

A DAY IN JAPANESE ARCHAEOLOGICAL LABORATORY

July 29, 2011atsushiDay of Archaeology, Day of Archaeology 2011,Prehistoryadobe, Allied Force, archaeologist, Archaeology, CAD, chipped stone tools,Excavation, illustrator, Imperial Japanese Army, Japan, Jōmon period, lithic technology, Meiji University Archaeological Investigation Unit, Microsoft, researcher, Stone Age, stone tool, stone tools, Tools, web-site

I'm an archaeologist living and working in Japan. I'm a researcher of Meiji University Archaeological Investigation Unit. This unit is organized for preventive excavation within university campus.

In Japan, all archaeological sites are conserved under the national law. Local governments develop a registration map of archaeological sites and check all land development. In order to keep to the law, all developer and constructor – not only commercial sector but also public/administrative sector- must make an effort to conserve archaeological sites within their development/ construction area. If they cannot change their plans, they must do excavation. More than 95% of excavations carried out in Japan are this type – preventive excavation...documentation before destruction of sites for those 40yrs.

As you know Japan has large population- about 120 million- in small land. Most parts of our landscape are hilly or mountainous, so our living spaces are definitely limited and overlaid on ancestor's lived space. This is the cause of so many excavations – more than 8,000 in average/year and the peak was about 12,000 in 1996...- have done every year.

In 2004, our project was started. It was for the construction of new buildings of the university affiliated junior-high and high school. At first we did survey and sounding in total 40,000 sq-meters area, then begun excavation in 18,000 sq-meters area. The excavation continued for 2 years and 5 months – more than 800 days. We unveiled Modern Age (including Imperial Japanese Army and occupation Allied Force sites during WWII), Jomon Age (mostly Middle Jomon, 6-4.5ka) and the Upper Palaeolithic Age (32-16ka). Now I'm constructing web-site for our excavation (<https://sites.google.com/site/japarchresources/> :it's not completed) .



aerial view of our excavation area in 2005



excavation of the Upper Palaeolithic living floor



excavation of a shelter for air fighter of Imperial Japanese Army during WWII



documentation of the Late Pleistocene stratigraphy

Our excavation was finished in Dec,2007. However it means finishing just the first step only in the field... we have more than 500 containers filled with artefacts such as: 5,000 potsherd and 40,000 pebbles of Jomon, 25,000 lithics and 90,000 pebbles of the Upper Palaeolithic, more than 200GB of digital images and measurement datum by total station system... and so on.

Since 2008, we're engaging with the post-excavation procedure and it will continue until 2015. We have published the 1st volume of our excavation report this May and will publish other 5 volumes over 5 years.

This is our background. And here I show our habitual day in post-excavation laboratory of our investigation unit. Now we're tackling with Jomon and the Upper Palaeolithic materials.

The first section is for Upper Palaeolithic pebble refitting work. We uncovered more than 300 stone heaps composed with 90,000 pebbles. Most of pebbles are burnt and fragments. These stone heaps are assumed for cooking, as in the Pacific ethnography.

This work has started in 2010 and will continue for the next 2 years. There are many pebbles in containers waiting for their turn...



Upper Palaeolithic pebble refitting



Upper Palaeolithic pebble refitting(2)

These workers are from the commercial company engaging in preventive archaeology.



more pebbles are waiting their turn...



all containers are fulfilled with material

The second section is for Upper Palaeolithic stone tools (lithic technology) refitting. This work has started in 2007 and will finished this year.

Basically we start from distinguishing chipped stone tools and debitage into petrological classification and making sub-divisions according to their colour, texture, micro-structure and other characteristics. This is very empiric but very efficient method. Up to now we have documented more than 6,000 cases of refitting in 25,000 specimens of lithic material. In some cases, we can reconstruct original shape of nodule and decode total sequence of knapping technology. Of course, to determine source of raw material, we apply archaeo-scientific analysis.



Lithic refitting work(1)



Lithic refitting work(2)



arrange debitage with raw material, texture and other character

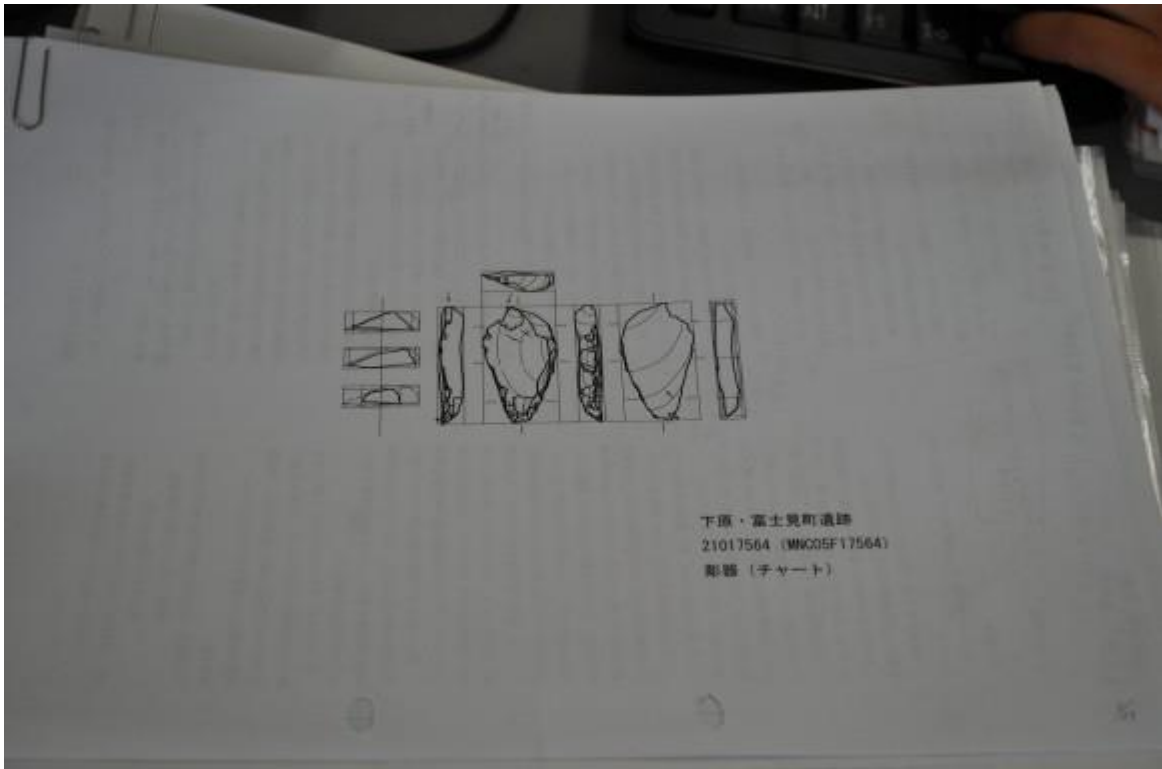


documenting which pieces are and how they are refitting in sequence

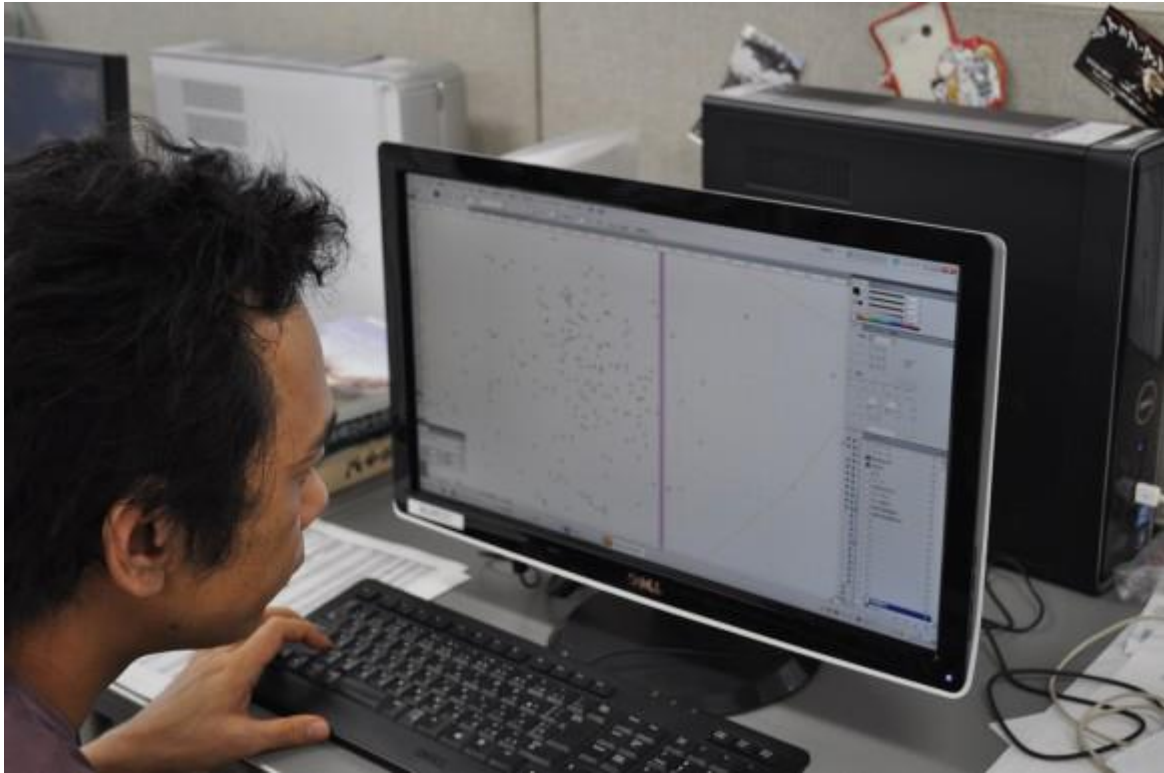
The third section is computer application for managing the database, drawing maps and artefacts, geo-spatial analysing and editing publications. We use Microsoft^(R) Access(2007)^(R) for database managing; Intel CAD(6.0J) for arranging and original drawings measurement survey datum, 3-dimensional distribution maps of artefacts; Adobe^(R) Illustrator(CS5)^(R) for drawing artefacts and finishing maps and other figures for publication; Arc GIS^(R) 10 for geo-spatial analysing; Adobe^(R) InDesign(CS4)^(R) for editing publications. Some part of these computer works are put out to commercial companies, those which have specific technique and systems.



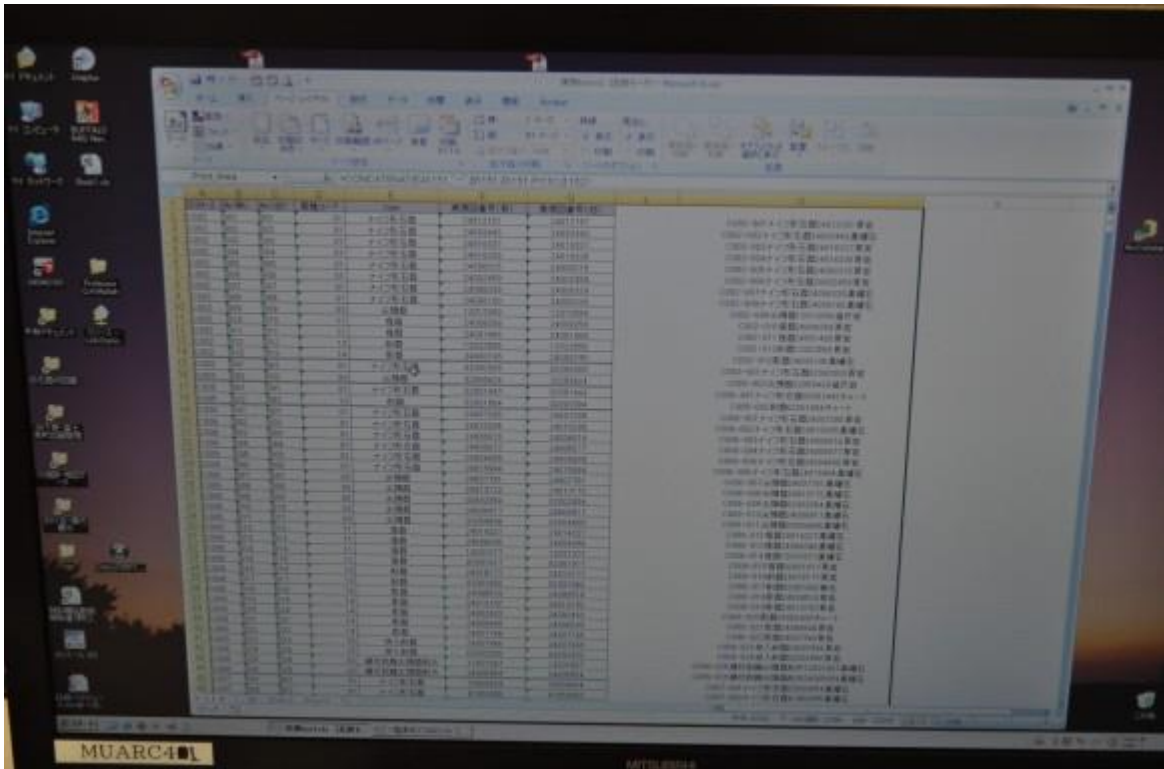
computers in our laboratory



a drawing of stone tool (Upper Palaeolithic backed blade)



drawing distribution map of Upper Palaeolithic lithic concentration



database for chipped stone tools of Upper Palaeolithic



geo-spatial analysing of Jomon inter-site components

Post-excavation laboratory working continues...however I hope to go back to the field...yep I should!!!!