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# The lives of things on Pulau Ujir

## Aru's engagement with commercial expansion

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### ABSTRACT

In places with limited access to manufactured goods, people must develop creative strategies to make the most of available materials, both those produced by humans and those taken from the natural world. Although Pulau Ujir, in the Aru Islands, has a long history of engagement with global trade networks, until recently the community's access to manufactured goods was limited and infrequent. As a result, in the past objects there tended to take on new lives, and still do today: they are modified, re-purposed, and recycled in ingenious ways. This article explores the relationship between people and things in Ujir from the perspectives of object biography and Actor Network Theory. I argue that the complex "life stories" of material things in such conditions of scarcity deserve special attention, because they may explain not only puzzling archaeological phenomena, but also aspects of the social lives of the people who used and reused them. Two modified and repurposed fragments, one of porcelain and one of glass, serve as examples.

### KEYWORDS

Archaeology; Aru; object biography; agency; Actor Network Theory; trade; supermodernity.

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INTRODUCTION<sup>1</sup>

When materials are scarce, people find clever ways to adapt. The material culture of Pulau Ujir (Ujir Island) in the Aru archipelago is a fascinating example of this tendency. Ujir exists on a boundary between plenty and scarcity, trade and foraging, and global and local, which shows itself in the ancient and contemporary archaeological record. In particular, people in Ujir tend to modify trade goods to suit new purposes. Although by the standards of the Aru Islands, of which it is a part, Ujir is relatively close to the main trading centre, the boat journey there is still time consuming, expensive, and occasionally dangerous. Therefore, in the present, oil jugs, plastic floats, sandals, bottles, metal tools, clothing, and even beach debris all change shape and purpose over time thanks to human modification. Visiting Ujir today, these things, their modifications, and their new uses are visible; in examining each one, it is possible to reconstruct a life history of the artefact. These biographies reveal a wealth of information about not only the thing, and the trade routes that it travelled, but also the people who used it in all its different forms.

This study examines two things from the early twentieth century that fit this pattern of modification and reuse, both found during archaeological survey. The first is a modified porcelain fragment: one of countless broken sherds that cover the surface of Ujir's old village, but with signs that it has acquired a new purpose. The second is also a fragment, but made of glass: a piece of fishing float with a hole neatly pecked into it. Both artefacts stood out to the archaeological and ethnographic team as remarkable, since they were obviously modified, but without an obvious purpose. Through discussions with community elders, stylistic and materials analysis, and historical research, it was possible to reconstruct a history of production, trade, use, modification, and reuse for each one. Their stories converged in unexpected ways. Both artefacts originated in a modern (or "supermodern") expansion of mass-production and commerce, and both revealed remarkable details about life in early twentieth century Ujir through traces of human activity left in their modifications. These things will serve as guides to two converging journeys. By focusing on things in detail, it is possible to see human societies from their perspective.

## THEORIES OF PEOPLE AND THINGS

At no other point in the earth's history has the human species produced, consumed, discarded, or destroyed such a huge volume of material as we

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do today. Human activity has altered the Earth's natural processes in such fundamental and potentially long-lasting ways that some scholars have proposed a new geological epoch, the Anthropocene, to mark these alterations (Steffen et al. 2011). On a historical rather than a geological time scale, others have proposed a supermodern period, beginning roughly with the twentieth century, to describe an intensification of modernist ideology and political structures, and crucially, the exponential increase in technologies for material production and destruction (González-Ruibal 2008). While neither of these periods focus exclusively on mass-produced objects, both emphasize the mass-production and consumption of things as a crucial component. The role of material culture is thus particularly relevant for explaining the twentieth and twenty-first centuries' social and environmental changes. Not coincidentally, in the past few decades a body of anthropological theory has developed to emphasize the relationship between people and things – to bridge the gap between humanistic and materialistic theoretical frameworks, and to integrate objects into anthropological models of culture.

Especially prominent among these bridging theories is Actor Network Theory (ANT), the core principle of which is that non-human entities can play an "active" role in human social structures (Latour 2005: 10). While these active entities include non-human animals and features such as forests and mountains, ANT highlights the active roles of inanimate things in human societies: things can shape events in the human sphere. Along with other theories of material culture, it uses the word "thing" instead of the passive term "object" to emphasize the agency that artefacts can exert on people and societies. While symbolism bestowed by humans is one means by which things can develop social agency, ANT goes further, asserting that things exert social agency through aspects of their physical nature, sometimes called their "materiality" (Ingold et al. 2007; Miller 2005). Even without symbolic freight, things can alter human behaviour. For example, the layout and properties of furniture in a room will dictate some aspects of how the people in that room behave. Further, some things perform human-like functions, supplanting humans' physical or mental labour, and therefore sometimes standing in for people in social structures as well (Johnson-Latour 1988). One of the more provocative assertions of ANT and allied theories is that the distinction between people and things is not stable or definite, at least for the purposes of modelling social structures. Therefore, as scholars try to explain human behaviour, they should take the material agency of things into account. While ANT and allied theories are well positioned to address questions about the Anthropocene or supermodern world, and its profusion of material culture, archaeologists have also found it relevant to all human societies, from the earliest tool-making hominins onward (Ingold 2012: 430). The fine points of this theoretical framework remain unsettled (for example, see Ingold's [2012] detailed review and critique). As with most theoretical frameworks, one can over-extend it to the point of impracticality (Sørensen 2013). However, its basic assertion of material agency has resonated in particular with archaeologists

who, out of necessity, focus on materials' relationship with human behaviour. As the case studies that follow will demonstrate, while ANT cannot fill every gap researchers' understanding of a subject, it may at least point out gaps in knowledge that researchers had not recognized before.

The two artefacts that this study examines are intriguing cases from an ANT perspective because the nature of their agency changed over time as a result of changes in context and human modification. While both artefacts were mass-produced early on in the aforementioned supermodern expansion of global commerce, and while both began their existence as an undifferentiated and unremarkable commodity, they both experienced transformations on Pulau Ujir. People on Ujir modified both artefacts to suit their own needs and lifeways, which were radically different than those of the people who designed the artefacts in the first place. While neither artefact may ever have exerted a strongly human-like agency, I will argue that both things' material qualities had an influence on the behaviour of the people who used and modified them. Further, each artefact experienced a life cycle, and journey through time and space, that is strikingly similar to a human life cycle. Likewise, each artefact moved from one cultural context to another. Each thing is therefore well positioned to shed light on the interface between these respective cultural contexts, as it travelled across them. In other words, the artefacts both deserve a biographical treatment.

#### OBJECT BIOGRAPHIES

If one entertains the idea that things can engage with, and influence, human societies, it follows that researchers might benefit from thinking of them with human attributes such as a life story. Paradoxically, this approach may answer more questions about the humans involved in the story than it does about the thing. Although this article focuses on things and materials, the biography of an object from an anthropological perspective should not be merely a narrative of physical alterations, any more than a person's biography should be nothing but a long description of changes to their body over time. Rather, an object biography should take into account its changing relationships with the community of people and things around it. A thing would be useless as a guide to human society unless it had some social importance, and in some cases this importance approaches personhood.

A common theme of object biographies, either explicit or implicit, is the way things can take on some of the attributes of people, and sometimes, perhaps more disturbingly, how people can take on attributes of things. Kopytoff (1986) identifies a spectrum between the singular or individual (person) and the alienable commodity (thing or object). In fact, things and people may occupy different places on this spectrum at different times in their lives, depending on their cultural context and their own traits. A particularly dramatic example is that of a slave, who loses singular status around the time of their sale, and then may (or may not) gradually regain it, becoming less of a commodity and more of an individual again. In other cases, things that

began their existence as commodities can become almost human. Between these dramatic examples there is a spectrum of more subtle but nonetheless informative cases, often involving things that flip back and forth between high and low value, significance and insignificance, and active and passive.

In addition, things may take on some qualities of personhood associated with their present or former owners, functioning socially as a part of the owner's body even when separated from it by a great distance (Gosden and Marshall 1999). The people who interact with things, and the social context of their interaction, can radically alter a thing's social status. This remains particularly true in the context of study and research. The sequence of changes in status described above does not end once the thing becomes the focus of research, nor does the thing's agency. For example, as Marwoto (2019) has shown, archaeological interest, and in particular archaeologists' engagement with the communities that claim traditional ownership of artefacts or sites, can transform a thing's social status significantly. This might have positive effects (increased pride in heritage among the community) as well as negative ones (the increased interest of collectors, looters, and dealers). The effects of studying a thing provide a clear example of many of the changes in status relevant to an object biography.

By paying attention to the ways in which a thing's social status changes, to say nothing of changes to other attributes such as form, we can allow it to serve as a guide to the culture in which it is immersed. This article uses two such things as guides to the world of Ujir Island in the early to mid-twentieth century. As both things are "outsiders" that reached Ujir due to large-scale regional processes, and as both things underwent remarkable transformations after they arrived there, they offer valuable insight into a few aspects of Ujir's society, which are more broadly applicable to elsewhere in Aru and Island Southeast Asia (ISEA).

#### THE ISLAND OF UJIR, ARU

Pulau Ujir is located in the northwest corner of the Aru Archipelago, about two hours' journey by motor boat from the *kabupaten* (regency) capital Dobo. The modern village there, also called Ujir, has hundreds of inhabitants, and the islands has been continuously inhabited for centuries. From the time of European contact, and likely well before, Ujir, together with the neighbouring island of Wasir, and the nearby settlements of Wokam and Dobo, have formed an area of interface between Aru and global trade, colonialism, and later the modern state of Indonesia. This makes Ujir a particularly intriguing community for those studying boundaries, trade, and cultural interaction, and the earliest archaeological surveys of the site, undertaken as part of an Indonesian and international collaboration at the end of the twentieth century, confirmed this value from a material culture perspective as well (Veth et al. 2000, 2005).

Ujir's oral traditions, and Dutch East India Company (VOC) records both attest to Ujir's early adoption of Islam, though the precise mechanism by which

this happens remains unclear, and a subject of continuing study (Schapper 2018; Wellfelt and Djonler 2019). In addition, Ujir was a centre of resistance to the VOC, and was involved in a series of raids and counter-raids on the colonial outpost at Wokam during the eighteenth century (Hägerdal 2016). Its importance as a political and trading centre is further attested by Forrest (1780) who mentions it as a source of bird of paradise feathers. The sources together suggest that by the seventeenth century, Ujir was a trade entrepôt between long-distance traders coming primarily from the west and north, and the people of Aru's interior and *belakang tanah* (backshore or east coast). In the present, Dobo has assumed that function, but as late as the nineteenth century Dobo was still an impermanent, seasonally inhabited outpost (Wallace 1869: 327).

Until the Second World War, much of Ujir's population lived in a settlement on the left bank of the island's main river, called Maiabil (Bahasa Ujir: 'beside the river'). The elaborate stone walls, wells, and house platforms of this *kampung lama* (old village) attest to its importance, as do two rusted European-made cannons of uncertain date, and a gigantic ship's anchor across the river from the settlement. Maiabil was abandoned 1942 after Allied forces bombed it, mistaking it for a Japanese position (A. Mandja, personal communication 2018). Today the site is relatively undisturbed, and many remains of the old village can be seen on the surface, including a variety of ceramic tradeware and glass. The artefacts on the surface further confirm Ujir's status as a trade entrepôt (Veth et al. 2000, 2005).

Continuing the work which Veth et al. (2000, 2005) began in the 1990s, a collaborative team of archaeologists from the University of Washington, Pusat Penelitian Arkeologi Nasional, and Balai Arkeologi Maluku conducted surface survey and limited excavations in the *kampung lama* and other locations on Pulau Ujir during 2015 and 2018, with the gracious permission and advice of village leaders and elders. Two finds from this research merit special attention, as they show a history of both trade and creative modification to serve new purposes – a process still visible every day in the present village. Despite modern Ujir's access to manufactured goods from Dobo, materials are still relatively scarce on the island. This leads to ingenious reworking and modification of things that might simply be thrown away elsewhere. Ubiquitous modern examples are the well buckets fashioned from oil jugs, complete with wooden handles and reinforcements where the plastic will be under strain. In a similar way, the following two case studies exemplify the ingenuity of people on Ujir, while also illuminating their entanglement in phenomena that affected the entire ISEA region.

#### 1. A GROUND PORCELAIN FRAGMENT

This artefact (Figure 1) is a flat piece of porcelain, found on a beach near a stone platform called the *mesjid lama* (old mosque), at one time the easternmost mosque in the world (Schapper 2018). It is roughly 1.5 cm in diameter. Its outline is almost hexagonal, with rounded corners. One face is decorated with

small crescent shapes and a floral design in underglaze blue. The reverse face is undecorated white glazed. The edges are unglazed, and appear to have been smoothed by abrasion. The unglazed portions have become yellowish over time, likely due to immersion in water.



Figure 1. A modified porcelain fragment (courtesy of Joss Whittaker).

Although small, the fragment retains enough decoration to determine its source and date. While the fragment's repeated crescent-like decorative motif resembles the petal patterns common in much blue and white tradeware (Rinaldi 1990: 413), on earlier Chinese tradeware the petals always display irregularities, as they were painted by hand. In these motifs, the lines which make up the boundaries of each petal also tend to connect. In contrast, the pattern on the Ujir fragment shows striking regularity, and the individual crescents do not connect, suggesting they result from a different decorative process. In fact, the design and colour on the Ujir fragment indicates Japanese *katagami* (stencil-ware), in particular a pattern called *karakusa* (Ross 2012: 23).

*Katagami* decorative technology was in use during the Meiji restoration in Japan, from roughly 1875 to 1920, employing not only the stencil technique (a revival of something developed in the seventeenth century), but also a new industrial cobalt oxide from Europe or America, which produced a more brilliant blue than the cobalt found in Japan (Ross 2012: 4). Vessels decorated with the *katagami* technique tended to be cheaply mass-produced, often for the export market. Remarkably, the *katagami* vessels identified in Ross (2012) were found at a small early twentieth century Japanese-Canadian fishing camp on the Fraser River in British Columbia; thus over the decades these objects were distributed to the western and eastern extremities of the Pacific Ocean. From the decorative style of this fragment, one can place it in a narrative of

industrial transformation, globalization, trade, and migration.

In one important sense the modified fragment found at Ujir is not unique: apart from its mass-produced origin, it is one of hundreds of high-fired white or cream-coloured tradeware fragments found in the same place, in addition to thousands of fragments of locally produced earthenware, identified in a systematic surface survey. Once parts of plates or bowls, these porcelain fragments were discarded and entered the archaeological record along with the glass, shell, bone, and metal which remains in the same midden deposit. As rain and *sungai* erode the coast near the *mesjid lama*, the deposit's artefacts have spread out over the beach. A survey of eroded material such as this allows archaeologists to get a sense of a site without destructive excavation. For the purposes of this discussion one pattern among the fragments is worth noting: the fragments of locally produced earthenware, which tend to be softer, had all been worn round by the gentle weathering action of *sungai* and sand, while the harder tradeware (a broad category including porcelain, ironstone, stoneware, and other high-fired ceramics, produced outside Aru) retained its sharp edges. The fragment described above was the only exception to this pattern. Its smooth edges and even shape suggested a deliberate and careful modification at human hands. However, to an outsider, its purpose was not clear.

Having established the beginning of the artefact's biography, as a whole vessel in one of the industrial centres of Japan during the Meiji restoration, I will now turn to the context it entered in ISEA, where it followed a long history of tradeware as an object of consumption, fascination, and mythmaking.

Porcelain is particularly well suited to ethnoarchaeological study due to a rare combination of traits: ethnographers have widely observed the ways some ISEA cultures impute "cosmogonic" symbolism to porcelain (Hoskins 1993: 126), and in addition it tends to survive well in the archaeological record, albeit usually in fragments. As the differential weathering of the fragments on Ujir's beaches suggests, porcelain is often more durable than the locally produced earthenware or stoneware.

The material qualities of porcelain, particularly its lustrous, smooth surface, its bright colours, its translucency, and its ringing sound when struck, marked it at first sight as something special, otherworldly. It was "captivating" in the sense that one could not imagine how it was made (Hoskins 2006: 76; after Gell 1998). The incomprehension of porcelain's manufacture was by no means unique to inhabitants of Nusantara; as porcelain tradeware spread from mainland Asia eastward to ISEA, and westward to Europe, Europeans embarked on many fruitless attempts to produce it with their native technologies and materials, only succeeding centuries later (Waal 2015). This phenomenon of captivation is especially clear, however, in the numerous Indonesian folklore traditions that impute divine origins and supernatural powers to heirloom tradeware (O'Connor 1983: 403-405). In some contexts, certain objects are so exceptional that one cannot conceive of them coming from an earthly source.



Such exceptional, perhaps divine things may acquire social identities of their own, including names, genders, and a perception of social or material agency (Hoskins 1993: 128). Several Ujirese, both young and old, said their families possessed tradeware bowls in which salt water, left overnight, would turn fresh. Porcelain vessels in many Nusantara cultures speak, become hungry, make gestures, and offer advice, as if they were actually human (O'Connor 1983: 405). As with Latour's (1988) famous example of a piece of hardware "going on strike", or the common impulse one feels to plead with, or berate, a malfunctioning computer, the social agency of a thing is evident in the way that people impute to it distinctly human attributes. In some cases, they are said to exact revenge on people who have wronged them. In one colourful account, a porcelain urn associated with the Kodi people of Sumba was stolen, but a storm destroyed the boat carrying it. The urn was damaged, but survived the shipwreck to float back to its original home, while those responsible for the theft were either ruined financially, or went insane (Hoskins 1993: 135-136). Stories of heirlooms "personally" exacting vengeance on humans who attempt to steal them are indeed rather common in Nusantara, and often encountered in ethnoarchaeological research (P. Lape, personal communication 2019).

In societies such as early modern Aru, where the exchange of gifts played a central part in social relationships, and where access to foreign trade goods was rare, porcelain vessels were likely to become sources of prestige and obligation: to give someone an irreproducible gift such as a porcelain bowl would impose on them an unrepayable debt (compare Gosden 1989: 361). In other words, access to inimitable trade goods was social power. The fact that, over the course of their stays in ISEA, some of these trade goods developed historically documented social "personae" of their own attests the social power they embody, but also to the phenomenon of an alienable commodity transforming into an inalienable individual (Kopytoff 1986) which (or perhaps who), according to the ethnographic accounts above, might even begin to acquire "rights" akin to human rights (compare Sørensen 2013).

I would not expect this phenomenon of pots becoming near-human to persist once tradeware became more available and more affordable. While in the fourteenth century blue and white porcelain was very expensive, even near its source in China (Miksic 2007: 151), one may assume it became less expensive as mass-production and trade developed. The ubiquity and similarity of mass-produced tradeware bowls would not allow the same personification as a single, unique heirloom jar. However, cultural practices in modern Aru, including Ujir, still point to tradeware's lasting social significance, even in a society that has long been familiar with it. The most striking example is the way in which oyster divers on Aru's backshore offer store-bought porcelain plates to familiar spirits ("sea wives") in the hope of a successful harvest (Spyer 1997). The purchase of tradeware plates for these offerings is one aspect of a self-perpetuating cycle of debt bondage that has probably changed little over time.

Similar examples are the modern tradeware plates left at sacred sites (*tempat keramat*) around Pulau Ujir to ask for permission or help from the spirit world. Although not every *tempat keramat* on Ujir receives offerings of plates, a significant number of them do (Figure 2). The social role of new tradeware in modern Aru is thus far less person-like than that of the Kodi heirloom jars, but its commodity status is not entirely straightforward, in that it is one of a few ritually appropriate gifts to the spirit world. Therefore, in modern Ujir, as elsewhere in Aru, and elsewhere in ISEA, tradeware no longer retains the same social power as it may once have held, but it remains ritually and symbolically important.



Figure 2. A *tempat keramat* in the roots of a tree, eastern Pulau Ujir. Note the modern porcelain and glassware (courtesy of Joss Whittaker).

Between the first introduction of trade porcelain to Ujir and the present day, countless vessels were made, purchased, used, damaged, discarded, and occasionally deposited in *tempat keramat*. Of these, a small proportion – less than ten percent until after the Second World War – were tradeware. As in most Southeast Asian locales (Miksic 2007: 151), white porcelain decorated in underglaze blue was particularly favoured in Ujir, though on some fragments recovered there one can also detect faint traces of overglaze red and green enamel or paint decoration. Most of these tradeware fragments appear to be Chinese, dating from the Qing Dynasty or later, based on their style and production methods. As noted above, Japanese products are also present, at least for the later part of the chronology. The dates of the Ujir tradeware examined so far coincide with the period of European contact during and after the seventeenth century. As the Europeans began developing their own “china” technology (their attempts to imitate the captivating Chinese

goods finally having succeeded), their tradeware also appears in Ujir and the surrounding sites. The proportions of tradeware vary by site, with the highest concentrations of tradeware located relatively close to the modern village. Notably, two fragments were recovered with marks in Malay script from the Regout works of Maastricht, Netherlands, indicating they were made especially for the export market. Both these marked fragments date from the late 1880s to 1930s, roughly contemporary with the subject of this biography. Another fragment, from the Bell pottery of Glasgow, is decorated in a "Celebes" pattern specifically intended for export, and precisely dated to 1890 (Kelly 2006: 101).

One can thus assume that the vessel from which our fragment came arrived as part a larger influx of tradeware at the end of the nineteenth century. At some point it was traded to Ujir, likely by way of intermediate destinations such as Makassar and Dobo. What was exchanged for the vessel is beyond the scope of this article, but based on the recent past, *tripang* (sea cucumber), pearl oysters, and wood are all probable. The vessel was used in Ujir's old settlement of Maiabil (today's abandoned *kampung lama*), and subsequently broken into pieces. Of course, the life of the whole vessel in Ujir, and the circumstances of its breaking, are unknown. The full sequence of use, breakage, modification, reuse, and abandonment must have occurred between 1875 (when *katagami* stencil ware was first produced) and 1942, when the old village was abandoned.

Up to the point of its modification, the life cycle of this artefact follows a common pattern, one that usually ends with the broken vessel's deposition in the ground. Porcelain is impossible to repair, let alone produce, with the technology at hand in Ujir (Hoskins 1998: 169). However, certain modifications are possible, a common one being to drill a hole in the edge of a tradeware plate through abrasion, so it could be hung from a wall or rafter. In this case, someone transformed one broken fragment into a coin-like disc, by carefully abrading the edges into their smooth symmetrical shape. Given the porcelain's hardness and brittleness, modifying it would take an abrasive compound, considerable skill, and patience.

Ujir elder Jafar Hatala (Bapak Jafar), the last surviving person to have lived in the old village, instantly recognized it as a game piece when he saw it, and said the game was popular with children in the old village. The game was probably one of many variants falling under the generic name Mancala (Barnes 1975). In this game, players move seeds or counters through a series of holes arranged in rows with the objective being to capture the opponent's counters by rearranging the counters in different ways. One Malukan variant is called *watu tewa*, but there must be many other names and variations. The holes can be carved into a wooden board or an immobile surface; thus Mancala boards have survived on boulders and cave surfaces, and even on pyramids (Voogt 2012). Mancala games are most widespread in Africa and Asia, but occur in Europe and the Americas as well (Voogt 2001). In many cultures, the game is associated with a funerary vigil, the spaces on the board are named

after parts of the human body, and in other ways the games' symbolism can be remarkably consistent across space (Barnes 1975: 81).

In Ujir, according to local collaborators, everyone knows the game, and it goes through phases of popularity and unpopularity; today it is played primarily by children, who will take it up in earnest for a while, only to abandon it for other games later. Shells are common game pieces today (E. Wellfelt, personal communication 2019). Although the porcelain game pieces must have been common enough in the old village to leave an impression on Bapak Jafar, archaeological searches have found only the single example mentioned in this case study. Many pieces would be necessary to play any variant of the game, and therefore one might imagine a matching set, all made in the same way. On the other hand, since Mancala involves capturing and losing pieces, it is possible that individual pieces changed owners in the course of a game, similar to the loss or capture of individual marbles, in another game still popular in Maluku. This also raises the possibility that the game piece was not used for a complicated Mancala-type game, but rather as a marker for simpler marble games, as has been documented elsewhere such as the Banda Islands (P. Lape, personal communication 2019). In any case, the labour involved in making this game piece suggests that the game had a more prominent role in Ujir's past than in the present – perhaps not surprising given the influx of new mass-market forms of entertainment to Aru.

From this game piece's biography, one can infer changes in its social significance as it moved from one owner to another, and went through a sequence of reduction from bowl to sherd to counter. These physical transformations affected its position on the spectrum from commodity to individual: perhaps it never came close to having individual status, but at least it drifted away at times from being a completely alienable commodity, and passed through different spheres of commodification, from mass-produced merchandise to a hand-modified currency specific to the Mancala game. The game piece points to something rather different than the canonical, heavily symbolic uses of porcelain in ISEA, and Aru more specifically. The game piece does not appear to take on the same level of social personhood as, for example, an heirloom urn on Sumba. However, symbolism and meaning are not completely absent from it, as the game for which it was made can take on layers of symbolism.

The porcelain of the game piece underwent physical transformations that corresponded to transformations in its social relevance and agency. It moved in space, and in so doing changed from a piece of merchandise to a possession – presumably a valued one given Ujir's limited access to trade goods, and one with the symbolic meaning common to any porcelain vessel in Aru. The events of its life as a whole vessel can only be surmised, but clearly at some point it was broken, and not useful for much. In many places, the fragment would have lost all value whatsoever, but not in Ujir. Rather, someone carefully ground its sharp edges into a smooth and regular shape, transforming it for use in a popular game. Considering the labour involved in this process, one may imagine that whoever owned the game piece valued it.

From an archaeological perspective, the life story of the game piece is somewhat discouraging. Its cultural significance might have been lost without Bapak Jafar's help. Since he first saw the game piece, Bapak Jafar has passed away; a huge loss for everyone who valued the traditions and stories of Ujir. Therefore, important aspects of the game piece's biography remain obscure: the exact meaning of the game that was played with it in the context of early twentieth century Maiabil; the piece's relationship to others that may have existed, and potentially to a board or other physical trappings of the game; and the identities of the people who used it. Was the game primarily played by children, as Bapak Jafar suggested, and as it is at present? If so, the game piece is one of the infrequent cases where children's activities are clear in the archaeological record.

On the other hand, there are encouraging aspects to the game piece's life story as well. It is a sign of the effort that Maiabil's inhabitants invested in play: a constant source of anthropological fascination. Although the overall design of its decorative pattern was lost, enough details survive to confidently assign a time period and a source. Its movement from rapidly industrializing Japan to Ujir highlights the interface between Aru and global trade networks. Finally, having been identified and tied to an intriguing aspect of Ujir's culture, it raises a question that future research has the potential to answer: how important was the game in daily life, and how popular was it? If many similar artefacts are recovered in future survey and excavation, they will tell a fascinating story. If additional pieces can likewise be sourced and dated, even imprecisely, they could also reveal temporal and trade patterns associated with the game. If a sufficient number of similar artefacts are found in secure contexts, they would provide fascinating data about the state of play in Ujir over time.

## 2. A FLAKED GLASS FRAGMENT

The artefact (Figure 3) is a curved fragment of hand-blown glass, blue-green in colour. Small air bubbles are visible within it. The fragment is 80 mm wide by 118 mm long; the thickness of the main body is roughly 8 mm. In the centre there is a raised glass lump 27 mm thick. This "button seal" originally served to close a hole left when the artefact was separated from the blowpipe used in its manufacture. The centre of the button seal has been carefully knapped with direct and indirect percussion, as well as pressure flaking, to re-open the hole it once closed. The thickness of the button seal has preserved this fragment, but the remainder of the original artefact has broken away. Based on the curvature of the surviving fragment it was spherical, and had a diameter of roughly 30 cm. The colour of the glass, the air bubbles within it, the distinctive button seal, and the fragment's shape all indicate that it was once part of a glass fishing float. Flake scars on the outer edges of the fragment suggest that it was struck repeatedly after breaking, perhaps at random, though conchoidal fractures of the type visible on the fragment usually indicate human modification.

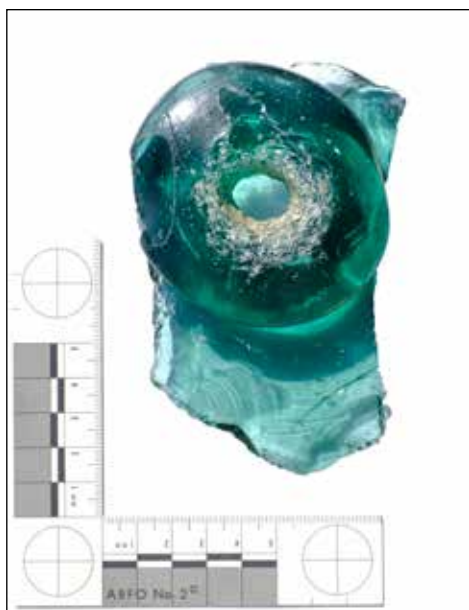


Figure 3. A modified glass fragment (courtesy of Joss Whittaker).

The fragment was found in the intertidal zone on the western beach of Pulau Ujir, a few kilometres south of the modern village, and not far from another site that showed a long history of occupation. The clear flake scars on its edges indicate that it had not spent enough time in the intertidal zone for waves and sand to weather them away; the fragment must have eroded away from its original deposit not long before it was found.

Today, glass floats are more familiar to collectors than to fishers; in the US and Europe a collectors' market has developed, with rare shapes and colours of glass float selling for hundreds or even thousands of dollars (Henderson 2008: 15). To Americans living on the Pacific coast of the United States, the glass balls drifting on the Kuroshio Current from northeast Asia, and particularly from Japan, remain the most sought-after beachcombing find, freighted with symbolic meaning. For some, the hollow glass sphere washing ashore might evoke the luck of a long journey through natural processes alone, and for others a general sense of mystery, as many people who find these floats know little about their intended use (Wood 1967).

Often, however, the glass float reflects in detail the philosophy and values of the person who describes it: one author goes in a few pages from the aforementioned sense of general mystery and serendipity to the symbolism of a glass float's uniqueness (hand-blown and imperfect), roundness (endless, and as geometrically admirable as a celestial body), its colour and translucency (similar to the water that surrounded it), and its resemblance to various mythical objects that gave their owners special insight (Grandy 1994). In another example, a piece of short fiction, the author uses a glass float as a symbol not only of the exotic, but also of the uneasy relationship between

Western tourists and the Indigenous people of New Caledonia, where the float was said to be found (Sturm 2008). In a different vein, one brief note on the anthropological potential of glass floats suggests they might serve as a proxy for other objects carried by ocean currents: studying their origins and destinations might provide a model of other cases in which technology diffused across oceans without deliberate human intervention (Laughlin 1948). A piece of creative nonfiction describes contemporary glass float manufacture: a small number still made in the traditional fashion in Japan, and projects by contemporary artists, including one who released two thousand handmade glass floats into the ocean to celebrate the turn of the millennium (Henderson 2008). Rather than accepting the decline of glass floats as a widespread technology, Henderson optimistically focuses on the few places where their production survives, and even suggests that glass may become prominent again as a float material once people turn away from plastics, which pose such a threat to ocean ecosystems.

In each case, these meditations reveal far more about their authors than they do about their subject. At the risk of falling into the same trap, I would argue that a basic theme or common denominator unites these interpretations of the floats' symbolism: connections by chance across vast distances. The glass float in this sense represents a form of globalization, a physical manifestation of human connection, whether intentional or not, mediated by large-scale environmental processes such as wind and currents. At the same time, the two ends of the float's journey are dramatically localized.

Relatively few places produced glass floats. The earliest production seems to have been in Norway in 1840, and the use of glass floats was restricted to the cod fishery there for many years. Even at this early stage, their tendency to travel long distances was remarked upon (Collins 1881; Henderson 2008: 12; Jeffreys 1871; Scott 1870). By 1910, they were being produced in Japan, and Japan grew to dominate the glass float market, at least in the Pacific, though in that region China, Korea, Russia, and India also produced some (Sathyanarayana 1960; Wood 1967). Glass floats continued in wide use until the late 1960s, when increasingly mechanized fishing techniques and cheaper, more durable plastic floats rendered them mostly obsolete. Oddly for such a ubiquitous and well-travelled class of artefact, scholars of material culture have done little systematic research on glass fishing floats. The references that exist today were written for an audience of beachcombing collectors; the resulting typologies are useful as a way to organize collections, but were not developed with anthropological questions in mind, and thus may be misleading.

The float in this case study, which would have been relatively large at 30 centimetres across, was most likely used in the pelagic longline fishery for skipjack, bonito, and larger species such as bluefin and yellowfin tuna. In a longline fishing operation, a fishing boat tows a line as many as eighty kilometres long, suspended well below the ocean's surface, and strung with hundreds or thousands of baited hooks. The line is supported by floats, which must be strong and watertight enough to resist significant water pressure

(Wood 1967: 99). In ISEA waters during the 1930s, Japanese fishers pioneered a strategy wherein as many as thirty “catcher-vessels” would operate in concert with a factory vessel or “mothership” which canned or froze their catch (Ward and Hindmarsh 2007: 502). In 1931, Japanese fishers established a base for shallow-water pole-and-line skipjack fishing in Ambon: a simpler fishing technique most useful in shallow water, and targeting immature fish. By 1941, however, Japanese companies had sent several more sophisticated deep-water longlining operations to the Banda and Molucca seas (Butcher 2004: 157-159). The Second World War disrupted Japanese longlining in Eastern Indonesia, but by 1952 it resumed on a large scale, with the fishery gradually expanding westward. In 1963, these longline operations were still using glass floats (Butcher 2004: 216-219). Despite its irregularity and hand-blown manufacture, the Ujir float fragment is thus evidence of a large-scale, industrialized, and thoroughly modern fishing process.

Because longliners using glass floats operated extensively throughout the Pacific and Indian oceans as well as in ISEA, only conjecture is possible regarding where the Ujir float left custody of its original owners, and what route it took to Aru. The most significant pattern of currents and winds around Aru itself is that of the two monsoons: coming from the southeast from roughly June to September, and from the northwest roughly December to March (Schalk 1987: 2). These monsoons set the rhythms of human life on the coasts of Aru, with movement and subsistence severely limited on whichever coast lies to windward at a given time in the cycle.

Assuming that the float was found on or near Pulau Ujir originally, it is likely to have been deposited with the latter “west season” monsoon, which brings winds and currents from the Molucca and Banda seas (Meyers et al. 1995: 1170), as the land mass of Pulau Wokam shelters Ujir from the southeast monsoon. The data on currents therefore support the idea, which the historical record suggests, that the Ujir float strayed from one of the Japanese longline fisheries operating to the northwest of Aru in the Moluccas Sea. The limited historical sources on twentieth century fishing in Aru do not show evidence of glass floats used in local fisheries (L. Giay, personal communication 2018). However, it is possible (though less likely) that the float began its independent journey much farther away.

As with the previous case study, the narrative of the glass floats up to the point of modification is relatively direct: artefactual evidence of an industrializing and expanding nation, and its entanglements with ISEA governments, resources, and markets. Unlike the previous case study, however, less ethnographic information survives about Nusantara people’s impressions upon encountering the unmodified artefact. Unlike the earliest ISEA encounters with porcelain centuries earlier, by the time the first glass float made its way to an Indonesian beach, the people there would have been familiar with glass in other forms. Certainly in Ujir, the profusion of European bottle fragments on the surface of the *kampung lama*, beginning from the eighteenth century at the latest, indicates that the material was well known.



Another sort of knowledge, with a much more ancient pedigree, are the flaking techniques used to open the float. These are the same techniques that Palaeolithic cultures used to make stone tools, carefully striking fine-textured rocks to produce cutting edges and sharp points. Glass is, in many respects, a superb material with which to use lithic reduction techniques: it is fine-textured, thus capable of producing a sharp edge, and is consistent in composition, meaning it will behave predictably when struck. This allows for the same kind of fine detail as on obsidian tools, and indeed people of many Indigenous cultures recognized the suitability of mass-produced glass for tools such as projectile points, producing beautiful examples which survive today (Harrison 2006). Indeed, porcelain sometimes received the same treatment (Akerman et al. 2002). Some Ujir residents must have maintained (or developed again) their skills in these techniques in the modern period from which the float originates, sufficiently to open a hole in it: a delicate operation, and one that involved great risk, since a stray blow could shatter the whole thing.

This is remarkable for two reasons having to do with context. First, people in Ujir have had access to metal tools for centuries; in the excavations conducted so far, metal tools appear early in Ujir's archaeological record, contemporary with or earlier than porcelain tradeware. Second, stone tools are almost completely absent from Ujir's archaeological record, and the local rock is not well suited to tool-making. Generally, lithic raw materials in Aru are both scarce and difficult to work (Hiscock 2005), and Ujir is no exception to this pattern. It is therefore surprising to see lithic reduction techniques in the twentieth century in Aru; there is otherwise no visible stone flaking tradition on Ujir, and metal tools were at least somewhat accessible.

The evidence for the technical knowledge necessary to modify the float suggests two explanations. On the one hand, the presence of stone flaking knowledge may have survived into the metal age from the Palaeolithic period which is documented elsewhere in Aru (Hiscock 2005), perhaps because it continued to serve a purpose between the time of introduction of metal tools, and the time the float was modified. On the other hand, this continuity narrative may assume a static quality to Ujir's culture that does not reflect reality. Rather, the "Palaeolithic" skills needed to pierce the glass float may have developed afresh in the modern period as a creative, *ad hoc* solution to the problem of how to modify glass. With the evidence available at present, it is difficult to evaluate these different explanations. However, further excavations in Ujir and elsewhere would shed light on which one is correct. In either case, the adaptation of the techniques used worldwide mostly for one purpose (creating sharp edges) to a very different one (creating a hole) is an example of that creativity in finding new uses for things which is so typical of Ujir culture (and Aruese culture in general): limited resources can drive innovation.

After this discussion of modification techniques, the question remains: for what was it used? As with the previous case study, an outsider looking at this laboriously pierced glass fragment is bound to be puzzled, even understanding

the float's original form and purpose. Why put a hole in a glass float? Once again, Bapak Jafar resolved the mystery. According to him, floats such as these were used to store liquids: either *minyak tanah* (kerosene or paraffin) or water. He spoke about them as if they were unremarkable, and other elders have the same attitude about them (E. Wellfelt, personal communication 2019). As with the porcelain game piece, no other examples have yet been found, but according to the oral tradition, they were once fairly common. From the more romantic Western perspectives mentioned earlier, this utilitarian function may be surprising; likewise the lack of apparent interest in the aesthetic or symbolic qualities of the glass float. On the eastern edge of the Pacific, collectors sometimes open similar holes in glass floats with power drills, but invariably this is for display. In Ujir, on the other hand, the float's most valued attribute was its ability to hold liquids.

However, other types of container were available in early modern Ujir, the most common being earthenware vessels. There is some disagreement about the source for these: some elders say that most women in the old village knew how to make earthenware pots, while others assert that the clay sources on Ujir were not suitable for making pots of good quality, and that most of Ujir's earthenware came from Batuley, in the north-eastern Aru *belakang tanah*. Indeed, at least one Batuley woman was still making earthenware pots in 2018, and before metal and plastic vessels became widely available, trade in earthenware was an important part of the Batuley economy (S. Djonler, personal communication 2018). In addition, earthenware from nearby island groups such as Banda and Kei may have been traded to Ujir, along with other parts of Aru (Ellen 2019).

Although the archaeological examples of earthenware pots in Ujir are fragmentary, the curvature of rim and body fragments suggests that earthenware vessels of a similar or larger size to the glass float were common. This raises the question of why someone on Ujir would choose to modify the glass float, when other containers were available. Apart from the risk of destroying it with an errant blow, the unmodified float would also be useful for its original purpose.

The fact of the modification suggests that the float's value as a container was still worth the effort and risk of modification, and worth giving up its utility for fishing. This suggests two linked explanations: the glass float had useful properties as a container which local earthenware did not, and floats for fishing were not in demand. For the latter claim there is little evidence either way; little is known about how fishing techniques have changed over time in Aru. The largest glass floats, such as the one from which the fragment came, were developed especially for a fishing technique (longlining) that may not have been useful to the Ujirese. For the former claim, there is more evidence. One functional property of glass springs to mind: impermeability. Although low-fired earthenware such as that produced in Aru will hold liquids, it is porous, and over time liquids will escape through its pores. It is suitable for short-term, but not long-term liquid storage. For liquids more costly than

water, an impermeable vessel would be especially important. Therefore it is significant that Bapak Jafar mentioned kerosene in connection with the float fragment. Another piece of evidence supporting this idea is a glazed stoneware jar that one Ujir woman received as an heirloom: like glass, glazed stoneware is impermeable, and this jar had been used for generations to store kerosene. Impermeable storage vessels were apparently scarce on Ujir.

Today, floats are still one of the most commonly modified and reused artefacts on Ujir, though now they are made of black plastic. These hollow spheres, roughly half a metre in diameter, are cheap and durable, and a common feature of Ujir's coastal seascape. Thousands support the nets of the pearl and fish aquaculture operations on eastern Ujir, and neighbouring Pulau Wasir to the west, and they are ubiquitous on other islands in Eastern Indonesia as well. Occasionally one will break loose from its mooring, and float out to the strait of Samang to the south. Some wash up on beaches, along with the profusion of other plastic debris; usually these are damaged, suggesting they were deliberately thrown away. Most families have one or two sawn halves of a plastic float near the kitchen area behind their house, a convenient vessel for washing dishes or laundry, and for carrying water. The technique for turning a plastic float into a vessel is much less delicate, and because of Ujir's modern trade in lumber, power tools to simplify the process further are now close at hand. While the materials and techniques have changed, there is thus a striking continuity of use between the modified floats of past and present.

The archaeological implications of the modified glass float are diverse. Perhaps the most interesting of these is the survival of lithic flaking techniques in Ujir long after metal tools were available, and their adaptation to a very particular task, namely knapping holes in glass floats. Although no other similar work on glass has been found on Pulau Ujir, the float raises the possibility that knowledge of the techniques used on it survived for other purposes as well. If this is not the case, the techniques' survival (or perhaps re-discovery) for one purpose only is also remarkable. The uniqueness of this artefact is surprising given Bapak Jafar's comment on their former ubiquity; surface surveys and excavations in 2015 and 2018 did not uncover other glass float fragments, either modified or unmodified.

The biography of the float ends less happily than does the biography of the game piece: while the game piece was protected from breakage somewhat by its small size, the modified float like most large vessels was broken. In fact, the survival of its most diagnostic part is extraordinarily lucky: an ordinary body fragment would still show attributes distinctive to glass floats, but would not display the transformative modification in the button seal. The absence of other float fragments is itself remarkable, and raises the possibility that they were used for some other utilitarian purpose.

Some of the ambiguities that remain in the float's biography suggest avenues for further study. In addition to the basic need for more examples of the same artefact type, more clarity is needed on the artefact's source.

Historical and oceanographic sources may hint at the float's route to Ujir, but only as a conjecture. In this case study I have implied that the float was part of a Japanese fishing operation, and came from Japan. However, glass floats have been produced in other places, and other nations sent fishing fleets to Eastern Indonesia. Floats are often identifiable by markings stamped on their button seals, and Wood (1967) has compiled a list of many, with some translations of Japanese script and details about their origins. However, the Ujir float fragment does not retain any markings, if it ever had them. Sourcing the Ujir float would therefore be difficult, but not impossible: one potential method is to analyse its elemental composition using X-ray fluorescence or another non-destructive method, and compare the results with analyses of floats from known sources. Variations and similarities in trace elements might allow the determination of a source. Other examples from Ujir, if found later, could also be compared. There are potential pitfalls involved in this strategy: the glass used in the manufacture of floats was often recycled from various sources, and so even within the same workshop it may not have been consistent in composition from day to day. The practical limitations of X-ray fluorescence may also make such a study impractical (Johnson 2014). That said, I offer the suggestion as a point of departure, or as raw material to refine into a more practical investigation.

#### DISCUSSION AND CONCLUSION

These two case studies share some lessons in common. One is a practical lesson on the assumptions archaeologists make as they investigate scarce materials in remote locations. The imperative to make the most of a material which is difficult to acquire may render that material invisible to archaeologists later on. To take a contemporary example, an entire class of artefact, plastic jugs for cooking oil, will be difficult to detect on Ujir because their size and shape makes them especially suitable for transformation into buckets. Once the buckets break, if a significant part of the former oil jug survives, it may well be transformed into something different, and the sequence of reduction and reuse may continue until the last few pieces are used to start a fire. This phenomenon may explain the relative scarcity of porcelain tradeware fragments in Ujir's archaeological record: the porcelain fragments in archaeological context are usually small and isolated. Although one would expect to find a few fragments of the same vessel sharing a context, this is rarely the case. One possible explanation is intensive modification and reuse. Another explanation, equally likely and not mutually exclusive to the previous one, is that even in times when porcelain tradeware was relatively common, it had enough symbolic significance to merit curation – kept away from damage as much as possible, and usually disposed of only in symbolic contexts.

Another lesson from both artefacts is on the anthropological value of individual things. Making inferences from a single artefact is risky, yet it can often provide a starting point, raising questions that lead to more robust research. The object biography investigative framework is especially well-

suiting to developing such questions from a single object, provided that enough contextual information is available. Both artefacts in this study have pointed the way to new angles of research. At the same time, stepping beyond the individual things is necessary if one wants to make broader inferences about the society of which they were a part. For example, one could interpret the techniques used to modify the glass float as a survival of Palaeolithic traditions, or as innovation and the re-development of a skill which may have been abandoned for centuries. The former interpretation carries with it some troubling ideological baggage, as it assumes a static and unchanging set of cultural traits in a way similar to the assumptions of colonial archaeologists of the past (Bloembergen and Eickhoff 2015: 152-153). On the other hand, assuming discontinuity in cultural practice can be equally fraught (Silliman 2009).

Although the investigation into each thing was self-contained, the results converged in ways which connect Ujir to broader historical trends. The result that both artefacts most likely originated in Japan, and at roughly the same time period, was unexpected: although glass floats are strongly associated with Japan, the porcelain fragment could have originated in many other places. Here the size of the sample should still inspire caution against making broad inferences, yet each thing's biography independently connects Ujir, at one or more degrees of separation, to the expansion of Japanese trade and fishing into Island Southeast Asia. In both cases the evidence does not rule out local or regional intermediaries, both human and non-human: the porcelain bowl may have exchanged hands several times before it arrived in Ujir, and the fishing float may have drifted for years before it landed on the island.

The fact that each artefact was paid such close attention, as is visible through its modification, proves a literally tangible connection between the expansion of Japanese commerce and changing life in Aru. Each thing played its role in the social network that spreads material, energy, wealth, and even ideas from one place to another and back. Thus although the float/container or bowl/game piece do not send a dramatic signal of agency, their agency is still visible. Likewise, each thing is able to serve as a guide to the routes it travelled, to the people it encountered, and to tell a story about its own changes along the way.

The improbable shared origin of both artefacts serves also as a striking reminder of the technological, economic, and social changes that took place in East Indonesia during the late nineteenth and early twentieth centuries, which might be labelled capitalist, globalizing, expansionist, supermodern, Anthropocene, or all these, for they are not mutually exclusive. One virtue of mass-produced objects is the ease with which they can be identified, dated, and sourced; this initial data on production and trade can serve as a rich background for an object biography, as mass-produced things are modified for new purposes.

At the same time, the early products of industrial and commercial expansion arriving in Ujir foreshadowed a trend of ever-increasing mass-production and consumption which is now straining Aru's ecosystems. The

same beaches on Pulau Ujir that once collected the glass floats and porcelain fragments are now a resting place for a vast amount of plastic debris, mostly single-use items such as water bottles and cups. While, following their tradition of creative reuse, people in Ujir still modify some of the debris for new purposes, their volume far exceeds what can be reused. A few people seeking to restore the beauty of the beach have begun burning the greatest concentrations of plastic, but more arrives with each high tide. Therefore, although material scarcity is still a theme of daily life on Ujir, people there must now also contend with a particularly supermodern form of material *excess* which their ancestors would not have recognized.

Placing a thing in social context, and drawing out elements of its “life,” one can thus arrive at a remarkably varied and rich understanding of the worlds through which it travelled. This includes the human context. Although things cannot usually say much without knowledge of the contexts through which it travelled, once one has a few clues about those contexts, the thing has a unique power to serve as a guide, telling the story of where it went, and of the people it encountered along the way.

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