observation of this study as the plants originates from the island [35] and serves as native staple food of the Nuaulu People [36]. The Nuaulu People in Hahualan and Rohua villages employ sago mainly as their staple food in the form of starch flour, fodder for their animals, and the medium to find insect/larvae as protein source. Since sago is a hapaxanthic tree, a type of plants that can only blooms once, it will die shortly after it produces starch in the trunk, leaving many remains. The Nuaulu people then commonly utilise other parts of sago for other functions. To do these different processes of producing and handling the sago, locally, the Nuaulu People develop locally developed technology, even though it is often regarded as simple and rather unmechanised [36-37].

This study employs a form of thematic analysis to explore the multiple roles of sago in the domestic setting of Nuaulu people based on the field data and the literature. Using the food as the basis of domestic materiality, the paper analyses how sago is positioned within the food system [38],
as well as the potential connections of sago as the staple food to places and spaces [39]. By “marking of a former presence or a small amount” of sago in different locations [39], the connection exists through food disclose the identity, boundaries, and territories [38] eventually representing the domestic materiality of the tribe.

This study uses images and diagrams as the media to reveal the relationship between people and objects through interaction between senses, emotions, and environments [39]. As food is offered in raw, cooked, or rotten state in cultural practice [40], these transformation processes of food provide opportunities to follow the material through different time and space Highlighting the material in different conditions across processes “lead to a deeper understanding of technological practice, encourages attention to the micro-scale and detailed unfolding of activities” [41].

4. Food-based domestic materiality of the Nuaulu: tracing the utilisation of sago

4.1. The sourcing process of sago

The paper explores the domestic materiality of Nuaulu people through investigating the interrelation between the ritual, social process, and territorialisation of sago both as sustenance and as a building material in their settlement. As discussed earlier, the ritual of sago as sustenance is driven by the ecological and symbolic values of Nuaulu People. The ecological values are reflected in how the Nuaulu do not practice cultivation, unless famine becomes a threat. Being reliant on their mode of production, they search and gather sago, hunt fish or collect miscellaneous animal food, as a way of delivering sustenance. In this sense, the tribe sources sago from the non-domesticated environment [42], relying on the wild and non-domesticated nature that subject to availability of the natural product. Therefore, the particular ritual of sago is demonstrated from the way sago is acquired through a journey outside the settlement, particularly to the forest area. The ecology of the island supports the abundance of sago palm [43], however the journey of finding sago can be either short or extended to five days or more. A long journey is influenced by the uneven distribution of the suitable sago palm on the island and the on-site harvesting process.

Symbolically, Nuaulu People settlement represent the concentric and binary opposition arrangement- east/sunrise/male and west/sunset/female; upstream/ mountain/ male and downstream/ sea/ female; sacred as center/ mundane/ profane as peripheral [42, 44]. These principles of cosmology influence not only the arrangement of house and village, but also their mode of food production. For example, the sago collection in the island is categorised based on their location See Figure 3

Figure 3 demonstrates different sources of sago. There is a source of sago in smaller patches of seasonal swamp with high concentrations of sago along smaller inland rivers. There are also small patches in old village sites in non-swampy areas, other patches at the mouths of smaller rivers. In addition, there are other clumps of sago in the garden land around the village and in areas within the village itself. Some of these different patches are marked using taboos and charms and access to different locations are restricted to different groups of people. For example, each sago collection journey takes an individual or group consists of up to 15 males that are usually related to each other in a certain kinship. For a longer journey in the sago location further away, there will be a large group of sago workers, which involves women and children. This categorisation of sago source arguably demonstrates how the ritual is related to the territorialisation of sago across the island as part of the Nuaulu’s people domestic territory, and also in defining the social relations of its people.
4.2. The preparation and consumption of sago

There is a transition between sago collection to sago preparation and consumption processes which demonstrate a particular form of territorialisation in relation to the social process and ritual of Nuaulu people. For example, there is an on-location process of cutting the sago and extracting the pith. The pith is then grinded and stored in the form of pulverized raw sago *piae* or a damp and slowly fermented form of flour for easier transportation to the village. In the village, occasionally a temporary garden hut *numa nisi* or shelter is being constructed as a place to stay and used to store sago, roots or tools [42]. Particular location of such shelter depends on the territory of such clans in the village. This location is often referred as “sago of the village” *hata niane* [36], which demonstrate an extended territory of the domestic for some Nuaulu clan. The journey, the path they made and the establishment of a garden hut in the food ritual express connections between the house and the forest, the domestic and the wild, nature, and culture. The binary opposition of the Nuaulu’s cosmology materialises by the establishment of so-called “transitional zone” [42], creating a domestic territory beyond the house, with very fluid boundaries.
Figure 4. Flexible arrangement of cooking and sharing a meal in the central space

Inside the house, the raw sago is processed further into porridge or biscuits. Some form of dishes, such as sago cake, is restricted for ceremonial purposes. The cooking process is done by female members of the household, following the same cosmological arrangement — concentric arrangement with east/male and west/female opposition that influence where sago is cooked within the house. Sago is positioned at the sacred area of the house See Fig. 4, following the internal organization of the central space hunisone where the hearth is located. The central space is also used for eating especially for women and children, sleeping, and countless minor domestic tasks happen in the central space. The fireplace and rear space of the fireplace mark the west end for female, which accommodate cooking process and spaces for storing the domestic objects, while male member on the opposite end of the house, not involved in cooking the food. Specific arrangement during the shared meal also reflects the cosmological order and suggests an important status of someone in the household or clan. The preparation and consumption of sago inside the house position ties the territorialisation and the social relation happening in the settlement, as an important part of the domestic materiality based on food.

4.3. Sago and the building process
The multiple roles of sago not only for feeding but also sheltering the kin and the connection between this roles can be seen in the way sago is involved within the building process. For example, the process of building a sacred house is an important ceremony for the tribe. Sago is included as an important part of such building ritual, as it is essential to feed a large number of people involved in the construction process of the sacred house as the shared building. A large working festivity is organized by cutting sago and collecting meat. For example, it is noted that for a clan house built during 1971, 300 animal and 30 casks of sago from three mature palms are prepared for a month by 30 people [42]. The feast is conducted every day by preparing meals in the earlier evening, consisting of sago porridge and meat. Specific seating arrangements based on the cosmology of the Nuautu and special eating utensils are involved at every feast throughout the cycle. Specific positioning of the food at certain times and space in the house are then followed by sacred performance reserved for the divinities. The hearth and the food, including sago biscuit, are involved in the ceremony to persuade the ancestral spirits to bless the house. The feast ritual during the construction is regarded as important, as it is believed to cool the heat accumulated in the ritual work may lead to health, fertility, growth and
hunting success for the members of the house. Here, the role of the food is not only to serve mortals but also divinities, carrying the hope for fortune and success of their kin. Similar to the process of sourcing sago, the use of sago in building ritual influence the social process and domestic territorialisation of Nuaulu’s people as part of their domestic materiality.

The Nuaulu people employs significant non-edible parts of sago as materials to support their livelihood. Aside from timber and bamboo, sago palm becomes the most important source of the house-building material for the different structures in the Nuaulu village. The sago parts are arranged differently based on the function of the house or huts. See Figure 5 The woody petioles are used for walling *kasane pune*, *tope* and ceiling *sani hatu*, meanwhile, the leaves become the thatch *ainatai* with superior quality of roofing materials [42]. There are also other various uses of sago parts - a tool for extracting and processing sago, containers of sago, raft, garden hut, furniture, fences and even as watch charm. See Figure 6

**Figure 5.** Employment of sago for different structures in the village - a *numa kapitane* ritual house, b *numa nuhune* house for giving birth and celebration, and c *bosune* menstruation hut
Figure 6. The multiple roles of sago palm for Nuaulu People  
Source drawn by the author in reference to Ellen, 2004

The characteristics of the sago as material are well understood by the Nuaulu people and shown in the arrangement of the material in their settlement. Kasanepune, tope hatae or walling, sani hatu or ceiling on tope of the house employs the properties of sago petioles and stems. See Figure 7 The material’s internal structure is composed of hexagonal or beehive structures surrounded by parenchyma cells and indicates certain strength as building material [45]. The presence of intercellular spaces of the fiber is potential for the heat or noise insulator. This property indicates essential strength and porosity which is important for the wall or ceiling material in a tropical climate. The arrangement of house-building materials also follows the cosmology that regulates the whole house and settlement. Pieces of sago leaf thatch is laid in an accurate manner to obtain the correct amount of overlap using a soka ainatai sago leaf thatch, a figurative proverb which means literally as an exercise of care and forethought in the conduct of personal relationships. In this sense, the territorialisation happening during the construction of sago evolves in relation to the ritual and social relations of the Nuaulu People, leading to food-based domestic materiality of the tribe.
The findings of different sago processes in previous paragraphs offers important understanding of Nuaulu people’s domestic materiality in relation to current literature. The processes of sourcing and transitioning sago demonstrate how domestic territorialisation of food may apply across spatial scales in a larger ecological context, as food follows no chronological sequence in categorization and segmentation of domestic space [6]. The domestic materiality may surpass beyond the kitchen and dining area, implying a process of territorialisation beyond a single house, distributed through passages [46] between locations in the forest and in the village. This wider domestic territorialisation across the ecological context of Nuaulu people illustrate how ecosystem are reshaped to supply domestic needs, particularly food [14]. Earlier mode of food accumulation is done by gathering and hunting the resources in a non-cultivated landscape, which later evolves into domestication and agriculture, leading to the act of modifying the landscape. The domestication process of food brings home the unfamiliar situation [47], domesticating nature. While the Nuaulu people still rely on non-cultivated process in acquiring their sago, there is a process of domesticating this sago from its source to the village, by changing the form of sago and transitioning the sago to the village before using them inside the dwelling.

The processes of preparation and consumption of sago in the house illustrate the process of reordering, regenerating and transforming food from raw state to cooked material [30]. These processes once again demonstrate how the act of reordering nature is a significant part of domestic materiality, guided with ritual and social relations. The ways preparation of sago is positioned at the centre of the house or shared across houses demonstrate how different social relations influence spatial layout [24]. In occasional festivities, there will be different quantity, type, and way of eating the food, which therefore lead to different organisation of space. For example, the way preparation and consumption of sago in the building process of a sacred house is related to their cultural beliefs, reflecting how the occupation of actors in their social territories determine the identity of space [48].

As the edible part of the sago is only the part at the inside of its trunk, this leaves a significant part of the plants that can be used for multiple purposes. With the substantial size and proportions of sago, the plants demonstrate a significant potential to be used as part of a building construction material. The sago palms, stems, and leaves demonstrate important material properties that are needed for a dwelling in such context. It has been argued that the use of porous building material is important for ecological sensibility [49]. The fibrous cell of sago demonstrates such properties that are not only porous but are also durable, ensuring longer and more sustainable use by the society.
5. Conclusion
This paper explores the multiple roles of food as a base to discuss domestic materiality in the vernacular context, expanding the materiality discourse. It focuses on investigation of sago and its multiple roles of feeding and sheltering the kin. The study highlights the ritual, social process, and territorialisation within the sago-related activities of the tribe, connected with each other in constructing the identity of the Nuauulu people. See Figure 8. The rituals are guided by ecological and symbolical values of the tribe, leading to particular ways of doing the food activities. Some of the rituals are shown in the particular process of sourcing and preparing sago, not only for daily food provision, but also for ceremonial occurrences.

Figure 8. Schematic conceptualisation of the interrelationship between ritual, social process, and territorialisation in constructing identity in the vernacular context

These rituals demonstrate specific social relations that distribute roles in sago-related activities across clans, binding the Nuauulu people through such collective activities. The practice leads to a shared responsibility amongst them, reflecting the Nuauulu’s kinship. The working arrangement and positioning of the house members during the ritual exhibit the social status in the society. The way sago is consumed and prepared demonstrate its role in preserving the social bond and culture of the Nuauulu within its domestic environment.

The rituals and social relations of Nuauulu People in processing their food translates into specific spatial organisations that spans from the forest, the village, and the dwelling. The ritual of creating a journey of sourcing sago leads to categorisation of sago locations, which then determines particular social arrangement that are allowed to access such location. Furthermore, the ritual drives the need to have a transitional space of sago between the forest and the village, and the social relations determine the position of such space for its corresponding clans. Within the dwelling, the ritual determines where the sago should be cooked and stored, while the social relations determine the position of people who perform the activities in such areas.

The interrelationship between ritual, social process and territorialisation of sago both as sustenance and as building material arguably demonstrate a sense of identity that becomes the basis of the food-based domestic materiality of Nuauulu people. Sago evolves as a material that tightly assimilates the domestic environment of Nuauulu people with its surrounding context through their roles not only in feeding the kin, but also sheltering them. The integration between rituals, social process, and territorialisation within the multiple roles of sago processes arguably demonstrate the sustainability of the material. Future studies may explore different staple food and its roles on domestic materiality in other vernacular context, in addition to a more detailed exploration on the systems of such material as part of the vernacular settlement.
Acknowledgement

“This research/article’s publication is partially supported by the United States Agency for International Development USAID through the Sustainable Higher Education Research Alliance SHERA Program for Universitas Indonesia’s Scientific Modeling, Application, Research and Training for City-centered Innovation and Technology SMART CITY Project, Grant #AID-497-A-1600004, Sub Grant #IIE-00000078-U1-1. Some of the data for this paper was obtained from a field survey documentation conducted in 2018 along with the student excursion team ‘Ekskursi Seram 2018’ from Universitas Indonesia.

References

[1] Thomas K L Ed 2007 Material matters: Architecture and material practice. London; New York: Routledge.
[2] Tilley C Y, Keane W. Kuechler S, Rowland M and Spyer P Eds 2010 Handbook of material culture. Repr. Los Angeles: SAGE.
[3] Mezei K and Briganti C Eds 2012 The domestic space reader. Toronto; Buffalo: University of Toronto Press.
[4] Douglas M 1991 The Idea of a Home: A Kind of Space. Social Research, 58 1, 287–307.
[5] Blier S P 2010 Vernacular Architecture. In C. Y. Tilley, W. Keane, S. Kuechler, M. Rowland and P. Spyer Eds., Handbook of material culture pp. 230–253 Los Angeles: SAGE.
[6] Lawrence R J 1997 Food. In P. Oliver Ed., Encyclopedia of vernacular architecture of the world pp. 79–81 Cambridge; New York, NY, USA: Cambridge University Press.
[7] Foster R J 2010 Tracking globalization: Commodities and value in motion. In C. Y. Tilley, W. Keane, S. Kuechler, M. Rowland, and P. Spyer Eds., Handbook of material culture pp. 285–302 Los Angeles: SAGE.
[8] Lempinen H 2018 Arctic energy and social sustainability. New York, NY: Springer Berlin Heidelberg.
[9] Cairns S and Jacobs J M 2014 Buildings must die: A perverse view of architecture. Cambridge, Massachusetts: The MIT Press.
[10] McDonough W and Braungart M 2002 Cradle to cradle: Remaking the way we make things 1st ed. New York: North Point Press.
[11] McDonough, William and Braungart M 2013 The upcycle 1st ed. New York: North Point Press, a division of Farrar, Straus and Giroux.
[12] Cooper I 2006 Cultural and social aspects of sustainable architecture. Build. Res. Inf 34 1, 82–86.
[13] Memmott P and Keys C 2015 Redefining architecture to accommodate cultural difference: Designing for cultural sustainability. Archit. Sci. Rev 58 4, 278–289.
[14] Standage T 2009 An Edible History of Humanity.
[15] Rosales M V 2010 The domestic work of consumption: Materiality, migration and homemaking. Etnográfica, 14 3, 507–525.
[16] Richardson J 2018 Place and identity: Home as performance. New York: Taylor and Francis.
[17] Hadjiyanni T and Helle K 2010 IM Materiality and Practice: Craft Making as a Medium for Reconstructing Ojibwe Identity in Domestic Spaces. Home Cultures, 7 1, 57–84.
[18] Kärholm M 2007 The Materiality of Territorial Production: A Conceptual Discussion of Territoriality, Materiality, and the Everyday Life of Public Space. Space and Culture, 10 4, 437–453.
[19] Rahmeier C S 2012 Materiality, social roles and the senses: Domestic landscape and social identity in the estâncias of Rio Grande do Sul, Brazil. J. Mat. Cult 17 2, 153–171.
[20] Oliver P Ed 1997 Encyclopedia of vernacular architecture of the world. Cambridge; New York, NY, USA: Cambridge University Press.
[21] Rapoport A 1969 House form and culture. Englewood Cliffs, NJ: Prentice-Hall.
[22] Lévi-Strauss C 1982 The way of the masks. Seattle: University of Washington Press.
[23] Adema P 2009 Garlic capital of the world: Gilroy, garlic, and the making of a festive foodscape. Jackson: University Press of Mississippi.

[24] Vellinga M 2000 Review essay: Anthropology and the materiality of architecture. American Ethnologist, 34 4 , 756–766.

[25] Visser M 1992 The rituals of dinner: The origins, evolution, eccentricities, and meaning of table manner. Repr. London: Penguin Books.

[26] Atkins P J and Bowler I R 2001 Food in society: Economy, culture, geography. London; New York: Arnold.

[27] Weiner A B 1988 The Trobrianders of Papua New Guinea. New York: Holt, Rinehart and Winston.

[28] Khare R S 1976 The Hindu hearth and home.

[29] Townsend P K 2003 Palm Sago: Further Thoughts on a Tropical Starch from Marginal Lands. Resource Management in Asia-Pacific. Program Research School of Pacific and Asian Studies. The Australian National University, 19.

[30] Alexander C 2002 The Garden as Occasional Domestic Space. Signs, 27 3 , 857–871.

[31] Rapoport A 2006 Vernacular design as a model system. In L. Asquith and M. Vellinga Eds., Vernacular architecture in the twenty-first century pp. 179–198 London; New York: Taylor and Francis.

[32] Lawrence D L and Low S M 1990 The Built Environment and Spatial Form. Annu. Rev. Anthropol 19 , 453–505.

[33] Charras M 2016 Feeding an Ancient Harbour-City: Sago and Rice in the Palembang Hinterland. Befeo, 102 1 , 97–123.

[34] Moraes-Gorecki V 1983 Notes on the Ownership and Utilization of Sago, and on Social Change, among the Moveave-Toaripi of the Papuan Gulf. Oceania, 53 3 , 233–241.

[35] Abbas B 2009 Genetic Relationship of Sago Palm Metroxylon sagu Rottb in Indonesia based on RAPD Markers. Biodiv, 10 4 , 168–174.

[36] Ellen R 2004 Processing Metroxylon Sagu Rottboell Aracaceae as a Technological Complex: A Case Study from South Central Seram, Indonesia. Econ. Bot. 58 4 , 601–625.

[37] Ellen R 2006 Local knowledge and management of sago palm Metroxylon sagu Roetboell — Diversity in South Central Seram, Maluku, Eastern Indonesia. J. Ethnobiol, 26 2 , 258–298.

[38] Atkins, Peter J 2005 Mapping foodscape. J. Food, 3 1 , 266–280.

[39] Marte L 2007 Foodmaps: Tracing Boundaries of ‘Home’ Through Food Relations. Food Foodways, 15 3–4 , 261–289.

[40] Lévi-Strauss C 1990 The origin of table manners. Chicago: University of Chicago Press.

[41] Knappett C 2011 Networks of objects, meshworks of things. In T. Ingold Ed., Redrawing anthropology: Materials, movements, lines pp. 45–63 Farnham, Surrey: Ashgate.

[42] Ellen R F 1978 Nuaulu settlement and ecology: An approach to the environmental relations of an eastern Indonesian community. The Hague: Martinus Nijhoff.

[43] Bintoro M, Nurulhaq H, Pratama, A. J Ahmad, F and Ayulia L 2017 Growing Area of Sago Palm and Its Environment. In H. Ehara Ed., Sago palm: Multiple contributions to food security and sustainable livelihoods pp. 17–29 New York, NY: Springer Berlin Heidelberg.

[44] Ellen R F 1986 Microcosm, Macrocosm and the Nuaulu house: Concerning the reductionist fallacy as applied to metaphorical levels. Bijdragen Tot de Taal-, Land- En Volkenkunde / J. Humanities and Social Sciences of Southeast Asia, 142 1 , 1–30.

[45] Nitta Y 2017 Morphological and Anatomical Characteristics of Sago Palm Starch. In H. Ehara Ed., Sago palm: Multiple contributions to food security and sustainable livelihoods pp. 181–189 New York, NY: Springer Berlin Heidelberg.
[46] Paramita K D and Schneider T 2018 Passage Territories: Reframing Living Spaces in Contested Contexts. *Interiority*. 1 2. 113–129.

[47] Hodder I 1998 Theory and practice in archaeology. New York: Routledge.

[48] Yatmo Y A, Atmodiwirjo P and Paramita K D 2013 Whose Waste Is It Anyway? *J. Urban Des* 18 4, 534–552.

[49] Saginatari D P and Yatmo Y A 2018 *To Coat or Not to Coat: A question on porosity and coating in building material*. E3S Web of Conferences, 67, 04040.