Chapter 4

ARCHAEOLOGICAL PRACTICE IN TIMOR LESTE: PAST, PRESENT AND FUTURE

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Introduction

The material remains of the past make up a major, though not the only, portion of what is called "cultural heritage." These remains are a limited and threatened resource globally. Archaeologists are but one group of people who have interests in controlling, using and conserving these resources. In fact, archaeologists and cultural resource managers may have very different objectives as well as methods, which may at times be in conflict with each other. Additionally, so-called "indigenous" archaeology may present a third set of differing objectives and methods.

In this paper, we review the history of archaeology and cultural resource management (CRM) in Timor Leste in the context of global movements and, in particular, contrast to North America. Our paper also presents qualitative impressions about public attitudes regarding archaeology and cultural heritage in Timor Leste, as well as the results of a pilot survey of public attitudes about archaeology in the town of Manatuto in July 2005 (conducted by Randy Hert who was then a University of Washington archaeology field school student). While the small sample size and range of questions should not be taken to represent public opinion more generally in Southeast Asia, the study does highlight some of the key issues as well as the diversity of opinions held by people in a town in Timor Leste.

The literature on the relationship between archaeologists, cultural resource managers and the public outside of the North America and Europe is limited, but it generally suggests that lessons learned in North America or Europe should not be uncritically applied to Southeast Asia situations (Layton 1989;

Glover and Glover 1990; Schmidt and Patterson 1995; Lape 2003, 2004). Widely different historical, cultural, economic and political contexts have a major impact on issues such as the role of the past in the present (Marr and Reid 1979; Zurbuchen 2005), the meaning of material objects and museum collections in people's lives (Hoskins 1998; Schefold and Vermeulen 2002; Kreps 2003), and the role, rights and responsibilities of foreign and local researchers to local and national communities (Glover and Glover 1990; Glover 2004; Dalton 2005a, 2005b).

Our audience for this paper is primarily archaeological researchers. We suggest that in order to maintain access to cultural heritage objects and sites for research in the future (via governmental and local permissions), archaeologists must: 1) understand the various uses of cultural heritage in local and national communities; and 2) understand how archaeology as a practice is perceived in these communities. By focusing attention on these issues, archaeologists may be able to maintain better working relationships with these communities as well as gain new allies in heritage conservation efforts. We hope that these issues and the questions they raise can be usefully applied to other areas of Southeast Asia towards efforts to maintain access by archaeologists and protect cultural heritage resources in the future.

Background on Cultural Heritage and Archaeology in Timor Leste

Prior to its separation and subsequent independence from Indonesia in 1999, East Timor had seen relatively little attention from archaeologists. Primary work was done by Almeida and other Portuguese researchers in the 1950s and 60s (Ormeling 1956; Almeida 1961; Correa 1964; Almeida and Zbyszewski 1967) and Glover conducted dissertation research there in the late 1960s (Glover 1970; Glover 1986). During the Indonesian administration of East Timor from 1975 to 1999, few non-Indonesians were allowed to work there and Indonesian archaeological research was confined to descriptive cultural resources surveys. Since 1999, intensive archaeological research has begun again (e.g. O'Connor et al. 2002; Spriggs et al. 2003; Lape 2006; Lape et al. 2007; O'Connor 2007; O'Connor and Oliveira 2007; Chao 2008; Lape and Chao 2008; O'Connor, Aplin et al. 2010; O'Connor et al. 2010). Both cultural anthropologists and archaeologists have also considered the importance of cultural heritage resources including caves, ancestral graves and old village sites (e.g. McWilliam 2003; Pannell 2004; Pannell and O'Connor 2005; Veth et al. 2005; Pannell 2006; McWilliam 2007a; McWilliam 2007b; McWilliam 2008; O'Connor et al. this volume). These sites play an important role in contemporary cultural practice as sacred places, sites of clan histories and

other kinds of social memory. These memories are often strongly related to local identity and resistance to outside control, including the Portuguese and Indonesian colonial administration (Gunn 1999; Fox and Soares 2000; O'Connor et al. this volume). In general, however, this research has been conducted by foreign researchers and published in European languages. Very little of this research has been disseminated back to local communities in Timor Leste.

As such, the history of archaeology and cultural resource management in Timor Leste can be divided into four periods: precolonial (pre-1700 AD); Portuguese administration (1700–1974); Indonesian administration (1975–1999), and independence (2000–present). Although almost nothing is known about the precolonial period, we presume that knowledge about past was contained in oral traditions with landscape mnemonics and that power and identity operated primarily at the local level. During the Portuguese and Indonesian administration periods, the country experienced the creation of colonial ideologies, identity and political control. This included colonialist archaeology (with minimal impact on or relevance to local people) and the establishment of colonial or provincial museums. "Valuable" artifacts were often taken to colonial centers in Lisbon or Jakarta. Cultural heritage was also sometimes at the center of the conflict between colonial and anticolonial groups during these two colonial periods. The destruction of cultural heritage sites was used as method of warfare and at the same time, anticolonial resistance movements utilized cultural heritage sites as a source of magical power and to co-opt and build local (anti-Portuguese or Indonesian) identity (Pannell and O'Connor 2005).

After independence and transition from United Nations administration in 2002, the former anti-Indonesian resistance movement was elected to government power and has since struggled to invent national (i.e. unifying) identity and history. Associated with this struggle has been a transition away from colonialist archaeology, with greater interest in locally relevant research and local control (discussed in more detail below), the creation of a National Museum, the appointment of a government staff archaeologist and efforts to reclaim "looted" artifacts from former colonial power centers. Despite these efforts, the new Timor Leste government has not yet asserted significant control over the management of cultural resources in the country, primarily because the extremely limited financial and staff resources have been required for other pressing needs in this developing nation. Currently the State Secretariat of Culture (Secretaria de Estado da Cultura) is responsible for issuing archaeological research permits and approving loans of archaeological materials to foreign researchers. The secretariat is also the administrative home of the National Museum, which is being rebuilt from the largely looted collections of the former Indonesian Provincial Museum (Centeno and de Sousa 2001). At this writing there is not yet an archaeology training program at any Timorese university. There is only one trained archaeologist on the ministry staff, although some of the museum staff have received some archaeological field training either during the Indonesian period or subsequently with visiting foreign archaeologists. The governments of Australia and Portugal as well as organizations like UNESCO have been involved in various cultural heritage projects, primarily with the rebuilding of museum collections, but also in the preservation of traditional architecture and with cultural resource surveys of proposed national parks or reserves (see O'Connor et al. this volume).

In contrast to a relatively disengaged national government,¹ "management" of cultural resources is a daily practice for many people living in Timor Leste at the local level. There are often people in small communities with extensive, specialized knowledge about the history and meaning of local cultural heritage sites. Material remains of old villages, graves, caves, rock art, place markers and natural landscape features among other things are often imbued with historical or sacred meanings (O'Connor et al. this volume). While maintaining the knowledge and physical integrity of these sites is often the responsibility of traditional/religious leaders in communities, typically most community members in Timor Leste share and participate in this work. In our experience, neither traditional leaders nor other community members knew much about the science and practice of archaeology before our work began. But these people immediately understood how we could think these places were important.

Relations between Archaeologists and Local Communities

Unlike the relations between archaeologists and indigenous communities in North America and Australia, the very limited history of archaeological research in Timor Leste has not yet resulted in preconceptions about the practice and value of archaeology either positive or negative by East Timorese. In the course of field surveys we have occasionally encountered people who remembered archaeological projects from the 1960s, but most of the time these left a neutral impression. This contrasts with our experiences in the

¹ It should be noted that since this survey was conducted in 2005, the Timor Leste government has become more engaged with cultural heritage. It now has a website where many research papers relating to culture in Timor Leste are posted (http://www.cultura.gov.tl/en/documentation/publications, accessed 20 October 2011). There are also now culture representatives working at the district level who are meant to foster local awareness of the importance of cultural heritage and to work with communities to identify culturally significant sites or sites under threat.

United States, where Native American communities, for example, are very engaged with archaeological research, while at the same time often sharply critical of the history and contemporary practice of archaeology. Critiques in America have centered on the treatment of human remains found in archaeological sites, but have also raised issues such as the perceived lack of relevance of archaeology to important problems and questions within Native American communities (Thomas 2000; Watkins 2000; Little 2002). The advantage of working in the atmosphere currently prevailing in Timor Leste is that we have the opportunity to build a good relationship from the beginning. But this type of relationship building requires more than good intentions. Indeed, American archaeologists in the US have almost always had the best intentions in mind, but they often failed to understand how their work was perceived by indigenous people, which resulted largely from an often total disengagement from living Native American communities. We suggest that building good relationships requires understanding of the role of cultural heritage in the present and an understanding of evolving attitudes of various "publics" towards the objectives and practice of archaeological research.

Public Opinion Survey in Manatuto, July 2005

Archaeologists and cultural resource managers have made some preliminary efforts towards understanding the attitudes of various "publics" about archaeology and cultural heritage (McManamon 1991; Pokotylo and Mason 1991; Ramos and Duganne 2000). In the US, for example, an extensive public opinion poll was conducted by Harris Interactive in 1999 sponsored by the Society for American Archaeology (Ramos and Duganne 2000). Numerous articles in the Society for American Archaeology (SAA) monthly newsletter discuss how archaeologists can be better communicators with various "publics" using different media and public relations strategies (Pendergast 1998). Understanding public opinions and values about cultural heritage is important because "value" or "significance" are concepts typically used in making policy decisions about how to use limited public resources to support an (unlimited) need for protection (King 1998; King 2002; Mathers et al. 2005), as well as in applying legal, legislative and law enforcement solutions (Hutt et al. 1992; Hutt et al. 2006). There is significant discussion in the literature about differing attitudes towards archaeology, science and cultural resources protection held by different cultural and ethnic groups, especially Native Americans in the USA and indigenous groups in Australia (Layton 1989; Deloria 1992; Schmidt and Patterson 1995; Thomas 2000; Watkins 2000; Zimmerman et al. 2003; Vitelli and Colwell-Chanthaphonh 2006). These studies suggest that the "public" is composed of numerous subgroups that can have radically different attitudes. These attitudes affect cultural heritage protection efforts in myriad ways.

To date, little has been published about public attitudes towards archaeology in Southeast Asia. The intent of the survey described below is to begin to address this lack by providing preliminary data about how a local Southeast Asian community understands, appreciates, and accepts archaeology in the broader context of cultural heritage. The Timor Leste public is unique with regards to our subject for two main reasons. First, people born prior to 1970 or who were at least 35 years old during the course of this study have memories of the now independent country being controlled by two successive colonial administrations: Portugal and Indonesia. Second, Timor Leste has had relatively little archaeological work conducted until after 2000. Since the citizens have little previous exposure to archaeology, the potential existed for survey responses that would reflect opinions about the value of archaeology as separate from colonial experiences.

Survey Methods

Primary data collection took place in Manatuto, a community 64km east of the capitol city of Dili. This community has had some recent exposure to archaeological research. University of Washington (UW) PhD student Chao Chin-yung conducted archaeological survey and excavations in and around Manatuto from 2004–2006 (Chao 2008). In July 2005, a UW archaeology field school with seven American students was conducted at the Lek Paturan site on the outskirts of the Manatuto town center.

After generating the list of five questions to include on the survey, 100 paper copies of the page were created. These could be filled out and returned at the survey taker's leisure, and also served to create a physical record of the survey responses. The questions were printed in both Indonesian and English. To aid in the distribution of the survey, an assistant from Manatuto who also on the archaeological field crew distributed, collected, and provided assistance in reading and recording results to those individuals who were either not formally educated in either of the two languages or not able to fill out the paper survey. This allowed for the collection of data from people with a wide range of educational backgrounds and reading/writing abilities. The disadvantage of this method was that it did not allow for the survey to be anonymous, since a particular community member distributed, collected and sometimes administered the survey, and this likely influenced our results.

The analysis of the results of this survey used three variables: age, gender and education level. Our hypothesis was that, given the political history of Timor Leste and different levels of access to education and information by males and females, age and education would be significant factors in survey responses. With the final two questions in particular, we assumed

that a higher-level education would expose people to other ways of knowing about the past beyond traditional creation stories that would be evident in the survey results.

Rationale for Survey Questions and Predicted Responses

1. Is history important to you?

This served as a "warm-up" question, and a way to introduce the respondent to the general topic of the survey. We assumed that the people of Manatuto, especially those 35 years old and older, would have a strong personal connection to history given the dramatic and often tragic period of warfare and political turmoil that they had experienced. We hypothesized that there would be a near 100 percent return of yes responses to this question, regardless of the variables used to evaluate the question's results.

2. Is the history of your people more important than the history of a different people?

As with question one, we expected personal and political histories to affect responses. We also assumed that responses to this question would be closely related to general worldview or "worldliness." We hypothesized that if there was a connection to their own history, the age variable could be used to see if the greater percentage of yes responses came from the post-35 age category.

3. Is archaeology a useful way of uncovering history?

This question was meant to query the role of archaeology versus oral traditions or written documents. We assumed the survey taker knew what archaeology is. This may well have been incorrect, and future surveys should attempt to correct for this assumption.

4. Have you heard human origin theory of man originating from outside Timor?

5. Do you believe this theory might be correct?

Questions four and five were intentionally tied together as a way of exploring the role of local traditional origin stories. Many East Timorese had reported to us belief in these stories in which the first people on earth appear in Timor Leste. We hypothesized that higher education would be a determining factor for yes responses to these questions due to exposure to scientific theories of human origins in Africa, and that differential access to education by gender might also be a significant determinant.

Survey Results

We received responses from 98 people. Respondent ages ranged from 14 to 82 (mean 28.6), with 71 percent being male and 29 percent female (Figures 4.1, 4.3 and 4.4). Education levels ranged from no formal education (8 percent) to postsecondary (10 percent), with the majority of respondents having some

Figure 4.1. Age frequency of survey respondents.

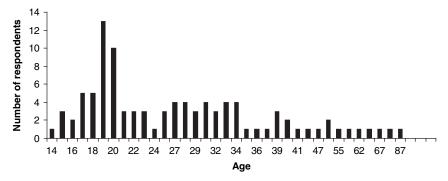
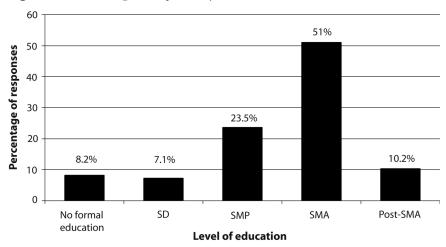


Figure 4.2. Percentage of responses by education level.



Note: The education system of Timor Leste is comprised of several levels, roughly equivalent to the United States' elementary, middle school, and high school (in Indonesian: SD, SMP, and SMA, respectively).

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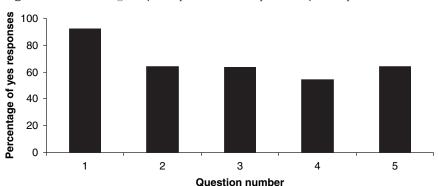
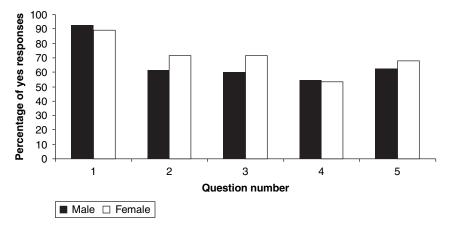


Figure 4.3. Percentage of yes responses to each question by all respondents.

Figure 4.4. Percentage of yes responses by gender.



formal education (primary school 7 percent, middle school 24 percent and high school 51 percent; Figure 4.2).

Discussion of Results

When determining the most useful statistical tool to analyze the relationship between the variables of age, gender and education, and the responses to our survey questions, we realized that our survey captured several types of data. While the variable of age is an interval data type and thus parametric in nature the other variables are nominal data types and are nonparametric in nature. Thus, we used two methods of statistical analysis to analyze the relationships existing in our data most effectively.

In analyzing the relationship between age and survey responses to the questions, we used Pearson's product-moment correlation coefficient, a parametric statistical analysis method that results in Pearson's correlation coefficient (Pearson's r) based on degrees of freedom (df). Pearson's correlation coefficient has a value anywhere between -1 and +1. Positive correlation indicates both variables rising together, while negative correlation indicates that an increase in one variable corresponds to a decrease in the other variable. A value of -1 or +1 signifies a perfect relationship, while a value of 0 signifies no relationship. Our guideline for measuring the relationship level of the correlation value is based on Cohen's guidelines for social sciences: weak relationship, r = 0.1-0.23; moderate relationship, r = 0.24-0.36; strong relationship, r = 0.37 or greater (Cohen 1988).

In analyzing the relationship between gender and level of education with the survey responses to the questions, we used Pearson's chi-square (X^2) test, a nonparametric statistical method that is better equipped to analyze relationships in qualitative data that is categorical in nature (Lowry 2011). Contingency tables were employed to calculate the chi-square statistic based on degrees of freedom (df). In cases where there was too little data in a particular cell on the table, Yates' chi-square and p-value corrections were employed to prevent overestimation of statistical significance.

To evaluate the significance of the results in both models, we test a null hypothesis (there is no relationship between the variable being tested and the survey responses) against our alternative hypothesis (there is a relationship between the variable being tested and the survey responses) and calculate the p-value using a 95 percent confidence interval (alpha = 0.05). In short, when our p-value is less than our 0.05 confidence interval, we can reject our null hypothesis and accept with more than 95 percent confidence that the relationship represented by the data actually exists in the population from which we took our sample (Motulsky 2010).

1. Is history important to you?

As hypothesized, nearly everybody (over 90 percent) agreed that history was important to them. Males and those older than 35 responded yes to this question more frequently than others, and interestingly, 100 percent of those with no formal education responded yes to this question.

2. Is the history of your people more important than the history of a different people?

Education, rather than age, was the most important variable with this question. Intriguingly, those with middle school education had significantly lower

percentage of yes responses, while the primary school education had the highest percentage yes responses. While we hypothesized that a higher education level would bring with it a perspective that one people's history is as important as that of any another, the survey results do not seem to support that hypothesis.

3. Is archaeology a useful way of uncovering history?

Responses to this question varied differently by age, gender and education. Younger people responded yes more frequently than older, and females were much more likely than males to respond yes. As predicted, people with no formal education or primary education returned fewer yes responses than those with higher education levels (all respondents who said yes had some formal education). This would suggest that the value of archaeology as a science is emphasized in Timor Leste's education system. Younger people who were also more educated said yes more frequently than older people who were also less educated. The ties between age and education will become even more evident in the final two questions.

4. Have you heard human origin theory of man originating from outside Timor?

Education level was the factor that most influenced responses to this question, while age and gender had little correlation. We expected to see higher education level correlating with yes responses, as more exposure to formal education increases the chance that a respondent would be exposed to theories of human evolution. This does not seem to be the case. In fact, those with no formal education had the highest number of yes responses, while those with primary education had zero yes responses. From middle school to postsecondary education, higher education levels produced fewer yes responses. Clearly this question requires further investigation into the causes of these responses.

5. Do you believe this theory might be correct?

The results for this question raise some new questions. As hypothesized, the older age group returned fewer yes responses than the younger group. Gender does not seem to be an important factor, with females slightly more likely to respond yes. Education does seem to be a factor. The reason for this seems to be the same case as in question three; younger people who were also more educated respond yes more frequently than less educated older people.

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	r-value	p-value	r-value	p-value	r-value	p-value	r-value	p-value	r-value	p-value	Df
All Ages (0.0871	0.3935	0.1246	0.2215	-0.3393	900000	0.0041	0.9679	-0.2918	0.0035	96

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Table 4.2.	Relationship	of yes response	s between	Table 4.2. Relationship of yes responses between age groups 0–35 years and 35–100 years.	35 years ar	nd 35–100 yea	rs.			
Question	1: H odmi	1: History important?	2: Ow mo	2: Own history more so?	3: Arcl	3: Archaeology useful?	4: H nonloc	4: Heard of nonlocal theory?	5: Nonlo	5: Nonlocal human origins true?
Responses	Yes	$N_{\rm O}$	Yes	$N_{\rm O}$	Yes	No	Yes	No	Yes	$N_{\rm O}$
Age 0–35	71	7	49	29	55	23	41	37	54	24
Age $35-100$	19	Π	14	9	7	13	12	80	6	11
	= Jp	: 1	[= Jp	: 1	df = 1	. 1	df = 1		df = 1	: 1
	$X^2 =$	$X^2 = *.015$	$X^2 =$	$X^2 = 0.357$	$X^2 =$	$X^2 = 8.638$	$X^2 =$	$X^2 = 0.354$	$X^2 =$	$X^2 = 4.071$
	= d	p = *.9025	= d	p = 0.5501	= d	p = 0.0033	= d	p = 0.5519	= d	p = 0.0436

*Yates' chi-square and p-value corrections employed where values of 5 or less occur in 20 percentor more cells.

Relationship by Age

We predicted that age of the respondent would have a clear affect on responses, and this was supported by the data for the oldest age group and less so with the categories under age 35. The group showing the greatest relationship between age and survey responses is the 35 and older group. This age range was selected because it was most probable that those individuals' responses would be influenced by memories of life under three different political systems.

The analysis using Pearson's correlation coefficient across all age ranges shows that on question three and question five, where p < 0.05, there is a moderately strong correlation between the respondents' age and their responses on the survey (Tables 4.1 and 4.2). Note that these correlations are negative correlations, meaning that for questions three and five, the older the respondent was, the less likely they were to respond to a survey question with yes. The conclusion that age is a factor in yes responses to the survey is reinforced when respondents are divided into two age groups of 0–35 years old and 35–100 years old using the chi-square test (Table 4.3), which also found a relationship between age of respondent and yes responses to the survey. The older a respondent is, the less likely they were to respond yes to the survey question.

This may show that older respondents were more resistant to scientific theories than younger people. It would be interesting to investigate this further in future studies. The role of church-based education in this predominantly Catholic population may well be a factor here.

Relationship by Gender

We did not predict a strong relationship between gender and survey responses and this is largely supported by the results (Table 4.3). Overall, the results of the chi-square test show that gender was not a significant factor in survey responses. This is still an interesting result in that we often heard reports of differential access to education, particularly by those who were of school age during the Portuguese administration, when boys were more likely to attend school. Perhaps the survey questions themselves or the fact that the survey administrator was male are to blame for not allowing this relationship if it in fact exists to be teased from the data.

Relationship by Education Level

While there is an abundance of interesting data related to the respondent's level of education as it relates to other survey variables, the strongest relationship found

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Table 4.3. Relationship between gender and yes responses.	ationship l	between gend	ler and yes re	sponses.						
Question	1: Hi impoi	1: History important?	2: Own history more so?	history so?	3: Archaeology useful?	aeology ul?	4 : H ϵ	4: Heard of nonlocal theory?	5: Nonloc origin	5: Nonlocal human origins true?
Responses	Yes	No	Yes	$N_{\rm O}$	Yes	No	Yes	No	Yes	No
Male	65	5	42	28	42	28	38	32	44	26
Female	25	3	20	00	20	8	15	13	18	10
	= Jp	1	df = 1		df = 1		df = 1	1	df = 1	_
	$X^2 = *.031$	*.031	$X^2 = 1.124$	1.124	$X^2 = 1.124$	1.124	$X^2 = 0.004$	0.004	$X^2 = 0.018$	0.018
	= d	p = *.8602	p = 0	p = 0.2891	d = d	p = 0.2891	d = d	p = 0.9496	d = d	p = 0.8933

*Yates' chi-square and p-value corrections employed where values of 5 or less occur in 20 percent or more cells.

 Table 4.4. Percentage of yes responses to each question by education level.

	* ` ` `	1	,			
	Question	1: History important?	2: Own history more so?	3: Archaeology useful?	4: Heard of nonlocal theory?	5: Nonlocal human origins true?
	Post-SMA	%0.06	%0.09	60.0%	30.0%	40.0%
	SMA	97.1%	71.4%	71.4%	57.1%	62.9%
vel o	SMP	82.6%	34.8%	73.9%	%9.69	82.6%
r ₉ J uba	SD	85.7%	85.7%	42.9%	0.0%	57.1%
)	No formal education	100.0%	75.0%	0.0%	75.0%	37.5%

 Table 4.5. Relationship between education level and yes responses.

Question	1: H. oqmi	1: History important?	2: Own history more so?	Own history more so?	3: Arch use	3: Archaeology useful?	4: Heard of nonlocal theoryî	4: Heard of onlocal theory?	5: Nonlo origin	5: Nonlocal human origins true?
Responses	Yes	No	Yes	No	Yes	No	Yes	No	Yes	$N_{\rm O}$
Post-SMA	9	0	4	2	3	3	2	4	4	2
SMA	52	2	39	15	39	15	28	26	33	21
SMP	18	5	8	15	17	9	16	7	19	4
SD	9	_	9	_	3	4	П	9	4	3
No formal education	8	0	9	2	0	8	9	2	3	5
	df = 4	4	df = 4		df = 4		df = 4		df = 4	-
	$X^2 =$	$X^2 = *4.937$	$X^2 = *9.422$	9.425	$X^2 = *$	$X^2 = *13.992$	$X^2 = *5.749$	5.749	$X^2 = $	$X^2 = *4.294$
	= d	p = *.2938	* = d	p = *.0514	, = d	p = *.0073	* = d	p = *.2187	p = q	p = *.3677

*Yates' chi-square and p-value corrections employed where values of 5 or less occur in 20 percent or more cells.

using the chi-square test between education level and yes responses to the survey questions occurs on question three, where again, p < 0.05 and we can reject our null hypothesis (Tables 4.4 and 4.5). This shows that we can be confident that education was a factor in yes responses. The more educated the respondent, the more likely they were to respond yes to this question. This suggests that education level may be a predictive factor in the acceptance and understanding of archaeology in local communities. However, it is not necessarily closely tied to attitudes about the past and history. In Manatuto, almost all people believe that history is important, regardless of education level.

Conclusions

Although this pilot survey raises more questions than it answers, there are several trends that may bear further investigation. In general, those surveyed believe that history is important and the majority believe that archaeology can play a role in investigating that history. Age seemed to be the most important variable affecting people's attitudes towards history and archaeology, perhaps unsurprisingly. The influence of education was less clear, perhaps reflecting the dramatically changing state of education in Timor Leste during the last 40 years.

This small pilot study may not clarify a picture of public attitudes towards cultural heritage in Timor Leste, but it should provide some important issues to consider for archaeologists and cultural resource managers working there. Foremost is the fact that the public strongly values history and cultural heritage. Results in Manatuto are not dissimilar from those in the US, where over 90 percent of respondents to a 1999 survey thought that archaeological sites should be protected by law. This strong public support is a major resource for government agencies and research archaeologists alike. On the other hand, if the public perceives that government agencies or archaeologists are not protecting these resources, public opinion may turn against them. This partly explains the negative attitudes held by Native Americans towards archaeologists in the US, where archaeologists are often described as looters or grave robbers (Deloria 1992; Thomas 2000).

With these cautionary lessons firmly in mind, we have used an evolving set of rules to govern our practice in Timor Leste (and other places). Many of these are inspired by the strong interest of local people in heritage as indicated in this and other surveys, as well as a widespread skepticism of scientific investigation, particularly among older people:

1) Negotiate for research access to sites at the local level. Given the high level of interest among people at the local level in the past, we do not assume that permission given by the national or district governments excludes the need

to obtain permission from local traditional leaders and landowners. That said, it is often far from clear who has authority at the local, traditional level, particularly in the volatile sociopolitical framework of Timor Leste in the past few years.

- 2) Involve local people in research activities. We try to involve local residents not only as paid laborers, but also as guides, informants and interpreters. Typically, the best communication happens during excavations or survey as we talk about our objectives and also listen to concerns, questions and interests of local participants. It is useful to assign at least one person as a full-time spokesperson during excavations, especially those conducted near towns and villages where activities naturally generate intense local interest. We have also found it useful to involve local schoolteachers and students in projects. This has two advantages, the first being that involving students is one way to depoliticize the issues surrounding research permission (such as land tenure and local political authority). Secondly, students and teachers are effective communicators and will spread your message widely to adults in the community who may be too busy with other activities to see what you are doing. Just as important, our survey indicates that history and archaeology are being taught in local schools, so involving students can be a great advantage for both the archaeologists and the local education system.
- 3) Develop a clear understanding of what will happen to collections after the excavations. Will they go to a museum or be on loan for analysis? Will human remains, grave goods and other sacred objects be allowed to be removed from sites and if so will they be returned, and when? Those who do not have prior experience with archaeology will often assume that you plan to sell artifacts to make money (Schefold and Vermeulen 2002). By clearly communicating and demonstrating that this is not a part of archaeological research, these misconceptions can be minimized along with the tensions they bring.
- 4) Communicate research results. This is often the hardest for archaeologists to do, but is frequently of central concern for local communities. While copies of offprints of academic articles and books will be appreciated, language differences mean that local residents may not be able to read or understand this kind of information. Other more appropriate methods can include posters (in local languages), slide shows or talks in local schools or community centers, small museum exhibits or videos (Jameson 1997; Lape 2004). These communications must take into account differing attitudes and preconceptions held by various age, gender and education groups.

Finally, we strongly support additional research on these issues. Government policy and research practices are carried out all too often with little knowledge of how they will be perceived by the people most affected by them. We hope

this study will inspire others particularly those in Southeast Asia to work on these issues.

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Websites of Interest

State Secretariat of Culture, Timor Leste http://www.cultura.gov.tl/

Ename Center http://www.enamecenter.org/

The International Council on Monuments and Sites (ICOMOS) http://www.international.icomos.org/

References

Almeida, António. 1961. Contribution à l'étude du néolithique du Timor Portugais. Hamburg: International Congress of Prehistoric and Protohistoric Sciences.

Almeida, António and Georges Zbyszewski. 1967. "Contribution to the Study of the Prehistory of Portuguese Timor Lithic Industries." *Asian and Pacific Archaeology Series* 1: 55–67.

Centeno, R. M. S. and I. C. de Sousa. 2001. *Uma Lulik Timor*. Porto: Universidade do Porto. Chao, Chin-yung. 2008. "A Microregional Approach to the Social Dynamics in the Late Prehistoric Manatuto, East Timor, Eleventh to Eighteenth Century." PhD dissertation, Department of Anthropology, University of Washington.

Cohen, Jacob. 1988. Statistical Power Analysis for the Behavioral Sciences. Hillsdale, NJ: Lawrence Erlbaum Associates.

Correa, A. A. Mendes. 1964. "Sobre alguns exemplares com facies paleolitica de Timor Portugues." Portugal 50: 13–35.

Dalton, R. 2005a. "Fossil Finders in Tug of War over Analysis of Hobbit Bones." Nature 434: 5.

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- 2005b. "More Evidence for Hobbit Unearthed as Diggers Are Refused Access to Cave." *Nature* 437: 934.
- Deloria, Vine. 1992. "Indians, Archaeologists and the Future." American Antiquity 57.4 595–8.Fox, J. J. and D. B. Soares (eds). 2000. Out of the Ashes: Deconstruction and Reconstruction of East Timor. Adelaide: Crawford House.
- Glover, Ian. 1970. Excavations in Timor: A Study of Economic Change and Cultural Continuity in Prehistory. Canberra: Australian National University.
- 1986. Archaeology in Eastern Timor, 1966–67. Canberra: Research School of Pacific Studies, Australian National University.
- Glover, Ian and E. Glover (eds). 1990. "The Future of Overseas Archaeological Research in Southeast Asia: Seminar and Discussion." Proceedings of the 3rd Conference of the European Association of Southeast Asian Archaeologists, Hull.
- Gunn, Geoffrey. 1999. Timor Loro Sae: 500 Years. Macau: Livros do Oriente.
- Hoskins, Janet. 1998. Biographical Objects: How Things Tell the Stories of People's Lives. New York: Routledge.
- Hutt, Sherry, Marion Forsyth and David Tarler. 2006. Presenting Archaeology in Court: Legal Strategies for Protecting Cultural Resources. Lanham, MD: AltaMira Press.
- Hutt, Sherry, Elwood Jones and Martin McAllister. 1992. *Archaeological Resource Protection*. Washington DC: The Preservation Press.
- Jameson, John H. 1997. Presenting Archaeology to the Public: Digging for Truths. Walnut Creek, CA: AltaMira Press.
- King, Thomas F. 1998. Cultural Resource Law and Practice: An Introductory Guide. Walnut Creek, CA: AltaMira Press.
- 2002. Thinking About Cultural Resource Management: Essays From the Edge. Walnut Creek, CA: AltaMira Press.
- Kreps, Christina. K. 2003. Liberating Culture: Cross-Cultural Perspectives on Museums, Curation, and Heritage Preservation. New York: Routledge.
- Lape, Peter. 2003. "Does Archaeology Have a Role in Building the Nation of East Timor?" http://www.asiasource.org/asip/archaeology.cfm (accessed 4 November 2010).
- 2004. "Working with Local Museums: A Case Study from Eastern Indonesia." Bulletin of the Indo-Pacific Prehistory Association 23: 187–90.
- 2006. "On the Use of Archaeology and History in Island Southeast Asia." In N. Yoffee and Bradley Crowell (eds), Excavating Asian History: Interdisciplinary Studies in Archaeology and History, 278–306. Tuscon: University of Arizona Press.
- Lape, Peter and Chin-yung Chao. 2008. "Fortification as a Human Response to Late Holocene Climate Change in East Timor." *Archaeology in Oceania* 43: 113–24.
- Lape, Peter, Sue O'Connor and Nick Burningham. 2007. "Rock Art: A Potential Source of Information About Past Maritime Technology in the Southeast Asia-Pacific Region." International Journal of Nautical Archaeology 36.2: 238–53.
- Layton, Robert. 1989. Conflict in the Archaeology of Living Traditions. London and Boston: Unwin Hyman.
- Little, Barbara J. 2002. Public Benefits of Archaeology. Gainesville: University Press of Florida.
- Lowry, Richard. 2011. "Concepts and Applications of Inferential Statistics." http://faculty.vassar.edu/lowry/webtext.html (accessed 4 November 2010).

- Marr, D. G. and A. Reid. 1979. *Perceptions of the Past in Southeast Asia*. Singapore: Heinemann Educational Books (Asia) for the Asian Studies Association of Australia.
- Mathers, Clay, Timothy Darvill and Barbara Little (eds). 2005. Heritage of Value, Archaeology of Renown. Gainesville: University Press of Florida.
- McManamon, F. P. 1991. "Many Publics for Archaeology." *American Antiquity* 56.1: 121–30.
- McWilliam, Andrew. "New Beginnings in East Timorese Forest Management." *Journal of Southeast Asian Studies* 34.2: 307–27.
- 2007a. "Harbouring Traditions in East Timor: Marginality in a Lowland Entrepôt." *Modern Asian Studies* 41.6: 1113–43.
- 2007b. "Looking for Adê: A Contribution to Timorese Historiography." *Bijdragen tot de Taal-, Land- en Volkenkunde* 163.2–3: 221–38.
- 2008. "Fataluku Healing and Cultural Resilience in East Timor." *Ethnos* 73.2: 217–40.
- Motulsky, Harvey J. 2010. Intuitive Biostatistics: A Nonmathematical Guide to Statistical Thinking. New York: Oxford University Press.
- O'Connor, Sue. 2007. "New Evidence from East Timor Contributes to Our Understanding of Earliest Modern Human Colonisation East of the Sunda Shelf." *Antiquity* 81: 523–55.
- O'Connor, Sue, Ken Aplin, E. St Pierre and X. Feng. 2010. "Faces of the Ancestors Revealed: Discovery and Dating of Pleistocene-Aged Petroglyphs in Lene Hara Cave, East Timor." *Antiquity* 84.325: 649–65.
- O'Connor, Sue, A. Barham, M. Spriggs, P. Veth, Ken Aplin and E. St Pierre. 2010. "Cave Archaeology and Sampling Issues in the Tropics: A Case Study from Lene Hara Cave, a 42,000 Year Old Occupation Site in East Timor, Island Southeast Asia." *Australian Archaeology* 71: 29–40.
- O'Connor, Sue and N. V. Oliveira. 2007. "Inter- and Intraregional Variation in the Austronesian Painting Tradition: A View from East Timor." *Asian Perspectives* 46.2: 389–403.
- O'Connor, Sue, Sandra Pannell and Sally Brockwell. "Whose Culture and Heritage for Whom? The Limits of National Public Good Protected Area Models in Timor Leste." In this volume.
- O'Connor, Sue, Matthew Spriggs and Peter Veth. 2002. "Excavation at Lene Hara Cave Establishes Occupation in East Timor at Least 30,000–35,000 Years Ago." *Antiquity* 76: 45–50.
- Ormeling, F. J. 1956. The Timor Problem: A Geographical Interpretation of an Underdeveloped Island. Gravenhage: Martinus Nijhoff.
- Pannell, Sandra. 2004. Welcome to The Hotel Tutuala: Fataluku Accounts of Going Places in an Immobile World. Melbourne: Australian Anthropological Society Conference, University of Melbourne.
- ______ 2006. "Welcome to the Hotel Tutuala: Fataluku Accounts of Going Places in an Immobile World." *The Asia Pacific Journal of Anthropology* 7.3: 203–19.
- Pannell, Sandra and Sue O'Connor. 2005. "Toward a Cultural Topography of Cave Use in East Timor: A Preliminary Study." *Asian Perspectives* 44.1: 193–206.
- Pendergast, D. 1998. "The Bedfellows are Less Strange These Days: The Changing Relationship between Archaeologists and the Media." SAA Bulletin 16.5: 12.
- Pokotylo, David and Andrew Mason. 1991. "Public Attitudes Towards Archaeological Resources and Their Management." In George Smith and John Ehrenhard (eds), *Protecting the Past*, 9–18 Boca Raton, FL: CRC Press.

- Ramos, Maria and David Duganne. 2000. "Exploring Public Perceptions and Attitudes about Archaeology." Report prepared by Harris Interactive Inc. for the Society for American Archaeology.
- Schefold, Reimar and Han F. Vermeulen (eds). 2002. Treasure Hunting?: Collectors and Collections of Indonesian Artefacts. Leiden: CNWS.
- Schmidt, P. R. and T. C. Patterson. 1995. Making Alternative Histories: The Practice of Archaeology and History in Non-Western Settings. Santa Fe, NM: School of American Research Press.
- Spriggs, Matthew, Sue O'Connor and Peter Veth. 2003. "Vestiges of Early Pre-Agricultural Economy in the Landscape of East Timor: Recent Research." In Anna Kallen and Anna Karlstrom (eds), Fishbones and Glittering Emblems: Proceedings from the EurASEEA Sigtuna Conference, 49–58. Stockholm: Museum of Far Eastern Antiquities.
- Thomas, D. H. 2000. The Skull Wars: Kennewick Man, Archaeology, and the Battle for Native American Identity. New York: Basic Books.
- Veth, Peter, Matthew Spriggs and Sue O'Connor. 2005. "The Continuity of Cave Use in the Tropics: Examples From East Timor and the Aru Islands, Maluku." *Asian Perspectives* 44.1: 180–92.
- Vitelli, K. D. and Chip Colwell-Chanthaphonh. 2006. Archaeological Ethics. Lanham, MD: Altamira Press.
- Watkins, Joe. 2000. *Indigenous Archaeology: American Indian Values and Scientific Practice*. Walnut Creek, CA and Oxford: AltaMira Press.
- Zimmerman, Larry, Karen Vitelli and Julie Hollowell-Zimmer. 2003. *Ethical Issues in Archaeology*. Walnut Creek, CA: AltaMira Press.
- Zurbuchen, Mary S. (ed.) 2005. *Beginning to Remember: The Past in the Indonesian Present* (Critical Dialogues in Southeast Asian Studies). Singapore: Singapore University Press.