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<title>Models as cross-cultural design

<sub-title>Ethnographic ship models at the National Maritime Museum

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Throughout history people all over the world have made three-dimensional, small-scale models of their own and others' material culture. The miniature format can seem easily comprehensible, yet as selective interpretations of reality, models hide complex choices of design and ideology. This article traces the history of the non-European ship model collection in the care of the National Maritime Museum, London. It finds in a single collection of miniature watercraft a nexus for many narratives, highlighting the values and multiple significances that have been invested in these models and others like them, both at the point of their production and during their 'lives' in Western collections. In doing so, it investigates the role that non-European models have played in an institution dedicated to 'British' national identity and, more broadly, considers the functions, effects and limitations of modelling, both in terms of cross-cultural design practice and museum display.

IN 2012, Yinka Shonibare's enchanting *Nelson's Ship in a Bottle* was installed at the entrance to the Samy Ofer Wing of the National Maritime Museum (NMM) at Greenwich (Fig. 1). Much of the popular artwork's enigmatic status derives from Shonibare's experiments with ideas of the miniature and the gigantic: the artist presents Admiral Horatio Nelson's flagship, HMS *Victory*, as a small-scale model – a 1:30 replica – yet it still dwarfs expectations and its surroundings while the bottle that protects it is also gargantuan compared to the more traditional bottled ships sold in shops across Greenwich. Of course, *Nelson's Ship in a Bottle* also draws on Shonibare's signature trope, substituting the traditional fabric of the original ship's sails with colourful 'African' textiles. The unexpected fabric is an ambivalent and culturally complex medium that outwardly represents postcolonial identity within West Africa and its diaspora but is also imbued with an entangled political and economic history. Originating in Indonesia, the batik technique was industrialized by Dutch colonizers and British textile manufacturers in the nineteenth century before being exported to the lucrative West African market under convoluted power relations. In its use of the fabric, the ship model highlights the hybrid and transnational characteristics that Shonibare suggests have always informed maritime histories, European design and 'British' identity.¹

Yet, despite the prominence and popularity of this particular ship model, there are other, less well-known models of watercraft in the permanent collection of the NMM that also reference non-European cultures. Just like Shonibare's *Ship in a Bottle*, these other objects are also highly complex in their conceptual and physical formation, and act to complicate our understanding of maritime histories, European design and 'British' identity in similar ways. Alongside the NMM's extensive holdings

of European and North American miniature ship models is a collection of 220 ‘ethnographic models’ of watercraft that represent the modelling traditions and water-based activities of the non-Western world.² Small-scale ceremonial vessels from Burma, miniature outriggers from Sri Lanka and model passenger vessels from the Pacific are just some of the diverse range of non-European models housed by the NMM. Yet the celebrated status and prominence of Shonibare’s artwork stands in contrast with the understudied nature of this larger collection of boat models and the complex status that these objects have had within the NMM since the institution’s inception.

In much popular commentary on the miniature, there has often been an assumption that the small-scale model is a format easily understood.³ Yet despite their deceptively simple nature, as James Griesemer has intimated, models are ‘promiscuous’ – they can take many different forms and can be deployed for many different purposes.⁴ All models, whether intellectual or three-dimensional, ‘do more than simply ‘stand for’ something else’; their reductive form does not equate to a reduction in significance.⁵ Indeed, because they are interpretative and selective reconstructions of their referents, analysis of the modifications, choices and omissions exercised in the development of modelled forms can reveal much about the thought processes and perspectives of the individuals and societies that produced, commissioned or collected them.

There are models of non-European watercraft (and of many other aspects of material culture) in virtually all museums, yet they have an ambivalent position amongst curators and audiences. Some institutions employ them as easily displayable, literal indicators of the kinds of full-scale material cultures used in the past and in the present day; others regard them with suspicion, or find them difficult to interpret,

relegating them to the realm of similarly undervalued and complex object categories such as ‘tourist art’ or ‘fakes’. Yet their ubiquity and significance demand more: this article aims to explore and theorize the aesthetic, cultural and political importance of ethnographic models. It traces the history of the ethnographic ship model collection at the NMM and then examines the ways in which specific models have been used by both the collectors that contributed to the NMM’s holdings and by the museum itself at various points during its history. The article finds in a single collection of miniature watercraft a nexus for many narratives, highlighting the values and multiple significances that have been invested in the NMM’s objects and others like them amongst makers and users both at the point of their production and during their ‘lives’ in Western collections. In doing so, it aims to investigate the role that ethnographic models have played in an institution dedicated to ‘British’ national identity and, more broadly, to consider the functions, effects and limitations of modelling, both in terms of cross-cultural design practice and museum display.

Much maligned models: ethnographic watercraft at the NMM

Although the NMM was established only in 1934, the core of the institution’s ship model holdings derives from a much earlier collection formed by the Lords of the Admiralty, largely for the use of professional and trainee naval architects.⁶

Established by Sir Robert Seppings, Joint Surveyor of the Navy between 1813 and 1832, and developed by his successor Sir William Symonds, the model collection was originally housed in a semi-public museum in the Navy Board office at Somerset House in the Strand, London. Here, contemporary and historical models of Royal Naval ships and other British and European vessels dominated the collection, but a

small selection of models representing watercraft beyond that used by industrializing, northern European societies was also included. A catalogue of 1848 identified the presence of ‘Chinese Models, &c.’, or more specifically, eighteen small-scale examples of Chinese boats, junks and rafts, two Burmese war boats, a ‘North American canoe’, and a ‘Flying Prow of the Ladrone Islands; presented by Sir A. Johnson’.⁷ Elsewhere, interspersed in cases described as including ‘Models of Boats in general’, the surfboats of Madras, a series of Spanish fishing boats and market boats from Ceylon were represented. Where identified, the donors were naval figures who had acquired these objects during their own postings overseas, or through family connections.

By 1864 the collection had outgrown its allotted space at Somerset House and was moved to the newly established School of Naval Architecture based at the South Kensington Museum. Catalogues of the collection were published in 1865 and 1869, and the disparate objects once displayed at Somerset House were regrouped to form a single entity described as ‘Class III: Models of Boats and Vessels used for Fighting and other Purposes at various Periods in Foreign Countries.’⁸ The forty-five objects placed in this class were impressed with a new coherence and emphasis as their ‘foreign’ status became their defining common link. Less explicitly, most of the models were of watercraft from communities understood at the time to have been unaffected by the processes of modernization. In 1873, the Admiralty collection was moved again, this time to the new Royal Naval College and its museum at Greenwich. In this new home, the collection of non-European ship models grew slightly, buoyed by the arrival of six Japanese warships presented in 1910 as a token of the Japanese government’s ‘sincerity and gratefulness’ for the treatment afforded to a group of their naval constructors and engineers who had recently studied at the Royal Naval

College,⁹ and a loan of 'Foreign Boats' in 1876 from barrister and part-time inventor John Coryton.

As the Admiralty models navigated their way through the various display and interpretation methods associated with their different institutional homes, their identities changed in subtle ways. Two new catalogues were produced for the models during their sojourn at the Royal Naval College in 1876 and 1913: on the whole, the brief descriptions of each model changed little, but in specific cases the biographies of individual objects were lost as catalogue entries were reduced and standardized. Following its transfer to the Royal Naval College Museum in 1876, for example, a war boat 'from Rangoon' (AAE0013), once richly identified as having been 'Presented to Sir Robert Seppings by his son, resident in India', became a simple 'Burmese war-boat'.¹⁰ The institutional identities of the disparate models were also cemented through a series of physical alterations carried out by museum staff: during their time at South Kensington and the Royal Naval College, most of the models were affixed to standardized wooden baseboards and marked with class and object numbers. Many were also coated with an homogenizing red varnish and still others appear to have been entirely repainted: the Burmese war canoe donated by Seppings and his son, for example, was transformed from a rich golden colour (still visible where the object's surface has since been damaged) to a less opulent white, reapplied several times.

As debates about the viability and location of a British museum dedicated to maritime history gathered steam in the early twentieth century,¹¹ the ethnographic models came closer to their current institutional home. Eventually, in a spurt of competitive nationalism and amid the desire to celebrate Britain's 'glorious Maritime history', the National Maritime Museum was brought into being in 1934.¹² Within this framework, British ship models, seen as 'historical documents in three

dimensions', had a crucial role to play in championing 'the historic side of those activities of mankind where British ships have gained renown in commerce, exploration and battle.'¹³

The role of the 'foreign' boat models within this institutional milieu, however, was more complex. At this time, the NMM was in discussions with the Science Museum over the proper division of the nation's collection of ship models.¹⁴ The NMM proposed that the illustration of technical construction and 'scientific evolution' should be the business of the Science Museum, whereas if a particular model required 'for [its] elucidation the services of the antiquary and historian', then it properly belonged in Greenwich.¹⁵ The NMM Trustees' aim in these negotiations was to obtain the Science Museum's important models of historic Royal Navy ships for the Greenwich collection;¹⁶ one aspect of the NMM's own collection deemed suitable for exchange was the 'Models of Primitive and non-European craft' inherited by the new museum from the Royal Naval College.¹⁷ In a memorandum discussing this issue, the NMM's Trustees asserted that while visitors to both museums were likely to be 'interested in the evolution of the ocean-liner of today from the raft or dug-out of primitive man', the Science Museum with its technical emphasis was 'more fitted to illustrate this process'.¹⁸ While this proposed exchange never came to pass, during this episode the social and economic histories of the NMM's individual ethnographic models were further expunged: implicitly, for the NMM Trustees, such objects were simply evidence of technical specification or scientific 'type'.

Ultimately, in an institution which, until the late 1960s at least, displayed a chronological history of 'Britain's greatest years of maritime commerce, shipbuilding and naval power',¹⁹ there was little concern with the accumulation and display of non-British watercraft. Officially, the museum's embrace included 'the maritime history,

archaeology and art of other nations in so far as they contribute[d] to the proper understanding of British maritime development'.²⁰ In practice, donations of non-European watercraft were unsolicited and arrived sporadically, and the non-European ship models were not displayed. Gifts received during the royal tours of HM Queen Elizabeth II and HRH Prince Philip, Duke of Edinburgh, were regularly deposited on long-term loan to the NMM, but somewhat ironically given the proposed exchange detailed above, the most significant single accession of non-European boat models came from the Science Museum as part of a larger collection transfer between the two institutions in 1958.

Indeed, it was not until the arrival of Basil Greenhill as the museum's director in 1967 that ethnographic ship models received any serious attention at the NMM. Greenhill's previous professional experience in the Foreign Office, as well as his scholarly interest in non-British boatbuilding traditions, lent a certain international flavour to his tenure. Significantly, he also established the Archaeological Research Centre (ARC) in 1971. Led by maritime archaeologist Seán McGrail, the ARC and its staff largely focused on British boat and ship development before 1500, but within this framework the ethnographic ship models gained new prominence: the non-European and 'traditional' northern-European model objects were transferred from the Department of Ships to the ARC in 1979, a dedicated Curator of Ethnography was appointed to care for them in 1981, and the collection gained a significant place in the museum's 'Development of the Boat' scheme. This scheme, led by Greenhill and drawing on historic and global examples, aimed to trace the evolution of boatbuilding over time; it was disseminated through an exhibit featured in the museum's Neptune Hall between 1972 and 1996, and in Greenhill's companion book, *The Archaeology of the Boat*, published in 1976 and revised in 1995. Although ethnographic research was

valued on its own merits during this time and this period in the institution's history signalled a temporary transfer from national maritime history to a focus on 'all aspects of man's encounters with the sea',²¹ one of the main roles of non-European watercraft within the remit of the ARC was to provide evidence of long-term global boat building practices which could be used to shed light on ancient construction techniques in northern Europe.²² Within this framework, the ethnographic ship model collection's 'traditional' characteristics rather than its previously emphasized 'foreign' nature became a priority.

Greenhill's retirement in 1983, and the closure of the ARC in 1986 as Government funding to the museum and other nationals was significantly reduced, heralded yet another new stage in the NMM's engagement with its ethnographic ship models. For a while, the NMM's collecting policies asserted that the acquisition of ethnographic boat models was 'no longer justifiable in the light of the Museum's mission to promote an understanding of Britain and the sea'.²³ A series of collection reviews across the 1990s and early 2000s highlighted some 'treasures' amongst the models, but identified others, particularly those deemed technically inaccurate, or physical duplicates of others in the collection, as candidates for disposal in a climate of reduced funding and severe storage limitations.²⁴ Yet despite these judgements, few disposals were ever made, and while the renewed emphasis of the 1990s on British maritime history remains to this day, even by 2005 the definition of 'British' history had broadened to be more inclusive of other cultures: today, in line with a new academic climate which emphasizes the impact of the 'periphery' on the 'metropole' and understands the ways in which modernity was formed beyond Europe, non-British material has come to take its place in an institution explicit in its aim to 'avoid narrow nationalism in research and display, and place collections/developments

within a wider cultural context.²⁵ As postcolonial approaches have shaped the research interests of staff at the NMM, and international programmes of exchange and collaboration are pursued, the collection of ethnographic ship models has become increasingly valued, with a number of objects acting as central exhibits in the new ‘Traders: the East India Company and Asia’ gallery which was inaugurated in 2011.

Yet despite this recent history, the NMM’s ethnographic models of watercraft have largely been bestowed with an ambivalence that has tempered their interpretation and display. Not only has the ethnographic collection been devalued in a hierarchy which prizes British material culture and technological advancement, but the non-European ship models have also been judged according to a somewhat Eurocentric emphasis on technical precision in miniaturization. In 1930, for example, Geoffrey Callender, Professor of History at the Royal Naval College and soon-to-be director of the fledgling NMM, had already drawn a distinction between (British) models of ‘meticulous accuracy’ and their ‘poor relation’, namely ‘the ship model without an ascertainable scale’.²⁶ Yet while Callender understood the decorative, ‘inaccurate’ British sailor’s models he was describing to ‘have a distinction and character all of their own’,²⁷ the same honours have rarely been bestowed on the museum’s miniature objects from the rest of the world. Even before the NMM’s inauguration, the Royal Naval College’s collections were criticized for their inclusion of ‘curios’ brought back by seafarers;²⁸ more recently, in the various collection reviews undertaken in the 1990s and 2000s, ethnographic models, particularly those made for the tourist market, have been recommended for disposal on the grounds of inaccuracy.²⁹ A collection of model Maltese fishing boats made for export, brightly painted, emblazoned with ‘MALTA’ on their baseboards, and decorated with disproportionately large model fish (e.g. AAE0098, Fig. 2), have been particularly

maligned. Even acquisition policies formulated by the specialist Curator for Ethnography in the 1980s acknowledged that any model could have a 'unique value' in its 'own right' (and thus be of benefit to the institution), but aimed first to collect models if 'they are known to be accurate representations of full size craft'.³⁰

The ship model collection at the NMM does include a small number of objects which transgress these boundaries: some models feature human figures, for example, but these are rare compared to those in other major ethnographic collections across the UK. In other departments of the museum, there are miniature boats that have been evaluated within alternative parameters, prized instead for their links with British maritime heroism or their aesthetic qualities. However, in the majority of cases, despite the Trustees' claims at the museum's founding to an antiquarian rather than 'scientific' emphasis, the historic value of the non-European ship models at the NMM as objects in their own right has been subsumed in favour of an institutional discourse which identifies and evaluates them as tools with which to understand the physical forms of their referents.

This rejection of the 'inaccurate' and 'touristic' has the potential to exclude important evidence of human interactions in the maritime world: as we shall see, such objects can shed light on collecting, trade and knowledge transfer as central aspects of maritime travel. Yet there are a number of potential reasons for this historical omission. As noted, the ship models collection was originally envisioned as a training collection for students of naval architecture. The potential of these objects as accurate, three-dimensional ship plans has been highly prized since the earliest days of the collection's assembly, and the more recent pre-eminence afforded to accuracy in the ethnographic models could be seen as a legacy of this history. Furthermore, under the auspices of the ARC, there was also a strand of research which imagined ethnographic

boat models as a suitable form through which to record those ‘traditional’ cultures ‘being rendered obsolete’ by the forces of modernity and globalization.³¹ within this ‘salvage ethnography’ framework, objects which did not provide evidence of pre-modern boat building practices (but rather highlighted the impact of tourism or Western influences in manufacture) were of little value. Linked to this is the influence of the NMM’s foundations in honouring *British* dynamism and modernity at sea: emphasis on the economic prowess of other cultures – through discussions of their dynamic boat building techniques, and the production of ‘tourist art’ by enterprising business people, for example – had the potential to undermine a celebration of this national history.

More subtly, the NMM’s approach to models has tended to be closely linked to the ways in which other three-dimensional models (in architecture, for example) have been used as mechanisms of measurement and definition with which to counter ambiguity, imprecision and complexity.³² As will be explored below, in their portability, tactility, and capacity to offer comparative viewing, models at the NMM have often been used as tools to facilitate intellectual control over an unruly world. In contrast, the giant Maltese fish and human figures featured in some of the NMM’s more decorative models stray dangerously close to stimulating the imagination and moving beyond scientific measurement. Such features blatantly rupture potential for precision and technical insight and thus it could be that they sit uncomfortably in a context which has consistently found satisfaction in the potential for models to prove scientific theories and indicate neat chronological narratives.

Of course, all institutions have specific missions and rationales, and these necessarily temper the endless possibilities of museum acquisition and interpretation. In any case, more recently, the NMM has begun to embrace the potential of all its ship

models and their capacity to shed light on some of the major themes of maritime history. But in an attempt to highlight further the potential of ethnographic models in research, acquisition and display, the following section will examine some of the individual stories of production and collection behind specific models in the NMM's holdings, emphasizing such objects as a valuable resource for investigating cross-cultural encounters.

Making and commissioning models for the NMM

Three-dimensional small-scale models have been made all over the world throughout history. There appears to be a universal appeal in the miniature, derived in part from common connotations of preciousness, artistic mastery, and visual and physical control.³³ Yet 'the model' is a complex category that can describe many forms and serve many purposes; reproduction and miniaturization are culturally relative acts and have broad-ranging implications in different societies.³⁴ The ethnographic models contained in Western museum collections are also diverse: they have derived from indigenous model-making traditions, variously used for play, instruction and ritual; they have emerged from histories of encounter, sometimes as the spontaneous product of cross-cultural exchange and in other cases as unique commissions, specifically requested by outsiders. 'Home-made' models, made by a European collector or curator, are also common. Once made, models are invested with broad-ranging significances: due in part, perhaps, to their particular mobility, or their ability to stimulate the imagination, models are easily re-interpreted over time by those with different and multiple agendas.³⁵ Accordingly, despite physical similarities between such objects, comparable models are rarely 'duplicates'.

The histories of the models in the collection of the NMM are particularly rich. Examples of most of the ‘types’ of models identified above are represented, although, largely due to the nature of the collecting patterns fostered by the NMM compared to other museums, there are fewer objects made specifically for indigenous use and more models commissioned by collectors and curators. Notably, where indigenous use is known to have been the major catalyst for production, the NMM’s models have often been produced for consumption in cross-cultural gift-giving practices. A model donated to the museum by Neville Stacy-Marks RN (AAE0178), was made in 1923 by a canoe builder at Entebbe on Lake Victoria in Uganda and remembered forty-five years later by the recipient as an unprompted offering to commemorate a new friendship: as Stacy-Marks explained for the museum’s benefit, ‘This model was made for me . . . by an old Fundi (craftsman) who was engaged in building a canoe. Daily as I passed on my way to my ship . . . I used to stop and have yarn about the progress . . . when the craft was completed he asked me to come to the launch which was duly performed with the usual ceremony, a white cock being sacrificed and the blood sprinkled upon the keel, stem and stern posts. After the launch he presented me with this model.’³⁶ In a different context, the model Japanese warships donated to the Admiralty in 1910 would also have been envisioned within culturally specific frameworks of gift exchange, related perhaps to the way in which gift-giving in Japan is used to secure advantage and honour status, and to cement relations between individuals.

In a number of cases, objects likely to have been made for a broader export trade have been personalized through the addition of labels which act to reframe the original objects as commemorative gifts. A Noah’s Ark made in Pakistan and on loan to the NMM from HM Queen Elizabeth II (AAE0031), for example, has a silver plaque

engraved with 'HRH Prince Andrew' attached to its baseboard, honouring the Queen's son; elsewhere, a model Sri Lankan outrigger canoe (AAE0021), also a royal loan, has been promoted to the status of a gift through a handwritten label that reads 'A Happy Birthday to HRH the Duke of Cornwall and every loyal wish 14th Nov 55 from Miss Ida Moonemalle Goonewardene THE OLD PLACE KURUNEGALA CEYLON, TEL 229'.

Perhaps one of the most significant components of the NMM's ethnographic ship model collection is the number of objects commissioned by watercraft enthusiasts whilst abroad. Travellers have often identified miniatures and models as practical solutions to the desire to transport evidence of 'out there' back home. Many donors to the NMM, often in the Royal Navy, had a passion for watercraft that extended beyond the ships on which they served, and found small-scale versions of the boats they encountered during their careers abroad particularly appropriate mementos of their life experiences. The portability and affordability of the model was clearly a central requirement, but the particular physicality of the model also seems to have lent itself to the demands of the souvenir. One of the most demonstrative examples of the model as souvenir in the collection at the NMM is the miniature Maldivian *kuda-dhoni* or fishing boat once owned by Lieutenant-Colonel Robert Wingfield (AAE0032). The model seems to have been made for Wingfield during his service with the corps of Royal Electrical and Mechanical Engineers in the Maldives in 1943; figures 3 and 4, included in Wingfield's papers (also held at the NMM), give an indication of the intimate and enduring relationship that the collector had with his model. Miniatures have long been identified as having a particular value in the realm of souvenir goods: the model, so often made meaningful in terms of scale and skill by the hand that cradles it, or the human body that contextualizes it, is easily subject to

physical control, and thus adds a particular potency to the wider role of the souvenir in domesticating, internalizing or making manageable external, intangible and ‘other’ experiences.³⁷ In the case of the Wingfield photographs, the reverse is also true: the small-scale nature of the model boat and Wingfield’s physical command of it as he clasps the object (Fig. 3) or stands over it (Fig. 4), emphasizes the officer’s body, reinforcing his size and presence at two career-defining moments, first in the Maldives, and more generally, in the British Armed Forces. The use of the model in both images thus adds to the already striking use of photography to acknowledge and document the relationship between Wingfield and his life experiences. Further, while Fig. 3 draws on classic tropes of tourist photography to demonstrate a mastery over the natural environment, the addition of the man-made model also highlights Wingfield’s human interactions whilst abroad, emphasizing his connection with at least one Maldivian craftsman beyond the photographic frame.

With other models in the care of the NMM, it has often been the private research-interests of individuals that have led to the production of specific objects. Salvage ethnography projects, for example, where samples of ‘traditional’ material culture, assumed to be free from outsider influence, are collected and preserved to counter the apparent corruption of cultural purity under foreign influence, have been a key motivating factor behind the commissioning of a number of models. For example, Lieutenant-Commander David Watkin Waters, nautical scholar and, later, Deputy Director of the NMM, commissioned a series of Chinese junk models in the context of his concern that Chinese junks were ‘nowadays . . . fast disappearing’.³⁸ Elsewhere, another object donated by Neville Stacy-Marks – a model *dau la mtepe* from Kenya – was billed as the ultimate evidence of a dying technology: as Stacy-Marks explained,

the model ‘was made for me at Lamu by the last surviving builder of these craft and who died within a few weeks of completing it’.³⁹

Other collectors and donors seem to have recognized the distinctive qualities of models that have been emphasized in more recent scholarship on miniaturization: just as Susan Stewart has stressed the capacity of the miniature to collapse relations of time and space, and Christopher Evans has stressed the ways in which their reduction of scale allows us to ‘gain perspective and achieve a ‘bigger view’’,⁴⁰ former naval officer Lieutenant-Commander J. H. Craine found the miniature form to be a particularly apt way of ‘illustrating the development in a century’ of Irish curragh building. In the 1950s he commissioned three models of Donegal rowing boats, typical of watercraft from 1840, 1885 and 1936 respectively, and, despite having drawn on oral histories and disparate referents sourced in the National Museum of Ireland and in various locations across County Donegal itself, through the models he was able to bring together this diverse material in a single visual frame: as he identified in correspondence with the museum, ‘The interesting point is that they cover a period of 100 years.’⁴¹

The ‘home-made’ model is also represented in the Greenwich collection: in-house and consultant model makers were employed by the museum and its predecessor institutions throughout the period under scrutiny, while the distinct scale, style and craftsmanship of a number of the Chinese junks once displayed at Somerset House may indicate that they were produced by the model makers of the Admiralty. One of the objects transferred from the Science Museum in 1958 – a crude model of an Inuit *umiak* (AAE0126) – was made specifically for the museum by a Mr White, a European trader based in Nain, Labrador.⁴² Clearly, then, the ethnographic model

collection at the NMM has had a range of demands made upon it and the manufacture and collecting of specific objects have been determined by a range of motivations.

In the burgeoning scholarship on models and miniaturization, miniatures have often been aligned with a desire for completion, power and control.⁴³ As suggested above, this use of the miniature has regularly been incorporated into the complex relationships that donors to the NMM have had with their objects: Wingfield, Craine, and Stacy-Marks all seem to have imagined their models as tools with which to categorize wider realities, be these of their own life experiences, the changing nature of boat manufacture in Ireland, or a ‘dying’ craft in Kenya. Within this, in the literature on making models in cross-cultural contact situations especially, the themes of power and identity have often dominated. For ‘home-made’ objects, such models tend to be imbued with a sense that the intellectual copyright of the originating community is being compromised, and that a mastery of indigenous knowledge equates to a mastery of the society under scrutiny.⁴⁴ The making of models by indigenous craftspeople for an external souvenir trade has often been viewed within a framework that critiques indigenous makers for prioritizing both economics over ‘authenticity’ and aesthetics over use value, while also berating the ‘corrupt’, ‘hegemonic’ requirements of the West for stimulating this ‘false’ market.⁴⁵

Arguably, with a number of the models at the NMM, this broader framework of power and control can be applied. The majority of models, for instance, eschew the culturally specific usage of their referents, both on a practical and cosmological level: the miniature Sri Lankan outrigger canoes in the collection (e.g. AAE0034 and AAE0035), for example, are too small to accommodate the strands of coconut fibre that would ordinarily seal and make watertight full-scale dugouts and their extended gunwales. Similarly, White’s *umiak* is also too poorly constructed to float and cannot

possibly act as the ‘material nucleus’ of Inuit social organization in the way that its referent or other indigenous-made models may have done.⁴⁶ Indeed, these models appear valid only in the context of their visual, decorative value; apparently unusable, they become the aesthetic façade prized in Western, modernist material hierarchies, and, as Stewart has identified elsewhere, their corporal and cultural significance is at risk of being ‘emptied and replaced by both display value and the symbolic system of the [Western] consumer.’⁴⁷

Perhaps one of the clearest, best-documented examples of the hegemonic process of model making in the NMM collection is that of the junk and sampan models commissioned by David Waters in China. During a period of convalescence at the British naval station in Wei Hai Wei (Weihai) in 1938, Waters spent several months meticulously documenting the watercraft of the region and then commissioning a group of Chinese carpenters to produce two models of an Antung junk, a small-scale Pechili trader, six models of Wei Hai Wei sampans, and a model Foochow trader. Most of these objects eventually came to the NMM, and, while some were commissioned on behalf of his senior officer, Commander Richard Oliver-Bellasis, it was Waters who secured the use of the area’s Roman Catholic mission as a workshop, supervised local craftspeople in the making of the models, and transported the finished objects (including those belonging to Oliver-Bellasis) to the NMM. Waters’ description of the commissioning process, contained in his papers at the museum, provides an interesting insight into the power dynamics of the models’ production worth quoting at length:

[In 1938] I was fortunate enough to find myself at Wei Hai Wei with the leisure in which to re-examine in detail several Antung junks (besides others) lying there. I had by then too succeeded in training up a team of model makers. Originally they were simple carpenters. They

were – save for one – in their ‘teens. Their English was almost as limited as my Chinese – I speak not a word – but by sign language, the dexterous use of pencil and paper, and an inflexible insistence upon accuracy of scale and detail – at first, to their infinite disgust, involving the destruction of perhaps days of misguided labour – they became most skilful and rapid model makers . . . From dawn to dusk they worked outside. Far into the night, by the dubious light of glimmering tapers, they laboured indoors . . . The keenness, patience and unfailing good humour of the carpenters were wonderful. They had it is true the incentive of gain to spur them on in their efforts. But it was small. As a Lieutenant I could not afford to pay them much. The bargaining that accompanied the acceptance of each tender was long and hard. The entertainment it gave was mutual. I always knew when I was winning for one day I would come in to find work beginning on the next model . . . [W]ith genuine regret I was forced one day to say goodbye, and the ship sailed for Hong Kong, and home towards the lowering backcloth of the Munich crisis . . .

The models have all survived the war. I often wonder whether the model makers have . . . Tung-ya and his merry men – ever willing, ever cheerful, and so amazingly skilful . . .⁴⁸

Notwithstanding the sincere respect and affection that Waters clearly felt for the Chinese craftsmen, a classic Orientalist discourse creeps into this description of the model-making process. The trope of the childlike Oriental (‘merry men . . . ever willing, ever cheerful’) can be identified, and this is fundamentally a story about a heroic British man who arrives at Wei Hai Wei with an ‘inflexible insistence’ and the ‘dexterous use of pencil and paper’ to battle against the ‘misguided labour’ of the Chinese and their perceived cultural incapacity for accuracy and measurement. It is Waters’s perseverance and dedication that finally allows him to instil the group of ‘simple carpenters’ with a design ethos that he approves of and elevate them to ‘skilful and rapid model makers’. Implicit in Waters’s description is the understanding that true model makers labour under the stipulations of an imported design history informed by accuracy and scale.

Indeed, throughout much of the rhetoric surrounding models commissioned by other similar collectors in China at this time, there is a complex tension between the need for ship models to be made by a Chinese hand in order to be suitably authentic, yet closely supervised and based on technical specifications dictated by a Western naval authority in order to be valid. The writings of Charles Worcester, a river inspector with the Chinese Maritime Customs in the first half of the twentieth century and donor to London's Science Museum, for example, have a similar tone to those penned by Waters: Worcester asserted that Chinese model makers 'have in no way kept even approximately to scale or bothered to be accurate in detail' and argued that those with whom he collaborated 'had to be provided with cardboard patterns of the various structural portions of the junk from which to shape their wooden copies.'⁴⁹ Within this context, the Waters models (as well as those once owned Worcester) can be seen as emblems of European control, allowing their collector(s) to exercise power and order over the body of the non-European craftsman and his intellect.

Yet this view of the cross-cultural model making process requires a more nuanced investigation. Despite the strict criteria that Western collectors and model enthusiasts applied to certain orders, any commission is a process of dialog based on extensive exchange of information between commissioner and artist which necessarily draws upon plural design histories. As Waters recognized, the skill inherent in his Chinese models was at least partially rooted in the technique and experience of Tung-ya and his team. Beyond this, they would also have been drawing on a series of culturally specific approaches to miniaturization and the production of goods for export in order to inform their practice. Miniaturization has a long lineage in Chinese art and design history and by the time that Waters, Worcester and others were commissioning their objects, a vigorous tourist trade in model watercraft was

already well established: in 1925, Ivon Donnelly, another naval enthusiast and donor of Chinese model watercraft to the NMM was able to produce a commercial booklet outlining the various types of models that were available to purchase from the purveyor Arts & Crafts Ltd in Shanghai.⁵⁰ The cities of Ningpo (Ningbo), Hankow (Hankou) and Ichang (Yichang) were also known as hubs for ship and boat model making: an article published in 1938 in *Asia: Journal of the American Asiatic Association* described the half-dozen shops in Ichang dedicated to ship model building and highlighted the large number of itinerant traders who made and sold models around the city.⁵¹ The models were often informed by Chinese perceptions of their prospective clients' cultural and design preferences and, despite the plain nature of the full-size junks made for indigenous use at Ichang, decorated with imported paints.⁵² Yet ship models were not only understood in the context of export: Worcester describes how the model he had commissioned at Fouchou (Fuzhou) in 1937 was subject to a traditional inauguration ceremony by its makers, where it was 'carried in state – on the head of a coolie' and daubed with the feathers and blood of a freshly killed cockerel.⁵³ As far back as the fifteenth century, a carpenter's manual described the practice of secreting a model boat in the eaves of a new house as a means of bringing riches to the family inside.⁵⁴ Inevitably, then, the carpenters in Waters's employment were drawing on their own understanding of miniaturization and modelling in their work for him; Waters's specific stipulations may have battled against some of these indigenous conceptions of the model, but they would not have erased entirely this long and rich history.

It was not just the Chinese objects at the NMM that were formed through this melding of design histories. Ruth Phillips has highlighted a similar phenomenon in relation to the nineteenth-century souvenir trade in North America, emphasizing how

objects such as the birchbark canoes made for trade in the NMM's collection continued to make sense within indigenous signifying systems even while they incorporated the artistic conventions of the outsider.⁵⁵ Likewise, the manufacture of the NMM's model of the Royal Navy's warship the *Cornwallis* (1813) was supervised by the Parsi Master Builder of the Bombay Dockyard, Jamsetjee Bomanji, and the model was apparently made alongside the referent by his son. Building from Indian teak, employing the indigenous joinery technique of rabbeting over the European method of caulking to create a watertight hull, and applying lime treatments to discourage wood-boring worms, David Arnold describes the ships built in such dockyards as a 'successful marriage of Indian carpentry with European design.'⁵⁶

Indeed, nearly all the commissioned models and souvenir wares in the NMM's collection (and to be sure, those in collections beyond that institution) can be seen as drawing on a complex configuration of cross-cultural negotiation: in all commissions, the commissioners – through their specific creative and practical stipulations – impose their own assumptions on the process about what constitutes the culture depicted, and the craftsmen and women – through their responsive design – physically and conceptually tailor their product to the perceived requests of the outsider. Indeed, it could be argued that the specific negotiations and extensive exchanges of information required in commissioning models, as well as the concentrated, highly selective nature of the miniature, make these objects particularly potent examples of material culture for shedding light on cross-cultural encounters. In the many Chinese junk models at the NMM, for example, we see a series of European suppositions about and expectations of Chinese culture and design; a range of Chinese assumptions about the demands of the export market and the nature of tourist consumption; the Chinese workers' interpretations of their clients' wishes, and a process through which long

heritages of miniaturization in both Chinese and European society are adapted to the new social and economic demands of cross-cultural entanglement.

Yet ethnographic models do not simply shed light on human relations; they shape human encounters too. Through modelling processes we generate ideas; in making and using the material world we construct and comprehend our social selves.⁵⁷ The demands of mental patience and physical discipline inherent in the production of miniatures train and affect the craftspeople's body and mind.⁵⁸ Anita Herle, in her study of model commissioning during the 1898 Cambridge Anthropological Expedition to the Torres Strait, highlights how anthropologist A. C. Haddon's requests for models caused the indigenous peoples who produced them to revisit historic cultural practices and reframe their understanding of community customs and knowledge.⁵⁹ Similar phenomena occurred with the production of the Chinese junk models also: as Waters described, the carpenters' techniques changed during the manufacturing process, and the relationship between Chinese model maker and European commissioner changed over time, as (from Waters's perspective at least) 'infinite disgust' was replaced by 'keenness, patience and unfailing good humour'. For the Europeans involved, the making of the models also acted as an affective material mode of providing stability and stasis in a highly changeable and challenging political situation: for Worcester, the Maze collection physically represented 'the old China, the China that has gone for ever',⁶⁰ and where Waters could not say whether his Chinese colleagues had survived the war, the models – largely due to their portability – were tangible evidence of their one-time existence.

Displaying models at the NMM

A significant body of work has engaged with the exhibiting of non-European material cultures in European museums, but little scholarship has focused on the display of models in this context. If the commissioning and collecting of ethnographic models is a complex phenomenon, the same can be said of their display in Western institutions. Both historically and more recently, museums have tended to draw on popular (and scholarly) conceptions of models as the tools of educators and instructors, or as embodying a ‘visual directness’ that can be appreciated, according to some, without ‘disciplinary initiation.’⁶¹ Owing in part to the practical considerations of gallery design, ship models are used in this capacity at the NMM today. Miniature Chinese, Japanese and Indian boats, for example, are employed as convenient, attractive exhibits suitable for the introductory room of the ‘Traders: the East India Company and Asia’ galleries. In the display, the wording of the text labels assumes an obvious link between model and referent, with a diminutive Madras surfboat contextualized with the imprecise statement that ‘Boats *like this* were used for fishing or to carry cargoes around the coasts of India’ (emphasis added).

Yet the use of models in museums is not straightforward. There are significant physical and cognitive processes that are required in order for visitors and museum professionals to be able to ‘make sense’ of small-scale objects. The difficulties of conveying an appreciation of scale have provided a particular challenge at the NMM: Greenhill’s use of a half-size model of a canoe from Vanuatu alongside full-size craft in the museum’s ‘Development of the Boat’ exhibition, for example, has been seen by his successors as an uncomfortable combination, presumably due to the potential of such a juxtaposition to mislead.⁶² Esoteric mathematical indications of ratio, lengthy text labels emphasizing the size of the model relative to its referent through evocative descriptions, and physical markers of size – often bordering on the kitsch – have all

been used at the NMM, while in other situations, as with the ‘Traders’ gallery described above, the selection and scaling incorporated into the model as a representative form is simply evaded.

Yet despite these difficulties, in their specific materiality, models have garnered a particular popularity in museums and lent themselves to certain display paradigms. Ruth Phillips has described the ‘playability’ of miniatures, emphasizing their ‘potential for manipulation in space’ and capacity to ‘make manifest shifting regimes of order’.⁶³ Miniatures have often been described as having ‘the advantage of a synthetic vision’, promoting a panoptical gaze from a position of comfort and control.⁶⁴ Arguably, it is this malleability, portability and potential for visual coherence that has promoted the regular use of the NMM’s ship models in comparative and sequential display schemes. Since the foundation of the ship model collection, the NMM’s European models have been used to create various linear series: the Navy Board models were arranged in South Kensington in 1865, for example, according to each model’s gun capacity or ‘rate’, specifically in order to enable ‘the student to estimate the progress made in shipbuilding in this country from time to time’.⁶⁵ At the newly opened NMM, models were incorporated into most galleries and described as informing ‘the chronological story of British maritime development and history . . . from the close of the Napoleonic wars to the present day’.⁶⁶

Despite their limited history of display at the NMM, the ethnographic models have also been used in this sequential capacity. In the ‘Development of the Boat’ display and in its accompanying publications, models were centrally employed in a scheme which sought to identify and trace the evolution of the raft, the skin boat, the bark boat and the dugout as the four main roots of boatbuilding. Drawing a trajectory from ancient times to the present day, with a final focus on north-west European and

British boats, the display began with ship models from China, Egypt and Bronze Age Britain as representative objects from ‘the oldest civilisations about whose boats we know many details’.⁶⁷ Well aware of the difficulties of comparing ‘boats built for different purposes of different materials in different circumstances’,⁶⁸ in both the exhibition and the book Greenhill nevertheless employed an ethnoarchaeological technique of juxtaposing examples from diverse spatial and temporal locations to trace physical similarities between the watercraft of widely differing countries and time periods. Models seem to have been particularly useful in this project: perhaps because of their three-dimensional emphasis on physical, aesthetic replication and their focus on the external, surface features of large-scale objects,⁶⁹ and possibly because of the way in which their condensed, selective nature promotes the smoothing out of the complications, variations and nuances of their (real or imagined) referents, the models in the ‘Development of the Boat’ project acted as ideal ‘types’ through which to (re)organize a complicated, disordered reality. Despite considering the complications of using models as archaeological evidence at length in the *Archaeology of the Boat*,⁷⁰ in practice, Greenhill used the NMM’s models as straightforward examples of the objects they were built to represent. Single models demonstrated broad-ranging subjects: the ‘palmiped hull shape’ of the museum’s model Formosan (Taiwanese) raft was described as ‘characteristic of all Chinese craft’, while the display of one of Waters’s model sampans provided the means through which to provide a generic description of the coastal craft of northern China.⁷¹ In Greenhill’s book, as Fig. 5 highlights, black-and-white photographs further contributed to the visual and conceptual reduction of full-scale watercraft: in a juxtaposition of a model of a Sri Lankan outrigger canoe and a model canoe from British Columbia, variations of scale and colour and the details of makers’ marks

were eliminated, promoting a neat, convenient visual comparison. In the accompanying text comparing the construction techniques and physical features of the vessels,⁷² the broader social and cultural significances of canoes in Sri Lanka and North America, and indeed of modelling and miniaturization in these places more generally, were left unobserved. Models and miniatures have often been employed in creating the illusion of completeness; as John Mack has argued, the presentation of multiple miniatures in a single space often masks the ‘selective pastiche’ and ‘hyper-reality’ that similarly combined life-size objects would create.⁷³ At the NMM, in the ‘Development of the Boat’ project, Greenhill drew on this potential in models and eschewed much of the objects’ conceptual potential as a means of testing a very specific, albeit thought-provoking, theoretical model based on technics and aesthetics. In the process, as is so often the case in collections and displays, the highly divergent histories of the objects were left largely unobserved, and specific (in this case the physical) traits of the models were prized.

Conclusions

At the NMM, ethnographic models have been variously subject to hierarchies of nationalism, modernity, technical accuracy versus aesthetic, economic and social significance, and practicality in display and storage. For the producers, collectors and donors of such objects, models have been employed in various culturally specific scenarios to commemorate and control lives, relationships, space and time. Yet what do these insights offer us into how broader collections of ethnographic models might be engaged with, displayed and interpreted in museums today? Certainly, the power of the three-dimensional miniature to evoke the muscular and sensory capabilities of

audiences (even where touch is prohibited) should not be underestimated. Models clearly are enigmatic, appealing objects for those of all ages: where the museum so often flattens its three-dimensional holdings through the prominence of the protective glass vitrine, models are inescapably substantial, tactile objects that have the potential to connote the 'real world' in fascinating ways. Indeed, despite the critique put forward here, models do often have an evocative link to their referents, and they can be easier to decode than drawings or photographs, as long as we understand and communicate the complications of these benefits. Yet ultimately it is the complex design histories of ethnographic models themselves that can provide fascinating insights into maritime, imperial and other cross-cultural encounters. It is here that a largely unexploited level of interpretation for museum audiences and academics alike lies.

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