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UNIVERSITY MUSEUMS AND COLLECTIONS **JOURNAL** ◀



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Each paper reflects the author's view.



The Pontifical and Royal University of Santo Tomas was founded in 1611 and is the oldest institution of higher learning in Asia. This artefact, a silver bell, engraved with what was then the Seal of the University and the date 1684, was traditionally used during oral examinations to signal the end of the session. The Chair of the Tribunal rang this bell, after which the vote for the candidate for a Baccalaureate or Doctoral degree was cast by the 3-member panel of examiners. This bell is a very important part of the beginnings of the history of the University of Santo Tomas.

Dimensions: Height 12.5 cm - Diameter 7.0 cm

Rethinking university museums: Bridging theory and practice

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Enticing and engaging the Millennial audience: A case study

Jessica Brunecky

Millennials have different views on institutions, cultural participation, and engagement with museums than previous generations of museum-goers. They are also the largest demographic group currently on university campuses. However, university museums and cultural institutions may see the community outside of campus as their primary audience, paradoxically ignoring the millennials on campus. The University of Colorado's Art Museum and Museum of Natural History have taken different approaches in their efforts to engage the student body, shaping their efforts to entice this audience.

Overview

Millennials are a distinct and significant audience group for university museums. This paper provides insights university museums can utilize from the growing body of research regarding millennials, their unique behaviors of cultural consumption, and the common misgivings that may keep them from engaging with museums. Discussion will include two examples of how public museums have pioneered programming for millennials and what university museums can learn from their efforts. This paper will include an exploration of how museums at the University of Colorado Boulder have adapted their approach to programming to better reflect this audience's shifts in cultural consumption to illustrate potential ways forward for other university museums. A final section includes viable future possibilities and notes on preparing for Generation Z (born after 2000).

Millennials as an Audience

Millennials, born 1981-the early 2000s, represent the vast majority of students on university campuses today. This group seeks access to expert-level content but distrust institutional authority. They prefer omnivorous cultural participation, and they desire to engage in co-creation and meaning making. Recent studies reveal that millennials are distancing themselves from traditional social institutions (PEW RESEARCH INSTITUTE 2014). Similarly, participation in organized religion and partisan politics is declining, and many in this generation cite a distrust of large, looming, and what they consider outdated institutions (*ibid*). Museums must ensure that they cast themselves in a new light to avoid inadvertently becoming victims of this distrust of institutions, resulting in declining participation and future support.

Today's audiences consume high culture, such as museum-going, and popular culture, such as stadium concerts, indiscriminately; essentially they participate in "omnivorous cultural consumption" (PETERSON & ROSSMAN 2008). Cultural institutions must reconsider the role we play for this audience. While this shift puts museums in direct competition with popular cultural consumption, it can also be an opportunity to distinguish our cultural offerings from other such leisure activities, through highlighting our strengths.

Beyond the shifts in cultural consumption, university museum professionals must also consider the misgivings millennials have about museums that will keep them from engaging with cultural institutions now and in the future. Mason and McCarthy's 2006 study, presents their finding that millennials associate museums with formal, didactic learning. Museums often engage in a formal didactic presentation of one-way informational flow from expert to novice. This is seen in traditional tombstone object labels and especially with traditional expert lectures. The association with formal learning may keep millennials from valuing museums as a viable option for their leisure time activities. Furthermore, this formal style of informational flow no longer matches the experience of millennials in higher education, as many professors and classrooms promote collaborative learning models in the 21st century university experience.

Why we care

Typical museums audiences are declining. And at the same time, the millennial generation is larger than any previous generation in many countries around the world. They also have higher levels of education, make more money than previous generations at their age, and are delaying marriage and childrearing, which combine to make them significant supporters for arts and culture as they age. But museums have to engage them now. This generation is eager to advocate for causes (BRESMAN 2015.) As such, they will become cultural leaders, advocates for arts and culture if organizations successfully engage them at this stage in their lives.

Life-long relationships take effort. University museums have an opportunity to reach scores of millennials, fulfilling not only our own missions but aiding to create life-long museum lovers and cultural advocates. This gets to the crux of the often-problematic paradox of university museums, as discussed by Shapiro et al in their 2012 report for the University of Chicago. In following the lead of public museums, many university museums look beyond campus for their audience, serving families, lifelong learners, and donors, while often neglecting the students just outside our door. However, with changing times museums must adapt. Unfortunately, government support for museums is in decline in many countries (HINZ, et al 2013). Museums will need to adapt, and increasingly look to individuals not only for advocacy but also for fiscal support. With the sheer size of the millennial generation, in addition to their earning potential, this group will be where cultural organizations look for support and advocacy in the coming years.

Programming for Millennials

Large public museums have been at the forefront of developing programs for this audience group. Two prime examples are the "Night Life" weekly programs at the California Academy of Sciences (<http://www.calacademy.org/nightlife>) and the "Untitled" monthly programs at the Denver Art

Museum (<http://denverartmuseum.org/untitled-final-fridays>). Since the launch of these ‘museum after hours’ programs in the mid 2000’s, numerous museums have also developed similar programs that all have the following similarities:

- occur outside of the 9-5 workday, allowing millennials to attend after they are finished with school or work;
- successfully create a casual and social atmosphere which may include live music from the local music scene or a well-known local dj;
- feature hands on creative activities, allowing attendees to explore informal learning through the act of making;
- promote a social atmosphere by featuring a bar, sometimes even boasting a signature cocktail for the event.

These events cultivate a sense that attending is similar to a night out; but the key is that they also provide educational content. A night out at a museum is set apart from other leisure activities by the museum’s collections, its exhibitions, and its curators. These events utilize unique themes, which change for each event, capitalizing on the specializations of curators, their professional research, and their personal excitement for content. Millennials want to hear from experts and curators, but they do not want a formal lecture. These events provide access to curators in an informal and social setting, giving millennials an opportunity to speak with experts in a way that feels similar to a night out with friends, and also to learn from experts through casual conversations and short informal talks. This same casual and conversational atmosphere aids in humanizing the museum; putting a face and a name on to the institution, making museums relatable on a personal level.

Cultural organizations also know that certain types of events and programs do not work in engaging millennials (BRUNECKY 2010). For example, formal lectures prove too similar to university classes. Few students are eager to attending formal lectures in their leisure time unless their professors assign it, which unfortunately results in perpetuating the misgivings millennials already have about museums as discussed above. Similarly, traditional docent tours presenting one way informational flow don’t draw upon millennials’ desire for co-creation and meaning making. Also, timing is important when programming for this audience – midday programs may clash with their work and school schedules.

University of Colorado Boulder

The University of Colorado is a tier-one research university, home to five Nobel Laureates in fields including physics and chemistry. As a result, it has a heavy emphasis on traditional STEM fields: science, technology, engineering and math. The University has a 30,000+ student body and four different museums on campus. The University of Colorado is also an alcohol-free campus, and as such cannot rely on a cash bar or signature cocktails to create a casual and social space for the millennial audience.

The Museum of Natural History

The University of Colorado’s Museum of Natural History was formed in 1902 and has been located in its current building since 1937. The museum collection spans paleontology, biology, botany and anthropology and includes 4.5 million objects that are housed in three buildings. In 2008, the museum initiated a de-installation and redesign for the Hall of Biology that had remained static for nearly 45 years. The resulting project, known as the BioLounge, was developed to better engage the millennial student audience in non-traditional, non-linear, and casual ways, informed by the increasing body of research on this audience. The Director of the Museum, J. Patrick Kociolek, explained the initial concept for this shift, which went through rounds of review with museum staff before implementation:

“(students) would be invited to sit down, have a beverage, chat with friends, or check their email/social media interactions. Then, they might look at the exhibits. There is no overall “story” or message put forth in the exhibits. In fact, the ways visitors approached and interacted with the objects and displays allowed them to make their own meaning. In some ways, this would be an anti-exhibition.” (KOCIOLEK 2015)

In addition to changing the way visitors approach exhibitions, the Museum of Natural History also changed the way they produced exhibitions – allowing anyone on staff, curator or not, to present ideas for exhibitions. They accepted ideas from graduate student assistants and undergraduate interns, creating exhibitions *by* millennials *for* millennials. This radical shift in exhibition programming has garnered exciting results with the millennial (student) audience:

“In the first two years of being open, (...), the average number of CU student visits jumped from the preceding three-year average of 2,674 to 8,603 per year in 2009 (...) and by 2012 annual attendance to the museum by CU students had reached 15,710. (...) The success of the BioLounge was evidenced not only in numbers, but also at times like graduation, when students would bring family

members to see the place they spent many hours of their time during the school year." (KOCIOLEK 2015)

The Museum of Natural History continues to seek ways to improve on this model of 'anti-exhibition', recently employing CU students to work as ambassadors in the space. The ambassadors create dialogue with visitors, namely peers within this millennial audience group, to gather information on how the museum could serve them better. They have already provided key insights that the museum has applied back into their efforts.

The Art Museum

The University of Colorado Art Museum was formed as a teaching collection in 1939. For part of its history, the Art Museum was housed in the Museum of Natural History, showing its collection in one of its exhibition halls, now devoted to paleontology. The current Art Museum building opened in 2010 and features five exhibition galleries and a collection study center dedicated to direct object based study for faculty and students. The 8,000 objects in the collection span over 10,000 years of human history and represent cultures from across the globe. The Art Museum had previously been a study of the quintessential white cube: the galleries featured mostly contemporary art accompanied by traditional tombstone labels, without interpretation or context. The exhibition spaces, with polished poured concrete floors and crisp white walls, felt somewhat clinical and very formal. There was little effort on student programming or engagement.

In 2014 the Art Museum began a shift towards a focus on students as our primary audience. Through audience surveys the art museum learned that in order to entice and engage students our institution needed to become a more informal, casual-feeling space where students could linger rather than briefly pass through. The art museum began promoting opportunities for students to engage with the museum more actively through hands on and physical activities, rather than solely promoting passive contemplation and didactic lectures. Museum staff also reached out across campus, to the student government, to student clubs, and to various offices that serve students to explore partnerships for programs with the Museum.

The Art Museum initiated a collaboration with the University's Counseling and Psychological Services department to organize free weekly meditation sessions in the Museum's galleries, which occur every Friday during the midday break from classes. Working with a student group, the Art Museum also hosts bi-weekly figure drawing sessions for non-majors in our education room after-hours, the timing was specifically chosen to accommodate students in their leisure time. As with the BioLounge at the Museum of Natural History, the Art Museum has seen an increase in repeat visits by those who come to the museum for meditation or figure drawing, outside of the scheduled sessions, to walk through our exhibitions during their leisure time (data collected through informal evaluations).

What next?

Building on different successes reaching out to students, and taking in to consideration the omnivorous nature of millennials, the cultural institutions on the University of Colorado's campus have begun conversations regarding ways to increase all of our visibility through joint programming and collaborative exhibitions that would entice a broad student audience on our STEM heavy campus. The university museums are interested in creating progressive events that will stop at each of our institutions for a brief hands-on activity, casual expert talk, or interactive performance. The most exciting opportunities are centered on a common theme that allows each of our institutions to interpret that theme to best highlight our collections and strengths. For example, our campus is well known for research on space, whether exploration, technologies or initiatives. Campus cultural institutions are currently working on a campus-wide series of exhibitions and events to celebrate the University's role as a pioneer in space-research.

Another possible theme is Shakespeare's legacy, sparked by the announcement that in 2016 the University of Colorado Boulder will host a copy of the First Folio from Washington D.C.'s Folger Shakespeare Library. The Art Museum is exploring references to plants, animals, decorative objects, geographical locations, and celestial locations in Shakespeare's plays, and is collaborating with the Museum of Natural History, but also the campus planetarium, the library's special collections department, and the academic departments of English, History, and Theatre & Dance. By combining efforts, campus cultural institutions expect to raise visibility with students and capitalize on the University's marketing and communications department to spread the word on campus and off.

The Museums at the University of Colorado are also keenly following both sociological and market research on the next generation that is just beginning to enter college, called Generation Z. This generation, born after 1997, is filled with true 'digital natives.' From early on, this generation has been immersed in the bounty of the information age, learning both abstract ideas and concrete tasks alike from online sources like Google and YouTube. Early research is showing that this genera-

tion is ambitious, independent, and eager to leave a mark on the world in ways that differ from millennials or previous generations (JENSEN 2015). They are eager to improve the lives of others and are choosing to get involved in philanthropy at early ages, raising money and awareness for causes in which they believe (LEVITT 2015). They are interested in showing support for organizations by volunteering as well. Perhaps most notably, research is showing that this generation, despite being digital natives, prefer in person communications with friends. This trend alone presents an opportunity for museums to cater not only to millennials but also Generation Z by creating casual, social spaces for visitors to explore creative activities, meaning making, and informal learning from experts and curators. By making changes to entice and engage millennials, university museums will be making their museums more desirable to Generation Z as well, aiding to create cultural advocates for the future.

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Keywords

Millennials - Generation Z - Audience Engagement

UMAC – TFT²: A UMAC TASKFORCE FOR TEACHING TOOLS

Dominick Verschelde & Dominique Adriaens

Abstract

Most university collections started out as didactic teaching collections. They house a range of didactic objects, physical models, posters, epidiascope plates... which nowadays mainly are of historical interest. We want to focus on ways in which collection objects can still be used in contemporary workshops, practical courses, and e-learning.

We propose that a UMAC task force develop a strategy, and vision with guidelines, and procedures for an international exchange of collections-based educational tools. An international open source platform can be initiated and university collections can submit their tools to make them accessible to everyone interested. The resource will also be of great interest to those researching the history of education.

Introduction

As research laboratories only formally entered the university in the second half of the 19th century, most of our older collections started out as didactic teaching collections (e.g. Oxford University Museum of Natural History, the Smithsonian Institution, the Zoology Collection and the Comparative Anatomy Collection of the Ghent University...). Hence, any and all objects in such collections are to be regarded as teaching tools. Moreover, many of these collections house a range of didactic teaching tools, such as physical models (Friedrich Ziegler (1797-1880), Louis Thomas Jérôme Auzoux (1797-1880), Paul Osterloh (1850-1929), Beauchêne...), posters, educational wall charts, epidiascope plates, etc. In contemporary teaching, these objects mainly have a historical value, but an important value nevertheless. In this paper, we look at the possible ways of reviving these objects and tools in contemporary teachings.



Fig.1

Model of medicinal leech.

Teaching tools

What are they, and what is their use? As already stated, every object in the Zoology collection of the Ghent University Museum (GUM) was collected, dissected, and prepared for educational purposes. To this day students still get lectures within the collection, and come to study their zoology, morphology, and anatomy syllabus in the museum, in order to have the 'examples' at hand. Over the years, many morphological and anatomical preparations were made purely to illustrate the ex-cathedra lessons, and to demonstrate detailed structures that otherwise can be difficult to fathom from a two-dimensional figure (e.g. *Aristotle's lantern, tooth apparatus of an urchin; prepared by Félix Auguste Joseph Plateau (1841-1911)*). In addition to the objects and anatomical preparations, the collection houses a range of actual didactical teaching tools, such as physical models (Ziegler (HOPWOOD 2002), Auzoux (MAERKER 2008), Osterloh, Beauchêne (SPINNER & AL. 2011)...), posters, educational wall charts, epidiascope plates. Many of these tools have become collectable items themselves, even as far as becoming historically important showpieces, while some of them can still be used, be it in an adjusted form, for educational purposes. This is the case for many collections of the Ghent University. One model of the GUM (fig.2) has recently been recognized as official showpiece by the Flemish government which means that the object now falls under the protection of that government and that funding can be requested for restoration of the object. Educational wall charts were either purchased from known and skilled manufacturers, or locally produced to closely fit the needs or demands of lecturers and professors. Models give a tridimensional and scaled (from smaller, sometimes working, models of big machines, to enlarged models of morphological structures) view of actual structures or theoretical concepts. As the importance of one piece or another, and what is still available of any of these tools, is not easily recognized, it is becoming increasingly important to get an overview of what is present in which collection.

So, we need to catalogue these historic tools, and the objects that are being used for recent workshops, and lectures, together with the script of such workshops and lectures. Moreover, objects are not only used in workshops or lectures, but also in research. In the Zoology collection, two different subjects for bachelor dissertations are presented annually: first subject is on science communication (researching and writing the script for a temporary exhibition), the second is on a morphometric analysis of skulls or postcranial skeleton parts of mammals, during which students need to identify the bones of an entire skeleton, and perform a morphometric analysis of the skulls or postcranial bones of different species. In addition many University Natural History Collections house voucher – and type collections, which have to be made public and accessible to researchers all over the world. Scientific journals are starting to demand that researchers make their research data and materials accessible to the scientific community, before accepting manuscripts for publication (*cf. <http://datadryad.org/>*).

This is becoming part of the working environment for many University museums and collections. The time is right to act. We need to know what we have, what 'old' tools still exist, which are of his-

torical value, but moreover what contemporary uses we can find for them, without everyone needing to reinvent the wheel. Not only is the need high, but so are the opportunities! This enormous potential, lurking in University collections all over the world, can be given a new dimension through modern multimedia and digital tools. As this is as a major undertaking, we need to start a taskforce that is able to set standards and invite contributions.

**Fig.2**

Antonio Chichi, Cork model of the Pantheon, Archeology collection,
18th c.

UMAC taskforce – TFT²

The future of teaching tools? As stated above, a large amount of information on scientific and teaching tools, objects, and scripts resides in our University collections. Cataloguing and unlocking this information and potential is not only an important, but also an enormous task that can only succeed in the hands of a group of dedicated people. A teaching tools taskforce should be formed to work out UMAC compliant guidelines and strategic vision that will facilitate work in the future. Aspects that need proper attention and a consensus among taskforce members include mission statement, format, guidelines, stakeholders, databases, procedures, etc. Once this has been established, an open source platform can be developed in which collections can, through UMAC, submit their tools and scientific data to make them globally accessible. Although, to keep it within the comfort zone, we propose to begin cataloguing these tools within Natural History Collections, a few of the taskforce members should come from other disciplines, including the history of education, in order to ensure a broad enough and objective discussion concerning mission statement, format, guidelines, stakeholders, databases, and procedures. The taskforce will have an important job to streamline the information surrounding all tools, and making them available digitally through the world-wide-web. Ultimately the aim is to freely exchange and use each other's teaching tool ideas, ideally by referring to the collection and/or person(s) which/who worked out the original concept. Any University collection can benefit by extending their portfolio of presented workshops to a public of potential future scientists. The taskforce can shape all workshop ideas and objects in a uniform format, including suggestions what objects can be used within a certain workshop. Thanks to new media, meetings and discussions among participants can occur electronically. When the UMAC board decides on a format for and the mission of this taskforce, we can start inviting group members. As such a resource could furthermore be of considerable interest to those researching the history of education, it could result in being viewed as having both a teaching and research application. Therefore attracting members from that field already at this time could also be desirable.

Workshops and tools in the Ghent University Museum, Zoology Collection

As a pilot for this task force, we would primarily like to focus on Natural History Collections. As a first step, all texts, manuals and worksheets of workshops of the GUM - Zoology Collection are translated into English, and will be made available for colleagues on demand. In this paper we give a short summary of our most popular classes or workshops. Any UMAC member can ask for the entire scripts of the workshops.

Board games: Ecology Pursuit and Pond life. Ages 7 to 14. This educational board game consists of two parts. A series of about 400 multiple choice questions concerning, zoology, ecology, migrations, the environment, and conservation, is used to let the participants go further on the ecological board game which in itself is different for each pawn, and holds an abundance of useful information. As each pawn progresses, it becomes clear that the game is different for each participant.

Concerning Senses. For the ages of 7-12. This is a workshop on the importance of observations in view of the scientific method and critical reasoning. We demonstrate the limitations of our sight, have the children recognize animal sounds, use bones and furs for a tactile exercise, and to demonstrate that observations are best done with multiple senses, we have the children taste foods without clear structure while blindfolded and with their nose closed. This demonstrates that tasting is not just a matter of the taste buds, but includes our sight, sense of smell (most important, why else do we say of a meal: 'it smells good' or can't we enjoy it when having a blocked nose because of a cold?), the tactile capability of our tongue, and only as a last a question of the taste buds. We 'sense' food on a daily basis (using different senses), rather than merely tasting it (chemoreception).

through taste buds and nose). Science too, needs objective observations, based on as many different measurements and senses as possible, a lot of controls, and a critical mind to think things over. The scientific method is not only essential to science, but can be helpful in our daily life.

Evolution@work. Ages 14-19. In this workshop we look at the three most frequently asked questions about the theory of evolution of Darwin. 1. Can species evolve and diversify into new species (divergent evolution)? 2. Can different species adapt to a given niche type, and evolve to look alike (convergent evolution also produces new species)? 3. Can we witness evolution at work? To answer the first question, the students need to recognize and localize four bones of the skull of different mammals: horse, pig, goat, sheep, different dog skulls (a brachycephalic series), cat (including a brachycephalic one), raccoon and different seal skulls, Hyrax – elephant – manatee, Hippopotamus and different dolphin and whale skulls. This is an exercise in recognizing homology, a prime concept of evolution. They need to localize the nasal bones, frontal bones, praemaxillae and maxillae. In these they can see a reoccurring trend of shortening nasal and frontal bones (shifting the nose opening back- and upwards), while the praemaxilla and maxilla lengthen to retain the snout, and hence the teeth. For the second part, students need to find animals of different vertebrate groups that have a similar habitat, and derive their niche or 'living address' from that shape. Different examples are: similar habitats found in fish, reptiles, and mammals (pelagic shark, Ichthyosaur, dolphin; niche: open water); in Eurasian insectivores (*Lipotyphla*) and rodents (mole and mole rat; niche: underground tunnel system); and two different in marsupials and carnivores (Tasmanian Tiger vs. Wolf, as predator in open fields; Tasmanian Devil vs. marten or weasel, as predator of denser undergrowth and bushes). For the third question, students need to look at possible evolutionary transitions between having standard legs, over short legs to being legless. This can be witnessed in amphibians (can be seen looking at representatives of the three families Salamandridae, Plethodontidae, and Caeciliidae), and at least in two separate families (within the Scincidae, and within the Anguidae) of reptiles.

Life in the pond. Ages 10-18. Students take samples of pond water in the Botanical Garden, and then try to identify and study the found creatures under microscope with the help of determination keys. This is an exercise that is usable for any age just by adapting the keys used: for young children we use pictorial keys, for older children or even university students we use increasingly more detailed and difficult determination keys.

Parasites. Ages 14-19. Parasites, not just as 'wicked villains', but as interesting and very smart creatures. This is a lesson about parasitism and parasites, for which we go through the entire collection to look at, and discuss specimens.

Characters and evolution of vertebrates. Ages 16-20. Here we look at the characters which evolved, and changed towards and through the different vertebrate groups. All characters and transitions are demonstrated using the skeletons of the collection.

Things can get really interesting when ways are found to integrate workshop or class ideas over different disciplines. We have a workshop on 'energy flow' of which exercises are presented by three of our GUM collections. It is a matter of finding the right connections, and finding a feasible subject or theme that can combine such a range of different collections. As an example, we discuss the Guinea worm (*Dracunculus medinensis*): Zoology will teach you it is a nematode which lives as a parasite subcutaneously in the legs of humans, and discuss its lifecycle; Medicine will talk about the extraction method and how this leads to the Aesculapius sign, the symbol of medicine; Ethnography, History, Literature or yet another discipline will show you that this parasite is even talked about in the Christian Bible (OLD TESTAMENT, 21), etc. In this way an object or collection can be viewed from different angles and disciplines. Many subject can be used and adapted for the use in different collections. An UMAC Taskforce of Teaching Tools could greatly facilitate these cross-disciplinary opportunities.

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Keywords

Teaching Tools – Natural History Collections

THE UNIVERSITY MUSEUM BEYOND TEACHING

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Abstract

University Museums are diverse in the types of materials they collect, and often differ from other public or national museums in agenda and objectives. They often primarily support the teaching functions of the learning institution they belong to, administered as teaching or administrative departments of their respective educational departments, rather than be considered professional museological institutions. While there might be challenges in proposing museological principals across the sector due to the wide range and purposes of materials collected, how they are used, and differences in resources available to each museum, as university museums increase in prominence and success, it is perhaps timely to consider the maturity of university museum practices and encourage best practice particularly among younger university museums.

Introduction

In 2014, the author had the opportunity to attend a gathering of Asian university museums, and it was really inspiring to see the exciting work carried out by different University Museums. However some of the topics presented raised pertinent questions about the applicability of certain professional museological principles within the university museum context. This paper, presented on the occasion of the UMAC Conference held in Manila in 2015, brought up some of these questions for consideration by university museums and collections that are emerging, particularly in developing nations.

A tale of two museums

Consider public museums, such as the Victoria and Albert Museum (V&A) in London, where this author received formation. The V&A is a member of the Museums Association (MA) in the UK, guided by the guidelines of the MA (which in turn are informed by ICOM's code of ethics.) The MA and ICOM Codes of Ethics provide guidelines in the handling, collecting, and display of collections, as well as matters of access and diversity. A lot of this information was good formation, and good practice, guided by a concern to preserve and promote cultural heritage, and it is still useful in guiding this curator's thinking about the use of the collections where she now works, at the NUS Museum. In addition, the collection at the NUS was similar to the collection at the V&A, so differences in practice had not been evident.

But a couple of episodes experienced by the author at the NUS Museum have given food for thought about the importance and applicability of an international code of museum ethics on this specific breed called University Museums.

The first instance occurred in one of NUS Museums' exhibitions, titled "The Sufi and the Bearded Man". Briefly, the exhibition was a sociological study on a shrine to a female Muslim mystic in Singapore: the shrine was well visited by devotees, but it had to make way for development. The objects displayed were collected by the NUS Museum's curators, with the permission of the shrine's caretaker, shortly after the shrine's demolition. Among the items collected were a flowerpot used as an incense holder, and a tree trunk. The oral history recordings collected account that twice before, in earlier attempts to reclaim the land the shrine stood on, attempts to fell the tree were met with injurious consequences, and the reclamation halted. Finally, at the latest attempt, the caretaker apparently signaled that it was permissible to remove the tree, and thus the tree was felled. One of the first questions raised when viewing the display was (particularly given the shrine's community's belief that the tree was somehow sacred): have the items associated with the shrine been deconsecrated before we collected them, and has it been considered carefully if the wide access to any of these items (outside of their original context) might cause offence, either to the viewer, or to the shrines' devotees?¹ Furthermore, these objects were not slated for collection or accessioning: how then do we correctly dispose of them after the exhibition (although this question has to do as much with a lapse in the documentation of the loan from the caretaker and us not being able to find the caretaker since).²

Then next episode that raised questions for thinking was at a symposium organized by the University of Kyoto "Challenging Asian University Museums" (October 2014.) One of the case studies raised similar, though not identical, issues to the fictional story of the Ohminahs: The Nanzan University Museum of Anthropology had made a presentation of their fantastic display of anthropological materials, which were collected from a missionary origin.

¹ MA Code of Ethics 7.6 proposes that Museums should: "Consider restricting access to certain specified items, particularly those of ceremonial or religious importance, where unrestricted access may cause offence or distress to actual or cultural descendants;" in addition, 3.6 advocates that Museums ensure that they: "Respond to the diverse requirements of different cultural groups." www.museumsassociation.org/download?id=944515 (accessed September 14, 2015).

² MA Code of Ethics 6.8 "Recognize that formal title to and guardianship of the collections is vested in the governing body, which must satisfy itself that decisions to dispose are informed by the highest standards of expertise and take into account all legal and other attendant circumstances;" also related, 6.12 "Seek the views of stakeholders (such as donors, researchers, local and source communities and others served by the museum) who have a vested interest in a proposed disposal. In some cases consent from the donor may be a legal requirement. Where appropriate seek the views of colleagues and sector bodies. *Ibid.*

The museum is doing a fantastic job in outreach and giving access with their mission, "Challenging Everyone's Curiosity", especially in developing a handling collection that is well appreciated by a local community of visually-impaired visitors.³ Now, it must be emphasized that there was nothing said in the presentation that suggested any wrongdoing in terms of provenance, legitimacy of removal, nature of the items removed and how they were displayed. However an instinctive response to the creative display of anthropological objects and their cultural sensitivity was to immediately run through the mental checklist: removal and export, desecration risk, sensitivity to the people of origin⁴... and this raised the question of whether University Museums should consider to develop a detailed code of practice as the MA or ICOM to be standardized, for best practice. After all, UMAC's guidelines on the "Importance, Responsibility, Maintenance, Disposal and Closure" states: "For university museums, UMAC has a Professional ethical standards that must guide the way in which collections are run. In addition, the policy will in some detail, address the procedures for acquiring objects, initiating new collections or closing existing collections. UNESCO, ICOM and local and national museum associations publish information on professional museum standards."⁵

The answer is not a straightforward one. To be clear: for one, even public museums, national ones, aren't always careful about their ethical practices: certain well-known international museums are also well-known for overlooking sensitivities in displaying anthropological items as fine art objects (see, for example, Alexandra Martin's discussion of the Quai Branly Museum's display.) (MARTIN 2011). On the other hand, the Pitt Rivers Museum in Oxford, a university museum, has taken the lead in addressing issues of the repatriation of human remains in the collection,⁶ re-organizing the exhibits to avoid ritual offence to faith groups with strict laws about items to do with death and burial,⁷ and working with cultures of origin in developing museological and curatorial narratives.⁸

Different contexts

Many university museums, especially those created in the 20th centuries, were created out of teaching collections. The challenges in engaging younger university museums to consider established museological guidelines adopted by public museums (such as ICOM's guidelines) in their unconsidered entirety, may be found in the different contexts between the two types of museums.

When one considers the source and origins of the sets of ethical guidelines governing public museums, one notices that these guidelines reflect - perhaps we may say they are developed as a response to - historical collections built under historical circumstances, such as colonial expansion; war; territorial expansion; illicit removal and trade.

This context may be absent (or, problematically, at least perceived to be so), from museums created after decolonization or historic museums with collections of a largely local provenance, as might be found in Asia and other developing nations. As a result, the ethical problems facing younger museums may concern different aspects of the guidelines, comparative to the Western origins of the codes.

³ MA Code of Ethics 3.3: "Develop and promote the museum to appeal to an ever broader and more varied audience. Aim to provide something of interest to every potential user." *Ibid*.

⁴ MA Code of Ethics 3.15: "Consider restricting access to certain specified items where unrestricted access may cause offence or distress to actual or cultural descendants." *Ibid*.

⁵ UMAC Guidelines on "Importance, Responsibility, Maintenance, Disposal and Closure", 2, <http://publicus.culture.hu-berlin.de/umac/pdf/statement.pdf> (accessed September 14, 2015).

⁶ "Requests for repatriation of human remains in the Museum's collections will be considered in the light of the University's policy on human remains in the care of its museums as a whole (see www.ox.ac.uk/gazette/2006-7/supps/2_4787.pdf). In 1990, one such request resulted in the return of skeletal remains from the Pitt Rivers Museum to Australian Aboriginal communities." *Human remains in the Pitt Rivers Museum*. <http://www.prm.ox.ac.uk/human.html> (accessed September 14, 2015).

⁷ In *A shrunken view of truth and knowledge*. <http://www.spiked-online.com/newsite/article/3017#Vfgjh3uw-Rs> (accessed on 14 September 2015).

⁸ In *Working with the Haida People*. <http://www.prm.ox.ac.uk/haidaproject.html> (accessed September 14, 2015).

Public museums also receive a wider number of visitors from a broader demographic, and in our age of global movements, it is inevitable that the public museum will be confronted by diverse calls for accountability in its displays and its interpretations. Hence, in a way, the ICOM and MA guidelines actually seek to redress issues of historical collecting, as well as address future best practice. These guidelines are context-specific, as we can see from British museums' application of the MA's guidelines with relevance to the socio-political climate of the UK;⁹ and the American Alliance of Museums also has its code developed to the American context. By and large the main principles are similar. As mentioned in the welcome address at the opening of the 2015 UMAC Conference, University museums may be described as "life's laboratories".¹⁰ While one might expect public museums to be custodians of a national heritage and a teaching of the past, a university museum on the other hand, mirroring the research and experimentation that takes place as part of academia, may be more at liberty to prospect the contemporary, to push boundaries, and to prospect the future. In short, University Museums have a different chronology from the public museums from whence current established ethical guidelines have appeared. This is especially true for recently created university museums, especially those outside of that Euro-American context. It was interesting that a question was posed during the panel presentation on "Universeum",¹¹ about whether the "government" was behind or supportive of the Universeum project: this would be an unlikely question to be posed to museums in Europe and America, which have had a fairly independent history in their growth, development and governance, often having evolved from historical private collections (even though they may now receive state subsidies). In Asia, many universities *and* museums are the product of a newly formed independent country, where the government not only funds, but also initiates developments, and where collections are acquired differently (to different ethical considerations and consequences.)

Take for example: The NUS museum has its roots as the University of Malaya Art Gallery, the creation of which was tied in with historical and political reasons: the University of Malaya was created by the British colonial government, and the gallery and the art history it contained was intended to illustrate a narrative of the new Malaya: that it was a cultural confluence of the two great civilizations of India and China. The newly independent Indian Government gave the museum its first collection of Indian art in 1959, a collection of Indian temple sculptures, paintings and textiles. Then in the 1960s the 2nd curator William Willetts collected Indian and Southeast Asian textiles by visiting marketplaces in South and Southeast Asia, and purchased textiles from artisans directly. Concerns of removal, export, cultural appropriation of the relevant materials are very much moderated by the specific circumstances of the acquisition context (as these items were at the time common marketplace items fairly purchased, rather than at risk cultural materials), and connotations of unjust relationships or removals are rather less apparent than when compared with Euro-American collections of eighteen and nineteen centuries.

Ultimately, for many University Museums, the origins of the collection and the objectives and motives for the university museum are different from the history of the formation of public museums. It is essential to establish the origins of the collection, and deal with it from the point of the *intentions*. It does not appear appropriate to legalistically impose guidelines that were created on a principle to address historical issues for public museums (eg. Illicit removals, imbalanced colonial relations), onto university museums established in a different time context, where objects may have been acquired latterly and ethically through direct purchase, or where objects may have been legitimately removed from their sites of origins. Therefore, while the collection of the Nanzan University Museum might have had missionary origins, assuming that the items collected were collected at a time where there was no scarcity of the materials, and if the objects had correctly been gifts or items removed with understanding and permission, the question of licitness of removal might be less pertinent. Or, consider the case of the Indian temple sculptures in NUS Museum, which were gifted by the Indian Government in 1959, and therefore cannot technically be classed as illicitly removed and exported, as others collections originating from privateer sources might be.

⁹ For example, as echoed in the UK Museums Association's document, *Communities Love Museums*: "As well as their traditional role of collecting, preserving and sharing rich collections, museums now find that they play an increasing role in supporting the development of communities... Museums are using their unique collections and services to address social issues... striving to be places where all sections of the community can have a voice and be reflected in a museum's collections and displays." In *Communities... Love Museums*, ed. Museums Association (UK). www.museumsassociation.org/download?id=143114 (accessed September 14, 2015).

¹⁰ DE LEON, F. 2015. *Welcome address delivered on the occasion of the opening of the University Museums and Collections Conference*, University of Santo Tomas, May 11, 2015.

¹¹ SOUBIRAN, S. 2015. Presentation on "Universeum", during the panel session 'University Museum Networks: International, regional, national and local experiences proposals', UMAC Manila, May 11, 2015.

Relevance of Ethical Museum ‘Best Practice’

This is not to say though, that University museums are completely exempt from the codes of ethics or conduct; neither is it the case that University Museums have the liberty of picking and choosing the rules out of convenience. If it becomes known that a particular method of display and interpretation is problematic from the point of ethical practice, it is good for the university museum to learn from that experience and develop its practice thereon. The nuance here is in the recognition and sensitivity *as well* to the cultural context of particular university museums, in the application of guidelines: think of it as the “enculturation” of guidelines to the particular contexts of university museums around the world.

Ultimately, university museums should strive towards good practices in documentation and in ethical sensitivity. Some form of a coherent ethical guideline is necessary, and as ICOM states in its preamble to the Code of Ethics for Museums, its code “represents a *minimum* standard for museums. It is presented as a series of principles supported by guidelines for desirable professional practice.”¹² This “minimum standard” provides importance guidance on best practice to university museum staff whom, while they might have been trained academically or technically, might not have been cultivated professionally in museum science, museum management or museology. The guidelines provide an additional layer of preservation for objects in teaching collections, encouraging the care and promotion of their use and access in a safe and sustainable manner.

Principally, ethical guidelines exist as a reminder that when museums do the work of preserving, promoting and building cultural heritage, that work should be carried out with respect. It is greatly commendable of the AAMG to highlight as a key part of their mission to develop professionalism and best practice among academic museums and galleries. While the circumstance of University Museum collections may be different from that of Public Museums, even if we may not be in breach of ethical guidelines or affected by the rules directly, it would do us good to note from the experience and practice of public museums, to learn from those issues to inform our curating in a responsible and culturally sensitive manner. While we may have something in our collection that was acquired morally and correctly, should a visitor come to a university museums or galleries one day, and raise objections to the ownership and display to the collection, universities would be well-served to refer to established guidelines and ethical principles from the museum profession to develop an appropriate response and action that corresponds to the context of their establishment and their collection.

As an afterthought: perhaps, particularly in an era of economic austerity and efficiency drives, University museums should consider underlining museological and ethical guidelines as anchor principles of practice (particularly in the areas of conservation, storage and collections management), in order to make sound justifications to university management as to why collections are not merely a line of expense to be removed, but rather require a minimum long term investment in care and display, as professionally as possible. The better university museums can make arguments based on principles of practice, the better information administrators will have on hand to make decisions of rationalizing the minimum budgetary requirements. In other words: the operations of a university museum should be driven from museological principles first, within the limits imposed by financial realities.

Conclusion

Why does the question about how ethics are applied matter? How a museum think of ethics and practice informs the way it handles, manages, preserves and presents the object, and that is what the viewer takes away with them: if we display objects as curiosity, that is what the audience takes away: but if we display objects with cultural sensitivity, the audience picks that up as well.

At the Kyoto University Symposium, one of the questions the conference tried to address was: What is the role of the University Museum? The participants from different university museums found it difficult to sum that up neatly into a single description. Different university museums have different types of collections for different functions. How do we apply the rules? Just as a standard one-size t-shirt does not fit everybody in the same way, we might perhaps do well to think of tailoring a bespoke set of guidelines that suit each museum. Guidelines and Codes of Ethical Practice already exist as a template. One can always learn from the operations of other institutions and from reviewing existing cases, and adopt principles that apply in the relevant contexts. Where the guidelines do not apply because specific contexts are absent, perhaps we need not pre-empt burdens of consciences.

12 ICOM. 2013. *Code of Ethics for Museums*, iv.

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A formidable forum: University museums embrace controversy

Phaedra Livingstone, Jill Hartz & Barbara Rothermel

Abstract

In theory, their university context grants university museums academic freedom. With that privilege comes a responsibility to conduct research and programming that generates new knowledge. As such, academic museums are better positioned to explore potentially controversial topics than other museums. They are also uniquely positioned to mentor emerging museum professionals in the skills and knowledge required to plan and facilitate 'hot' topics in public programs. After discussing the university museum as a forum for debating challenging topics, this article offers two cases of museums grappling with controversy.

University museums: A privileged forum

It is well established that museums develop interpretive programs in order to increase understanding, stimulate curiosity and interest, and allow visitors to learn and reflect. The goal is not to be the arbiter of social change or to tell the viewer what to think but to facilitate their participation in civic engagement and public discourse. Academic museums—when they serve their teaching role fully—can be highly effective settings for learning, reflection, public discourse and professional development. As stewards of the public trust, they can provide safe havens on campus for the exploration of difficult topics that university students find challenging and uncomfortable to discuss. Through provocative exhibitions and accompanying programs, academic museums can challenge visitors to think critically and question their preconceived notions, to apply contemporary social issues as a lens for understanding a topic, or to look at the world around them as global citizens.

There are many roles for academic museums within institutions of higher education—acting as a forum for the exploration of potentially controversial topics is a crucial one. Interpretive exhibitions can facilitate debates and conversations unlikely to occur in other settings. Further, given the expectation of academic freedom associated with the university context, North American academic museums are—at least in principle—at greater liberty than other museums to facilitate such dialogue and debate. We suggest that university museums should, therefore, be willing to include topics that are potentially controversial in their exhibition programs. In doing so, the university museum asserts its relevance to the university and broader community as an educational organization and a center of knowledge production. In this essay we offer two case studies of university museums in which this approach to difficult topics has been embraced.

First, we present some general notes on the dynamics of controversy and public museum exhibitions, drawing from a study on developments in the Canadian cultural administration landscape informing exhibition development since the 1960s (LIVINGSTONE 2016). In recent decades, a constellation of challenges has been raised regarding the intellectual and political authority, communicative efficacy, funding, and management of public museums, with particular scrutiny on large exhibitions. When these challenges result in public conflict over a museum project, the press invariably frames it as controversy, which is now a persistent anxiety, cited in North American art media headlines most weeks. Yet, controversy remains poorly understood across the museum field. Museum professional discourse generally refers to controversy as either something to avoid (i.e. it is understood as public shaming) or to capitalize on (i.e. it is understood as public attention that can be used to the museum's advantage).

Large exhibitions take years to develop and in the course of that time there are many ways differences of opinion get taken into the public arena. When this happens, museums can see it as a litmus test of their relative significance or irrelevance as public spaces, or as a catalyst for changes in practice toward fulfilling the goal of truly democratizing the museum. Best practice and professional ethics offer guidance, but legislation, policies and funding programs have coercive influence and are key in enforcing change in the public sector. As public museums become increasingly responsible for generating their own operating budgets, they are also increasingly influenced by fundraising and marketing agendas. Community consultation, interpretive planning, audience and visitor research, and project partnering each have been treated in some ways as a prophylaxis to avoid controversy. Focus group and visitor studies are best practice for prototyping exhibitions that function and communicate effectively. But these tools cannot be seen as a panacea to risk-taking; visitors do not generate innovations in practice, museum professionals do.

For cultural administrators lacking confidence in museum and visitor abilities to negotiate dialogue on sensitive subjects, controversy will be feared. Exhibitions are often large, complex projects that require great investments of expertise, time and money to develop. Temporary exhibitions can be made more profitable by sending them on tour, but only if other venues will take them on. Both professional fear of controversy and fear of financial losses motivate self-censorship in exhibition planning. Yet, surveys of the public and visitors have found that people expect museums to deal with contentious topics, in a balanced manner, and that they are not afraid of debate or sensitive topics (ELLISON 2010; LIVINGSTONE 2003; MINTZ 1995). Museum work has become more specialized in North America since the 1960s and training programs first designed to prepare museum workers as heritage technicians for new museums now must cultivate public intellectuals prepared to engage with diverse publics, while navigating increasingly complex administrative requirements. Academic museums are ideal partners for training in this complex, sensitive and “risky” area of practice. The training of new professionals in competencies related to facilitating controversy is an important function for university museums today. Some aspects of this training role are illustrated in

Case B below. First, Case A illustrates some of the complexities and the changeable nature of controversy. Embracing controversy is not a singular choice but a long-term and institution-wide process.

Case A: *Emancipating the Past: Kara Walker's Tales of Slavery and Power*

From January 25 through April 6, 2014, the Jordan Schnitzer Museum of Art at the University of Oregon (JSMA) displayed *Emancipating the Past: Kara Walker's Tales of Slavery and Power*. This exhibition was drawn from the print collection of Jordan Schnitzer and curated by Jessi DiTillio, who wrote her thesis on Walker as a graduate student in art history at the University of Oregon before her two-year curatorial position at the museum. Kara Walker is a contemporary African American artist, internationally renowned for her deliberately provocative images related to slavery and the Antebellum South. In prints, drawings, sculpture, stencils, and video, her silhouettes offer hyper-sexualized and racist images of enslaved Blacks and white slave owners in brutal, disturbing, comical, and stereotypical activities that make viewers highly self-conscious about their own biases and America's tragic history of race relations.

The JSMA develops its major exhibitions schedule based on many practical factors (such as staff time, resources, space allocations, budget), and on a project's potential for academic support, interdisciplinary collaborations, community interest, and furthering the strategic goals of the museum. *Emancipating the Past* became an informal self-study for the museum on how they address all of these. The JSMA anticipated and planned for negative reactions to the sexualized and violent imagery in the Walker show and welcomed discussion about its appropriateness for and relevance to diverse audiences. They were not, however, prepared to learn how deeply implicated their own political and geographical contexts were in the racist history Walker interprets in her work. Very early in the research stage it became clear that the state of Oregon had long been complicit in promulgating racial prejudice. This finding made them recontextualize Walker's art, add new partners, and revise interpretation and programming goals.

The project began with research and outreach to find ways to contextualize Walker's work for visitors on and off campus. First, an "Action Team" was created, which called on members of the constituencies the project was anticipated to interest. They met to see images; discuss goals, academic connections, programming, audiences, marketing, and fund-raising strategies; then, working with staff members, they helped with various aspects of exhibition planning. For this show, faculty and students from Art History and Studio Art, English, Ethnic Studies, Women's and Gender Studies, Cinema Studies, Theater, American History, and Ethnomusicology were approached; also invited were staff in the UO Offices of Equity and Inclusion and Student Life and members of the UO African American Student Association, whom it was hoped would champion the show and serve as ambassadors. Off campus partners included local middle and high schools and community college, churches, and the local chapter for the National Association for the Advancement of Colored People (NAACP). These partnerships developed new relationships for the museum and resulted in their increased use of the facilities. Programs planned around the exhibition included a curator's talk, film screenings, live performances, and various lectures by visiting and UO scholars.

As the museum prepared for the obvious challenges of the show, their research led them to a public discussion called "Why aren't there more Black People in Oregon? A hidden history" (led by Portland State Professor Walidah Imarisha for the Oregon Humanities Conversation Project, November 2012). The discussion content shocked the exhibition development team. JSMA Executive Director Jill Hartz responded, "a transplant from the East Coast, I found Oregon to be the whitest state of the many I have ever alived in. In my naivety, I thought that perhaps African Americans just did not migrate across the country as pioneers. I thought Oregon's legal vote to abolish slavery was a sign of progressiveness." Oregon, they discovered, was actually founded as a white homeland. Slavery was abolished in 1844 not because Oregon politicians were enlightened, but because white residents did not want Blacks residing in the state and Native Americans and Chinese residents were already employed for cheap labor. Twice –in 1844 and 1849– state officials passed a law excluding Blacks from settling in the territory and that required those already living in Oregon to leave or risk being whipped every six months until they did. Property owned by African Americans was legally confiscated and lynchings were not uncommon. Some property deeds today still have clauses that forbid owners to sell to African American or Chinese buyers. While some towns across the United States were considered "sundown towns," meaning that people of color needed to be off the streets in the evening, Oregon was called a "sundown state." The Ku Klux Klan had strong political clout in Oregon until late in the 20th century.

While the political scene has changed, Oregon remains overwhelmingly white. Conceived of by transplants from other states unaware of Oregon history, the exhibition was first imagined to focus

on issues of race in American history at large, and with less connection to residents of Oregon than other states. Instead, a strong local significance emerged. To address this, additional programming was planned during the run of the exhibition. In particular, JSMA partnered with the local public library Eugene to host a "Why are there no Black people in Oregon?" conversation, representing a forum in that had been transformative for JSMA staff and would likely also be for many local residents; later Imarisha also convened a conversation marketed to UO Students, faculty and staff in the museum. During these sessions, UO and local community members of all ages and backgrounds responded to historic photographs and records, shared their responses and their own experiences, and posed questions.

In the final few weeks of the exhibition, there was much discussion across the UO campus about developing a "trigger warning system" for any course content that might trigger emotional trauma in students with post-traumatic stress disorders. However, there were no clear criteria for what might constitute a trigger. In this context, at least one student confronted a professor regarding the use of *Emancipating the Past* for a course assignment. For personal reasons, the student found the exhibition deeply disturbing and stated that she would not have visited it had she known about the show's content. Without clear guidelines, the professor had not given a "trigger warning" or an alternative assignment for students who chose to opt out. In a period of heightened sensitivity but no policy on campus, word of this incident spread and the professor was reprimanded for not describing the exhibition more fully in advance. There were ample summaries of the show's themes published in various formats (UO websites, event brochures, newsletters and all local newspapers) easily available to any student researching the exhibition, and in the introductory label at the entrance to the show, but unfortunately, she had not read any. As the assignment required original analysis to write a review of the exhibition, too much description by the professor might bias and reduce the educational value of the exercise. Clear curricular guidelines are keys. Similar "trigger warning" questions are being raised on campuses across the U.S. This can have a chilling effect on the questions academics have long been expected to explore in the classroom. But some cognitive dissonance is *required* before conversations about difficult topics can be truly educational and allow for transformative learning (MEZIROW 2003). Rather than self-censoring in fear of being questioned—after all, explaining museum work is not a negative in itself—academic museums can choose to act as forums for debate about difficult topics and processes to navigate them, again demonstrating their importance to the academic mission of universities.

The exhibition and its attendant programs drew large audiences. Many of those who participated in Imarisha's conversations declared a commitment to making Oregon's history better known and to finding ways to increase social equity. University administrators, faculty, and students demonstrated that they valued the museum as a "safe place" to engage in difficult conversations, especially among students. Community organizations found a willing and responsible partner for their activities. Finally, the JSMA staff also expanded their professional capacities. Each project like this that they do will draw on those they have done before, building a more capable staff and an increasingly diverse network of program partners and participants.

As the show left JSMA to travel to museums across the United States for the next few years, media outlets were being filled with reports of unarmed Black men and youth being killed in St. Louis, Staten Island, and Baltimore. Police and white residents were seen to be anticipating dangers that often did not exist and overreacting with maximum force. These murders, along with the over-representation of Black men in prison and among the unemployed, affirm that the U.S. has not yet adequately addressed its horrific legacy of slavery. While academic museums can't change this reality themselves, through provocative exhibitions like *Emancipating the Past*, they can provide a forum that supports discussion on social change.

Case B: Confrontational content in student-curated exhibitions

The Daura Gallery at Lynchburg College is a teaching museum with a collection of art and historical objects. Its programs are intended to enhance the academic experience of students, reflect the core values of the college, and deepen understanding of the human experience. Students enrolled in the semester-long course "Museums in the Public Dimension" are taught the theory and practice of interpretation by curating an exhibition for the Daura Gallery. The exhibition topics are preselected with the intent of challenging students perspectives and, ultimately, those of visitors to the exhibition created. To begin, students are instructed that museums collect, record, and preserve in order to interpret, or increase knowledge; that interpretation is the result of research; that education is a core function of museums, and audiences include diverse types of learners. Students then consider the question of how curators can make interpretation effective for diverse audiences, while creating and installing an exhibition first-hand.

The 2007 student exhibition *Painful Expressions* interpreted the contemporary practice of tattooing, especially among gangs, supremacists, and prisoners in the U.S. Despite the expectation of some negative response to exhibition content, no controversy occurred.

Given the focus on military history, the 2011 exhibition *Churchill, Roosevelt, Stalin and the End of World War II* also anticipated controversy and students strove to develop an especially fair and balanced scholarly interpretation. The extended exhibition text focused on describing key WW II battles and accords, cultural differences and relationships between the “Big Three” nations involved, and the origins of the Cold War. Artifacts included photographs, ephemera and personal effects most American soldiers would have carried in WW II. The central display had casts of portrait busts of Churchill, Roosevelt, and Stalin, which had been commissioned from a Lynchburg College professor for the National D-Day Memorial site. While the text interpreting Stalin’s role in history received no public criticism, a number of negative comments were received about giving a bust of Stalin ‘pride of place’ in the exhibition. Criticism included email letters, telephone calls, and letters to the College from detractors, as well as letters to the editors of local and regional newspapers. Most of these were from veterans of the Korean conflict of the 1950s. The students were each given the task of drafting a response letter to the most aggressive criticism (a letter to the editor of the local paper *News & Advance*). They then worked together to co-author a response letter explaining their curatorial choices, which was sent to the newspaper.

In 2015, students curated the exhibition *Remembrance & Rediscovery: Disney® Deconstructed*, which articulated social stereotypes in a number of animated films. Walt Disney Studios animation commercialized the telling of myths and folk tales, and established a significant popular entertainment format. For this project students analyzed social and cultural issues represented in the films, through the lens of four themes: gender; outsiders/Others; adaptations of classic texts; and the depiction of self-discovery narratives. The final exhibition consisted of four thematic sections. In the section on gender, the students interpreted gender representations in Disney films, including sub-themes: appearance and portrayal of characters; romance; interpersonal relationships; and the breaking of rules. Given the popularity and emotional attachments Disney films enjoy, it was expected that some visitors would take umbrage to critical analysis of them, perhaps pushing back that Disney films convey positive American values. Again, however, it was confirmed that controversies cannot be predicted. The only negative response was a seven-page email regarding how the term “lithograph” was used in the exhibition. Students were again able to think through a response using the letter-writing assignment to explain their interpretation.

Conclusion

University museums are settings uniquely situated to facilitate civic engagement and public discourse on topics of broad social significance but which can be difficult for people to discuss. Embracing the challenges controversy and difficult topics pose brings the roles, responsibilities and strengths of academic museums into greater focus. This requires new approaches to training and program planning and research—work that is already being fully embraced by many museums. Ongoing changes in higher education likewise require academic museum professionals to be adaptable in their methods and create new opportunities for museums to demonstrate their academic relevance. Managing a university museum as a teaching center and supporting student inquiry places additional demands, for which they may not have been trained. Simultaneously adopting a more reflexive approach may be a stretch for some. In this process, recognizing both positive and negative public responses as indicators of relevance will help alleviate anxiety about controversy and interpreting challenging. The alternative—being irrelevant—is not sustainable.

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Keywords

Exhibition controversy – Role of the museum – Interpretive programming

Curating Lab: A case study of a curatorial developmental program

Michelle Kuek

Abstract

As university museums, it is imperative that our strategic goals are derived from our universities', contributing towards the university's overall mission and vision. In recent years, at the National University of Singapore (NUS), the focus has increasingly been trained on the development of students to be future-ready and well-rounded individuals prepared to lead and to serve. Following this cue, the NUS Museum established student developmental programs such as the NUS Museum Internship Program and Curating Lab. In particular, this paper will focus on Curating Lab, a curatorial developmental program, reflecting on its structural evolution, challenges, impacts and potentials.

Introduction

In the report "Campus Art Museums in the 21st Century: A Conversation" by the Culture Policy Centre at the University of Chicago, authors of the paper noted that a challenge particular to university museums is the need to "continually demonstrate their academic value to their host college or university, and serve both students and faculty as core constituents while also serving a wider public." (SHAPIRO & AL. 2012) In the same report, a collation of a conversation between thirteen campus art museum directors and museum experts, the participants highlighted the second challenge of being able to make a "curricular impact" in their parent university. (SHAPIRO & AL. 2012) For an example of a museum perceived by administrators not to be fulfilling these two criteria, one need not look further than the Rose Art Museum at Brandeis University and its brush with closure in 2009.

These parameters pose an interesting conundrum for the NUS Museum. As a university art museum situated within a university that does not possess a fine arts or art history department, a curatorial or museum studies program, and is not academically affiliated to any other faculty or schools, it is a challenge to ensure that the museum is integrated regularly into academic curriculums to demonstrate its academic value to the university administration. But besides academic value, are there any other values or services that a university museum is able to contribute towards its university's mission and vision? In this paper, I suggest the university museum is able to play a role in developing students. While not of academic value, student development is increasingly becoming an important service that a university provides its students to differentiate them in today's competitive global job market.

Education Outreach

In recent years, the National University of Singapore (NUS) began focusing and devoting more resources to the development of our students. It is envisioned that after their years in NUS, a student graduates with academic honors and a set of general skills that include critical thinking, intellectual breadth, cross-cultural effectiveness, strong communications ability, and the iNUS qualities of initiative, inner resilience, teamwork (inclusiveness) and integrity. (TAN 2014) To emphasise these commitments, the NUS Career Centre was transformed into the Centre for Future-Ready Graduates.

The NUS Museum's Education Outreach strategies are guided by these university goals to formulate and strengthen student development programs like the *NUS Museum Internship Program* and *Curating Lab: Curatorial-Intensive and Internship Program*. Though pitched at different levels, with the former targeted at students who are looking for an introduction to museum work and the latter for more experienced students who wish to delve deeper into curatorial roles and begin establishing a practice, both programs are specifically designed to involve the participants in critical and developmental approaches to the arts through facilitated reading sessions, experiential learning through active contribution towards on-going museum projects or development of new projects, mentorship from museum staff, and exposure and access to the Singapore's arts, culture and heritage industries. For the purpose of this paper, I will focus on Curating Lab, detailing its structural evolution, challenges, impacts and potential.

Curating Lab: Curatorial-Intensive and Internship Program

The Curating Lab program was originally conceived by Singapore's National Arts Council (NAC) in 2005 as a curatorial pedagogical program to develop competency in the curatorial sector, create awareness for the role of the curator, and its role in the production of exhibitions and development of new ideas. Two editions of the program had taken place earlier in 2005 and 2007 before NAC approached the NUS Museum to lead the 2009 edition. NUS Museum undertook two more editions in 2012 and 2014.

2.1 Curating Lab 2009

With the lack of undergraduate level curatorial courses in NUS and other tertiary institutions, Curating Lab 2009 was re-positioned to gather participation from final-year tertiary students, recent graduates and young professionals, a departure from previous editions which called for practicing curators. As the program is not limited to NUS students, we were conscious to ensure participation from our undergraduates. The structure and objectives of the 2009 edition *Curating Lab: 100 Objects (Remixed)* were modest, a 3-day workshop to introduce the act of curating to participants and encourage experimental approaches towards the curating of 100 objects from Singapore art, film, architecture and text.¹

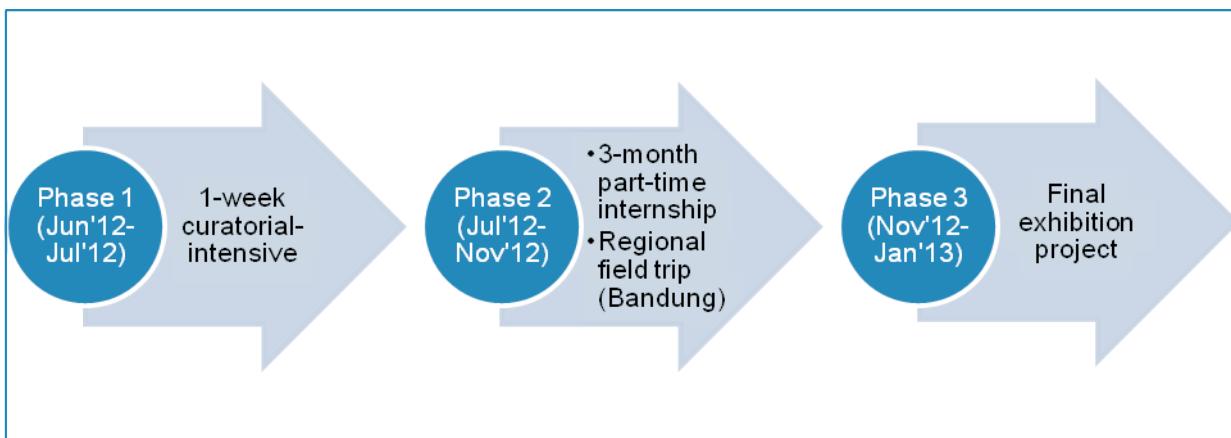
¹ Curating Lab 2009 was led by Professor Patrick Flores (Art History, University of the Philippines), Singaporean artist-curator-writer Heman Chong, and NUS Museum curators Ahmad Mashadi and Lim Qinyi.

2.2 Curating Lab 2012

In 2012, Curating Lab was expanded to a 6-month program to satisfy the increased curiosity in curatorial and museum work, as seen from internship applications and enquiries. Beyond introducing curatorial perspectives, the objectives also included providing exposure to the regional arts scene, sustained access to curatorial mentorship and networks, and the opportunity to curate an exhibition.

Fig 1
Curating Lab 2012 program structure

In contrast to Curating Lab 2009's hypothetical exercises, Curating Lab 2012 aimed to provide practical on-the-job training and exposure. Importantly, the program was to serve as a springboard for participants to advance into curatorial positions. The program was structured in three main phases as shown in Figure 1 below.



Phase 1: The program began with a 1-week curatorial-intensive that would introduce aspects of contemporary curating such as curators and institutions, curatorial writing, art + politics + activism, and artist/curators.²

Phase 2: The participants underwent internships at the NUS Museum, the Singapore Art Museum (a contemporary art museum) or Future Perfect (a commercial art gallery) to gain practical work skills, participate in on-going projects, explore the inner workings of arts institutions, building upon the curatorial-intensive's theoretical foundations. Participants also travelled to Bandung, Indonesia, a trip co-organized with Galeri Soemardja, a university museum gallery at the Bandung Institute of Technology, for regional exposure and to put Singapore curatorial practice into context within Southeast Asia.

Phase 3: The participants had to develop a final exhibition project, managing all aspects of the show including budget, administration, installation and working directly with artists and partner institutions. The exhibitions were opened as part of the Singapore Art Week 2013 at Goodman Arts Centre.

Public Talk Series: A public talk series Curatorial Roundtable, featuring regional and local curatorial practitioners, was launched to highlight the various curatorial modes of working. It also served to provide networking opportunities to our participants and allowed the public to be part of Curating Lab.

² Professor Patrick Flores and Heman Chong returned to lead Curating Lab 2012. Facilitators for Phase 1 included Cosmin Costinas (Director, Para Site Art Space, Hong Kong) and Pauline Yao (Co-founder, Arrow Factory, Beijing)

2.3 Curating Lab 2014

For the third edition in 2014, the 2012 program structure was retained. But from an internal review and extensive feedback gathered from previous participants and mentors, two significant changes were made to the program structure.

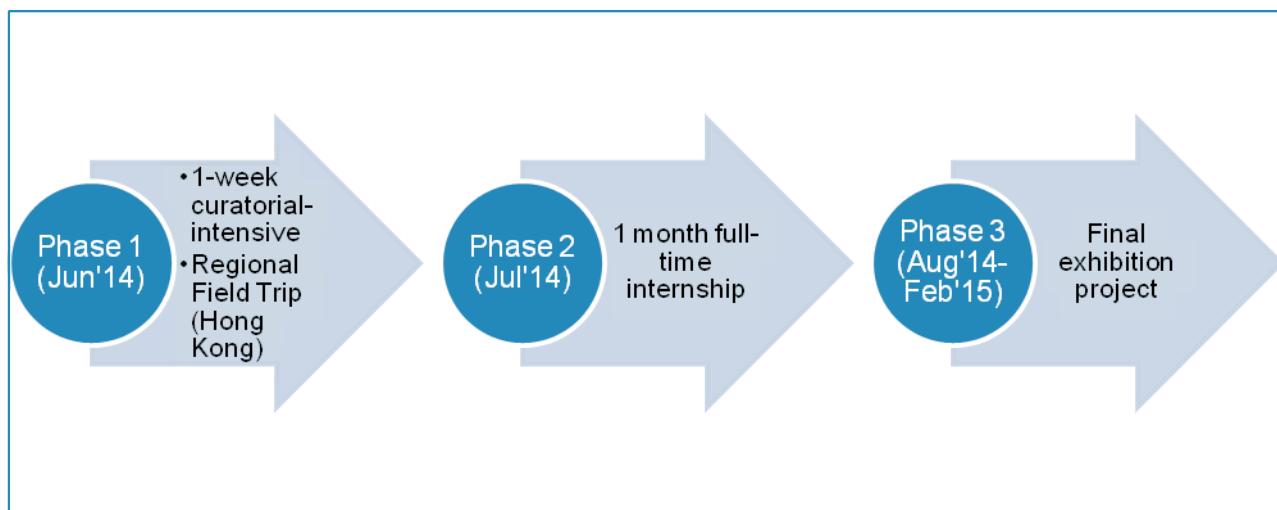


Figure 2
Curating Lab 2014 Program Structure

The first structural change was to reschedule the regional field trip from Phase 2 to immediately follow the curatorial-intensive, as seen in Figure 2. Participants were, therefore, meeting daily for two weeks, contributing to greater group cohesion. The second change was for a longer preparation period for the final exhibition project. Five critique sessions were organized with facilitators and mentors³ for participants to brainstorm and refine their exhibition proposals.

Challenges of Curating Lab

There are several challenges by virtue of the program's length of six to eight months and the specific type of participants that we look for. In this section, I will highlight two major challenges that we faced and the solutions we took.

3.1 Participants' commitments

The program places a huge demand on our participants' time, with mandatory attendance for all activities and the preparation for the exhibition. With participants being mostly full-time students and working adults, Curating Lab is but one of several commitments they have. In 2012, we noticed that several participants were not engaging fully in the development of the final exhibition project, contributing additional strain on other participants. To address this problem, a calendar of events with confirmed and tentative dates was released during the 2014 Call for Applications to signal the intensity of the program. This measure contributed to better attendance rates in 2014.

The internship phase is also affected by commitment. To address this, part time internships were offered in 2012, to give participants' the flexibility to manage their schedules. However, it seemed that this was not enough to provide deeper insights into the workings of their institutions and to participate fully in projects they were assigned to. Seeing as the internship is an important component for experiential learning, in 2014, the internship became a full-time 1-month experience. It was scheduled in July 2014 during Singapore's university vacation period to accommodate students.

3.2 Program momentum

Being a long program, keeping the momentum and interest of the participants, is crucial to the success of Curating Lab. As mentioned in Section 3.3, one of the structural changes made in 2014 was to schedule the regional field trip to follow the curatorial-intensive and precede the internship. This allowed for a consistent schedule of activities for 1.5 months to immerse the participants in the program. When the internship ended in July 2014, participants continued to meet on a fortnightly basis for the Curatorial Roundtable talks, exhibition crits and exhibition administrative briefings. Exhibition deadlines were also worked into this schedule to ensure a constant hum of program

³ Curating Lab 2014 was facilitated by Heman Chong, and Max Andrews and Mariana Canepa Luna (*Latitudes*, Barcelona), with institutional mentorship provided by the NTU Centre for Contemporary Art Singapore and the NAC Venice Biennale Secretariat.

activity rather than the short activity spikes of 2012. We found that this kept the participants better engaged and also allowed us to keep better track of their progress for the final exhibition.

Impacts of Curating Lab

Extensive feedback, both qualitative and quantitative, was collected after every phase from program participants, mentors and audiences (during public events). Feedback was sought for key performance indicators such as the relevance of the content, effectiveness of the program, calibre of participants, competence and effectiveness of facilitators and mentors, and the organization of the program. Assessments were also made of the participants' curatorial capabilities before and after the program, with their further development tracked for the next six months to assess the overall effectiveness of Curating Lab.

From the feedback gathered, I would like to highlight three impacts that the program has on the participants, the institutions involved and the public.

4.1 Participants' career progression

As hoped, Curating Lab enabled several participants to progress to curatorial and arts-related careers. Participants have found employment at the National Gallery Singapore, National Heritage Board, NUS Museum, National Library Board, independent art galleries, or won scholarships to pursue curatorial or fine arts studies at the Centre for Curatorial Studies at Bard College (USA), Royal College of Art (UK), SOAS, University of London (UK) and the Sandberg Institute (The Netherlands).

4.2 Networks

More importantly, Curating Lab created new networks between participants, participating curators, artists and institutions. Within our participants, we see them collaborating with one another in their professional and personal capacities – curating and writing for one another's exhibitions or projects, sharing opportunities they encounter and showing support for each other's practice. For the 2014 participants who had worked closely with local artists for their exhibition projects, these working relationships continued after the end of the program, with some participants tapped to participate in projects run by these artists.

From an institutional perspective, Curating Lab allows the NUS Museum to create or maintain our partnerships with other arts institutions. Cosmin Costinas, Director of Para Site Art Space was a facilitator for Curating Lab 2012. Later, we collaborated with him to travel Para Site's exhibition *Taiping Tianguo* to the NUS Museum. Through Curating Lab 2014, we developed a working relationship with the NTU Centre for Contemporary Art Singapore (CCA) where both NUS Museum and CCA staff have featured regularly in each other's projects. And importantly, Curating Lab also allows us to continue cultivating our relationship with the National Arts Council.

4.3 Public

Aware of the high levels of interest in Curating Lab and the competitive application process, we tried to create as many pathways as possible for the public to be involved and benefit from the program. Besides the Curatorial Roundtable talk series mentioned earlier, we also maintain a social media presence for the public to follow along the progress of our participants. Content was pushed out regularly through Facebook (www.facebook.com/curatinglab2014), Twitter (#curatinglab2012, #curatinglab2014), Instagram (#curatinglab2014), and a blog (www.curating-lab.blogspot.com). The blog also serves as an archive, allowing future audiences to access the content generated in each edition. Participants also participated in the content generation on these platforms to provide their individual perspectives and connect with the public. Other platforms used included Vimeo (for event videos), Flickr (for photographs), Storify (to consolidate social media posts) and Peatix (a ticketing website).

Conclusion

The Curating Lab program is one that is constantly evaluated to refine and incorporate new elements to keep up with current curatorial practices. An element that has the potential to be further developed is curatorial writing. While it was always required of participants to write exhibition essays, we can do more to incorporate regular writing assignments accompanied by critique sessions dedicated to curatorial writing. Another potential is the inclusion of young artists, to generate curator-artist networks and to facilitate artistic growth alongside curatorial practice.

Through the three editions, Curating Lab has contributed towards the NUS Museum's emphasis on student developmental programs as a cornerstone of our Education Outreach programs. While the

number of students who have benefited are a small fraction of the overall student population, it is nonetheless a contribution towards the diversity of programs offered by NUS for its students to discover their individual strengths and career path, therefore allowing the NUS Museum to contribute value to the university beyond the academic.

Acknowledgements

I would like to thank the project coordinators of Curating Lab who worked with me to execute this program, Flora TOH (2014), Jolene LEE & Stephanie WONG (2012). Without their energies and skills in project management, design and writing, Curating Lab would not have been the program that it is today. I would also like to thank Ahmad MASHADI, Head of the NUS Museum, for his guidance and his trust in us to run Curating Lab. Finally, thanks are also due to the National Arts Council for their generous funding and support for the three editions of Curating Lab at the NUS Museum.

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Keywords

Education – Outreach – Student Development

Natural History Museum and its Role on Biodiversity Conservation: Case Study- Fiji Island Coastal Collection, Nasese, Suva

Suratissa Dissanayake M.

Abstract

A natural history museum (NHM) can be used to make people aware of nature and enhance the development of an emotional enthusiasm for conservation and biological diversity. This can be facilitated by having various NHM activities such as flora and fauna displays using various techniques, colourful posters about nature, and the delivery of lectures. All these can be undertaken as a result of collection and preservation of faunal and floral diversity in a NHM.

The Fiji Islands lie between 18°00' S and 175°00' E in the Pacific Ocean. The total land area is 18,270 square kilometres, 853 square kilometre and covered by forests. From April to September 2014, NHM of Fiji National University sampled and collected 210 faunal species belonging to 6 major phyla from Nasese Shore, Suva. A belt-transect method and opportunistic survey was adapted for this study. Collected samples were preserved in both wet and dry states at the Museum. Over exploitation of coastal faunal species, growth of recreational boating, other leisure activities and waste disposal are the main anthropomorphic threats to fauna in the Nasese shore area. Results from the survey will encourage students and the public to be mindful of the threats to nature and encourage the application of conservation methods to protect their lives through preserving biodiversity.

Role of Natural History Museum at Fiji National University

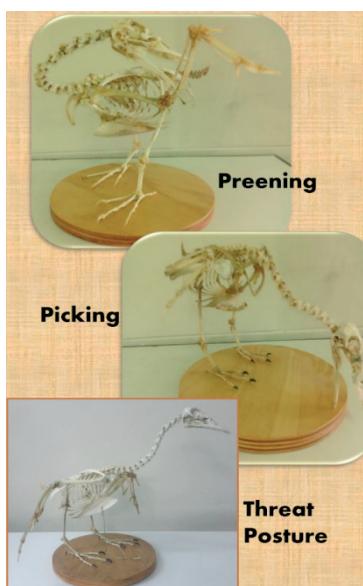
The development of the Natural History Museum in Fiji, within Fiji National University, was initiated in December 2013. I went to Fiji to assist the commencement as an Associate Professor in Museum Science and Curation. Within one and half year of my service at Fiji National University, the university had a natural history museum. This new university museum has collections of invertebrate and vertebrate taxa found in Fijian habitats and displayed as wet and dry specimens. The displays include scientifically accurate, well prepared skeletal specimens (Fig.1).

Fig.1

Duck Skeletons showing different

behavioural postures (courtesy:

FNU-NHM)



During research work, I collected different species of shell-bearing gastropods. After identification of the species, most of the live specimens were released again to their natural habitat – Nasese Shore. However, some were preserved as wet samples in a 10% formalin solution and kept at the museum for display purposes to raise public awareness. The gastropods collected as shells were preserved in a dry state and displayed in glass cases. Using photographed and identified gastropod specimens, I prepared large descriptive posters for display.

Displayed research collections in the museum enable many education programs aimed at undergraduates and high school students. Exhibitions in many parts of Fiji aim to make people aware of biological diversity conservation practices. The specimens also constitute a research reference collection¹.

Introduction

A report entitled “Integrated Coastal Management Framework of the Republic of Fiji” was prepared by the Department of Environment (2011). It indicated that the group of Fiji islands comprises 1,130 km of coastline covering 31,000 sq. km of coastal and inshore waters most of which is still in pristine condition. The same report states that the quality of the coastal environment of Fiji is known to be threatened by the ever increasing urbanization and its consequential usage by growing populations. The expanding tourism, agricultural, forestry and fisheries industries coupled with increasing rates of urbanization operating within a legal and institutional framework with limited environmental considerations suggests that serious steps need to be taken at the national level to safeguard the country’s coastal ecological system (Integrated Coastal Management Framework of the Republic of Fiji 2011). It is known that an estimated 76% of Fijians live within 30km of the country’s surrounding reefs (BURKE et al. 2011). Thus, baseline data on marine biota of Fijian coastal wetlands is mandatory when considering proper management and conservation.

Suva, the capital of Fiji, consists of rich intertidal wetlands of high biodiversity and economic importance (Fig.2), including the study site at the Nasese.

¹ A video clip of the Natural History Museum at Fiji National University is available online: <https://www.youtube.com/watch?v=dnxUXioiRjl>.

Fig.2
Study Site at Nasese, Suva



Marine biodiversity is higher in benthic rather than pelagic systems and in coastal areas rather than the open ocean because there is a greater range of habitats near the coast (GRAY 1997). Reductions in marine diversity systems are highest in coastal areas largely as a result of conflicting uses of coastal habitats. Ehrlich and Wilson (1991), and Raven and Wilson (1992) reveal that much biodiversity research remains to be done, and the time left to accomplish a full inventory of life on Earth is limited. The Natural History Museum can convey knowledge to the public sector about these issues in many ways. According to Winker (2004), the mission of natural history collections is to document biodiversity and its distribution and to serve as a resource for research and education.

Major threats to coastal systems such as habitat loss and deterioration include; global climate change; overexploitation through fishing; coastal pollution including the effects of inorganic and organic chemicals; eutrophication, pathogenic bacteria and algal toxins; radionuclides, water-shed alteration and physical alterations of coasts; tourism; marine litter, etc. (FLUHARTY 1994; NORSE 1994; SEBENS 1994; SUCHANEK 1994). A lack of knowledge and a lack of awareness about the oceans and marine life by stakeholders is also a major threat. The threats are frequently interlinked, for example the loss of the reefs from increased sedimentation caused by overexploitation by dynamite and chemical fishing (GRAY 1997). Marine litter is an increasing problem for marine life and this, in turn, affects tourism. Litter from drainage sources on land, litter left on beaches and litter discarded from ships including discarded fishing gear and associated material from fishing vessels are frequent pollutants (UNEP 1991). Interestingly, almost 75% of litter is in the category of non-biodegradable plastic and styrofoam, metal, glass and timber. Such discarded material affects the survival of turtles in particular (UNEP 1991). There is a serious dearth of knowledge and quantitative data about biotic resources in the intertidal areas of Fiji. This study was a pioneer attempt to quantify abundance, density and distribution of selected marine biota which will help inform the management of coastal resources in the future. The main objective of the research was to establish the distribution, abundance and density of fauna from selected habitats of the intertidal area of Nasese Shore, Suva and preserve these data in the Fiji National University, Natural History Museum to assist future public awareness program about biodiversity conservation.

Materials and method

Faunal diversity and distribution of the Nasese Shore, Suva, Fiji Islands was studied from April to September 2014. The belt-transect method (ANDERSON & POSPAHALA 1970; SUTHERLAND 1997) was employed to study species richness and faunal abundance. Three belt-transects of 5m width and 300m lengths were established in a stratified random design in each habitat type. Opportunistic observations were done to supplement the species richness data of the selected habitat types. For example, the catch of local fishermen was examined to study fish species from the habitats. Habitats

were defined by substrate type: sandy/ rocky /muddy (SRM) and categorised in this way: mangrove/ sandy (MNS), muddy/sandy (MS), rocky/coral Substrate (RC). Sampling was done during both high and low tide periods from April to August 2014. All four habitats experience the similar influence of tides; however, the impact of inland water intrusion on habitats is variable. A stratified random sampling design was used to place the belt transects in the intertidal zone. Sampling sites are located in figure 2. Shanon-Wiener Diversity Index was calculated to express the faunal diversity in each habitat. The Kruskal-Wallis Test was employed to compare the abundance and density of different faunal groups in the four habitat types. Opportunistic data were used only to express species richness and to construct the inventory of species for each habitat.

Results and Discussion

Faunal Diversity

During the period of six months of study 300 belt-transects were examined in the four selected habitats of the intertidal area of the Nasese shore. A total number of species recorded in the four habitats was 210, they belong to six phyla namely; Cnidaria, Annelida, Mollusca, Arthropoda, Echinodermata and Chordata.

Table 1
Species richness of four habitats.

| Animal Group | Species richness recorded during the study period | | | |
|-----------------------|--|--|------------------------------------|------------------------------------|
| | Sandy/Rocky/ Muddy (Habitat 1) | Mangrove/ Sandy (Habitat 2) | Sandy/Muddy (Habitat 3) | Rocky/Coral (Habitat 4) |
| | | | | |
| Cnidarians | 1 | 0 | 0 | 15 |
| Annelida | 0 | 0 | 0 | 1 |
| Arthropoda | 3 | 5 | 0 | 5 |
| Bivalves | 5 | 3 | 5 | 15 |
| Gastropods | 16 | 13 | 4 | 78 |
| Amphineura | 0 | 0 | 0 | 1 |
| Echinodermates | 0 | 0 | 1 | 12 |
| Fish | 0 | 8 | 1 | 19 |

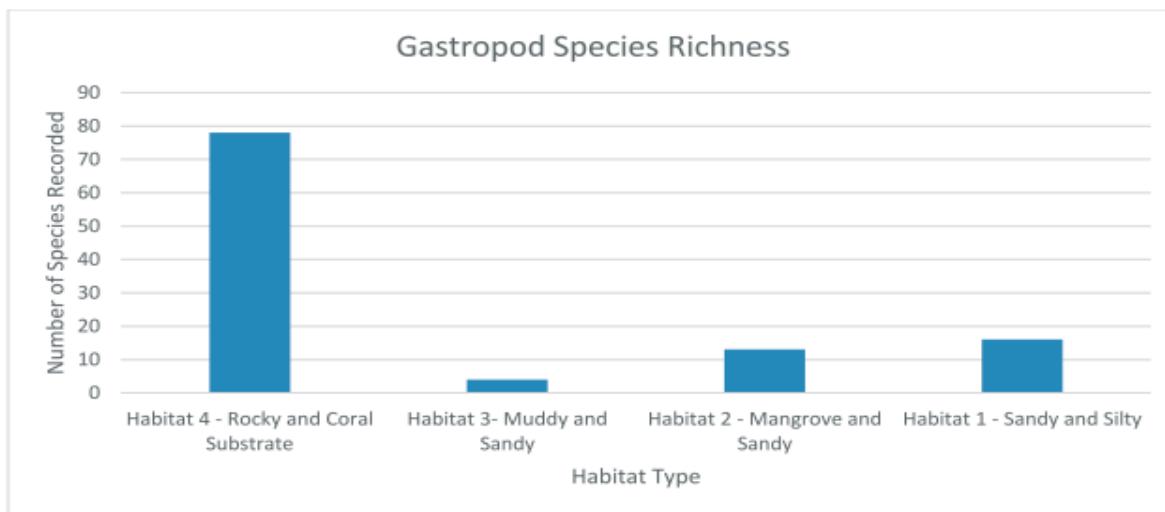


Table 2
Gastropods species richness in a four
different habitats

Highest density of fauna occurred in rocky/coral substrate which was significantly higher than that of other habitats (Mean \pm SE 41.6 ± 0.16 individuals/ 1000m^2 Kruskal-Wallis H=14.23 P<0.05). The density of fauna was significantly lower in muddy/sandy habitat ((Mean \pm SE 1.2 ± 0.03 individuals/ 1000m^2 Kruskal-Wallis H=28.14 P<0.05) than that of other three habitats. The most favourable habitat in terms of faunal diversity and abundance was the rocky/coral habitat where microhabitat richness seems to be high. Also, I observed that the rocky/coral habitat was composed of sea grasses which may support faunal diversity and abundance. The abundance of gastropods was significantly higher than that of other phyla in all habitat types (Mean \pm SE 23.4 ± 0.63 individuals/ 1000m^2 Kruskal-Wallis H=56.47 P<0.05). Fish and bivalve molluscs were the second and third most abundant phyla respectively. Almost all echinoderm classes were represented in the rocky/coral substrate habitat except for the crinoidea. Only five species of birds were recorded using opportunistic survey methods. Mud skipper density was significantly higher in the mangrove/sandy habitat (Kruskal-Wallis H=24.4 P<0.05), this could be an indication of pollution status of this habitat. Shanon-Wiener Diversity Index indicated that the rocky/coral habitat has the highest diversity (H=0.713) while the muddy/sandy habitat has the lowest (H= 0.106). The SRM and MS habitats show values of 0.115 and 0.262 respectively.

Influence of anthropological activities including pollution

During the study period anthropomorphic activities such as collecting bivalves, gastropods and echinoderms for food, operating motor boats over the coral reef habitats, playing rugby, releasing garbage, fishing by drag nets and long line stationary nets were observed at the Nasese Shore. Due to the collection of an excessive number of echinoderms (black banded sea cucumber, smooth sea cucumber, cake urchin), gastropods (beautiful turban), bivalves for consumption and for sale this over-exploitation will likely result in the disappearance of these species from this area in near future. Local species extinctions will affect food chains and can lead to the disappearance of other species. Normally the collecting was done by 13 to 15 families from the local area, they earn 20 to 100 Fiji Dollars per day by selling these goods (Fig.3-4).



Fig.3

Selling of cake urchins at Suva
Market © D.M. Suratissa

Fig.4

Selling of turbans at Suva Market ©
D.M. Suratissa

Drag net fishing in the area uses incorrect gear size. Fishermen are collecting young to adult fish with the smaller fish discarded at the shore. These people earn 50-120 Fiji Dollars per day by selling fish.

Beautiful turbans (*Turbo intercostalis*), cake sea urchins (*Tripeustus gratilla*), black banded sea cucumbers (*Holothuria fuscopunctatus*) and bivalves (*Anadara* spp.) crabs (*Scylla serrata*) have been severely affected by over-exploitation. Motor boats destroy the corals and recreational activities such as playing rugby causes the destruction of the fiddler crab habitat (*Uca* spp.).

Garbage disposal at the shore was another major activity observed at Nasese during our research project. Most of the ridged form food packets, plastic containers, water bottles and polythene materials are usually removed by the high tide. Rubbish is transported to the deep sea thus impacting other habitats. Operating motor boats over the coral reef can damage the coral habitat resulting in the breakdown of corals. This leads to erosion of land by heavy ocean currents.

Pollution is a critical problem for faunal diversity in shore areas. In Nasese several creeks are open to the shore. Most of them seem uncontaminated however, some carry effluent from factories restaurants and domestic buildings. These disturbances (e.g., pollution) are more likely to change the proportions of rather well-adapted species like shell bearing gastropods of the community rather than causing marked changes in the number of species. To observe these changes a 2 to 3 year research program would be required. However, reductions of species diversity of all but the rocky/coral habitat may be the result of continuous releasing of toxic chemicals and pollutants to the sea via creeks (UPAKA et al. 2014). Rocky and coral substrate composed of numerous dead corals may be due to the pollution caused by the release of phosphorous and nitrous substances into the sea via inland canals.

Conclusion and recommendations

- Despite pollution and other human impacts Nasese shore supports a high diversity and abundance of intertidal fauna. This includes some rare and economically important species.
- The survey has generated good baseline information for management of such resources in the future.
- Monitoring abundance, diversity and distribution of biota in the Nasese shore at regular intervals with environmental quality is necessary. This should incorporate other environmental parameters.
- An in depth study on microhabitat distribution is necessary to explain the difference of abundance, density and distribution of faunal species in the intertidal area.
- Making the authorities aware of the importance of prompt measures through regulation to protect faunal diversity from overexploitation is required, e.g. proper gear size for fishing.
- Regulating motor boats operating in coral reef areas by defining proper paths or declaring no entry zones is required.
- Action by the relevant authorities to stop release of effluents to the sea without treatment is necessary.
- Release of garbage into the sea could be curtailed by the Ministry of Environment introducing an awareness program.
- Starting a mangrove restoration program with community participation is recommended.
- The Natural History Museum can play a major role in addressing the public via education and awareness programs, e.g. distribution of information regarding major issues, displaying posters and exhibits of fauna, by applying different preservation and exhibition techniques in public gallery spaces. This can help change people's attitudes and build a healthy relationship between people and their environment.

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