FRIEND of BAN CHIANG – a UNESCO World Heritage Site –

The Ban Chiang UpDATE

Newsletter for the Friends of Ban Chiang

*Preserving a **UNESCO** World Heritage Site Issue #16 Spring 2009*

From the Director

Penn Museum receives Luce Foundation Grant

Exploring the archaeology of the great Mekong River has been one of the University of Pennsylvania Museum's more unusual endeavors in recent decades. The Henry Luce Foundation is supporting Penn in this special pursuit with a ***four year challenge grant of $300,000***.

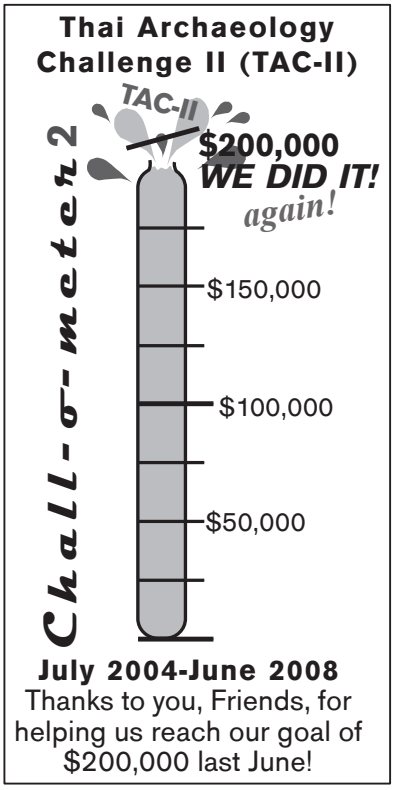
The Luce Grant for the Museum's bold proposal, *Strengthening the Future of Southeast Asian Archaeology: Investigating Prehistoric Settlement of the Middle Mekong Basin*, provides funds for both our Ban Chiang research in Thailand and Luang Prabang research in Laos. Both projects seek new understanding of human settlement in this understudied part of the globe. We particularly want to understand the origins of the renowned Ban Chiang Cultural Tradition.

The Luce-funded program also seeks to develop Southeast Asian human and institutional resources in archaeology. Thus the Middle Mekong Archaeological Project's (MMAP) 2009 season in Luang Prabang focused on *training* Lao and Thai culture heritage managers and archaeologists in basic non-excavation skills needed by today's archaeologists—everything from managing computer hard drives, to designing exhibitions, to creating artifact collections databases.

Next year we will put those skills to work on a new excavation in Laos. During the third and fourth years of the Luce Grant, we will focus on Ban Chiang research—an up-to-date study of our famous (on loan) Ban Chiang ceramics and establishing a GIS (Geographic Information System) database for Ban Chiang-related sites in northern northeast Thailand.

Please help us meet the Luce matching grant over the next four years! Each year we need to raise $75,000. These funds will particularly support publication and digitization of the Ban Chiang records, paying for salaries, equipment, and special archival projects. The ultimate goal, in addition to publishing several books on Penn Museum scholarship in Thailand, is online posting of the Ban Chiang archival data and records. Stay tuned for more information in future issues of *The Ban Chiang Update*.

Elizabeth Hamilton trains two Lao in database entry.



We did it...again! After last Spring's newsletter we received the needed funds to complete our *second* Thai Archaeology Challenge (TAC-II)! These funds have been quickly put to work, especially on the Ban Chiang Digital Image Archive Project (please see Elizabeth's article on page two).❖

Joyce White, Ban Chiang Project Director

F•O•B•C•

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http://www.museum.upenn.edu/banchiang

The Ban Chiang Digital Image Project

Your FOBC dollars at work!

Most long term archaeological projects have stacks of film photos stuck in a cabinet, set aside to be organized—some day. The thousands of images of pots, spear points, bracelets, bones, and excavation layers taken during decades of excavation and analysis in the Ban Chiang Project weren't stuck in a cabinet. Instead, slides were organized in little boxes on shelves, and negatives and contact sheets were loaded into large and unwieldy loose leaf binders and stored in cardboard boxes. To find all the photographs taken of a certain pot required hours of hunting through dusty boxes, flipping through file folders, and deciphering twenty-year-old handwritten notes.

To protect, preserve, and make accessible the thousands of images housed in the Ban Chiang Project's offices (including several other sites Penn excavated in Thailand), Joyce and I began the Ban Chiang Digital Image Archive Project last June. I designed an easy-to-use Filemaker Pro database compatible with the Penn Museum's photo archive database, so that Ban Chiang photos can eventually and easily be incorporated into the Museum archives. A crack team consisting of work-study student Sasha Renninger and volunteers Heather Saeger and Stephanie White (no relation to Joyce) then began scanning the thousands of slides and negatives of artifacts and entering basic data about each artifact and image into the database. It sounds simple, even routine, but it isn't. The quality of the images varies widely, partly because taking multiple exposures, or "bracketing," was common using film cameras. Our workers usually choose the best image among several duplicates and variants and constantly adjust scanning protocols. The initial scan produces a large digital file in TIFF format, but these images are much too large (5-25 megabytes each) to use in the image database.

So, using Adobe Photoshop, Sasha, Heather, or Stephanie produce a much smaller 300-pixel by 300-pixel version of the original scan and place that version of the image into the database. The data that need to be entered are complex. Some of the scanned images have up to nine separate artifacts in each picture, requiring our workers to painstakingly identify exactly which artifacts are on the image and where, so that someone in the future can interpret the image. Some of the original photo log notes are incomplete, so to identify some artifacts, our workers search the shelves (even going down to the rather spooky Museum sub-basement) for the actual artifact and compare it to the image, often black and white and poor-quality. The excavation site and time period of each

Some of the gorgeous images in the Ban Chiang Digital Archives, soon to be part of the Museum's "Digital Spine."

Upper image: BCES Burial 40 Pot A 1934.

Lower image: various clay rollers from the site of Ban Chiang.

artifact need to be entered, not easy when some images contain several artifacts from different sites and periods, and the information must be sought in other tables and databases.

Then the workers enter information about the image itself–its type, physical dimensions, digital size, scanned resolution, and magnification. If the image had ever been used in a publication, the bibliographic citation has to be tracked down and entered. This is not a job where the data entry people can turn off their brains—it requires patience, attention, and intelligence. We have been very fortunate in our mostly volunteer work team. As of April 27th, 2009, the number of images in the Ban Chiang digital photo archive has reached an impressive 4,169! *Thanks to funds provided by the Friends of Ban Chiang*, we were able to buy a higher capacity computer and backup system, appropriate software, hire Sasha, our first worker and trainer of our team of scanners, and purchase archival quality storage supplies.

What's the reason for all this effort? A digital archive preserves images for posterity and enables wider access and use. Anyone can easily search for all images, for example, of Pot A 1943 from Ban Chiang Burial 40, (see image on page two) in any format—slide, print, or black-and-white negative. No longer do we need to hunt through shelves, files, and folders (often sneezing from all the dust). After our workers scan the image and enter the data, they store the physical image in archival-quality, clean, numbered polyethylene storage sheets that can be hung neatly in a file cabinet. Each sheet and pocket or sleeve in each storage sheet is numbered, and the exact locations of the image and the additional copies of that image are recorded in our database. We can now not only open every image of Pot A 1943, but we can quickly locate the physical image as well by its storage sheet number, for future publication-quality scans. In addition, we will eventually put this database online, so that scholars—and the Friends of Ban Chiang—can look at any image of our artifacts and excavations they desire.

The Ban Chiang Digital Image Archive Project is extraordinarily useful. Not only does it record and make accessible decades-worth of film images from this historic project, but it unites image and data, preserves the image in proper archival materials, and provides essential backups of all the images. *Thanks to contributions from the Friends of Ban Chiang, the pictures produced by decades of photographic work on the Ban Chiang Project are safe, accessible, and above all, usable.*❖

Elizabeth Hamilton, Research Coodinator

Ban Chiang's Archaeo-Database

Chet Gorman made sure that his Ban Chiang excavations would be cutting edge. It was a pioneering project in many ways. The most important aspect was, of course, the unearthing of a previously unknown civilization. The archaeological project was also among the very earliest to record its findings in a computer.

More than thirty years ago, before the PC had been invented, everything found from the Ban Chiang dig was entered into a computer database. In basement rooms of the Penn Museum, a corps of volunteers measured, examined, and recorded each artifact. The data were punched into IBM cards, coded as one or two digit numbers since in those days computers handled text inefficiently. The cards were fed into an IBM 370 mainframe, a six-foot-high machine with spools of magnetic tape on the front. These tapes were the machine's memory, as hard disks (let alone floppies) had yet to be invented.

In 1990, all these data were transferred from the old rolls of 8-track tape onto floppy disks (with considerable difficulty!), which could be read by a then "modern" PC database. The coded data were translated to text; for example, the condition of a blade was changed from "3" to "Slightly corroded." Year by year, additional information was added. As newer and better database programs became available, everything was migrated up to them.

The Ban Chiang Project is currently in the midst of upgrading and expanding the database originally developed in the 1970s. As a trial, a couple of years ago, Elizabeth Hamilton used FileMaker Pro to post the data from all metal artifacts from four of the Penn Museum sites in Thailand, including Ban Chiang, on the Museum's Southeast Asian Archaeology Scholarly Web-

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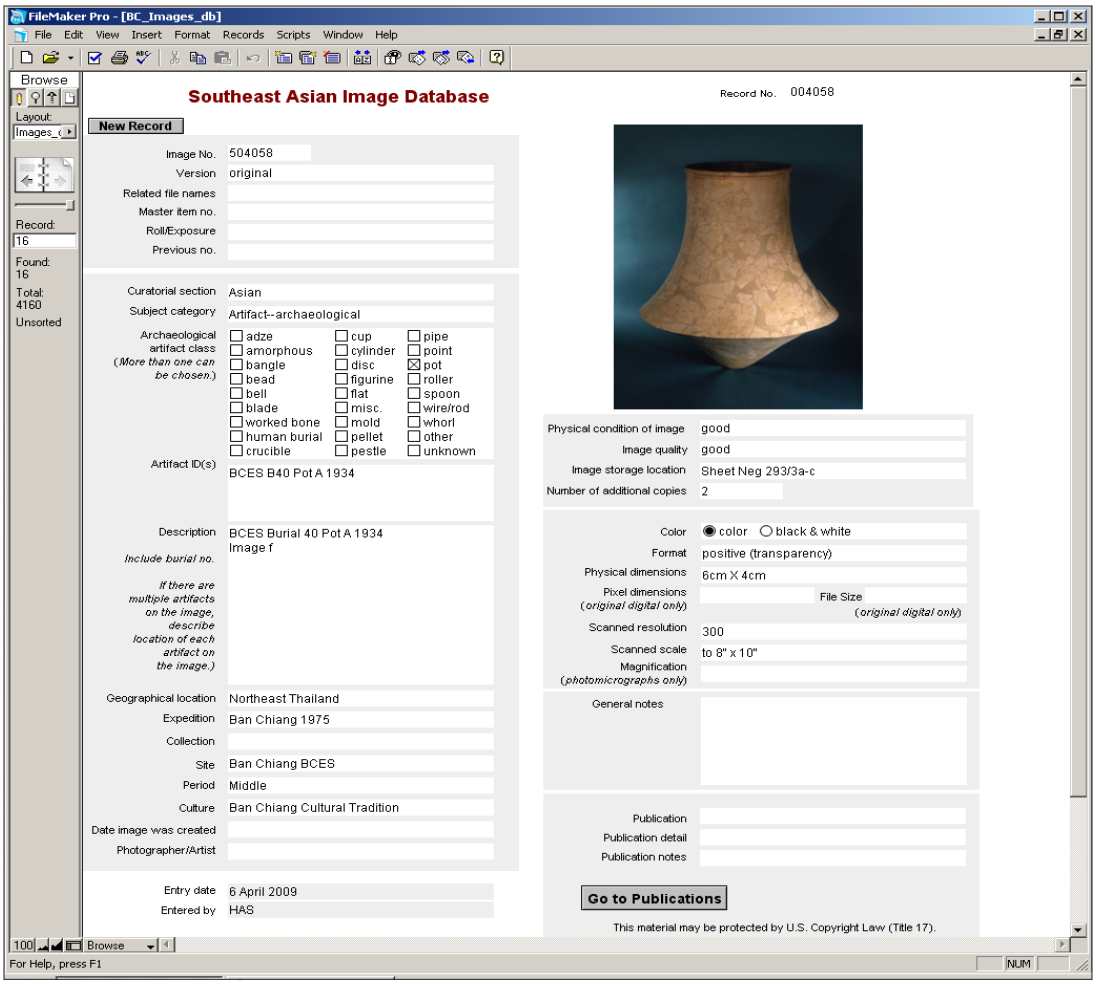
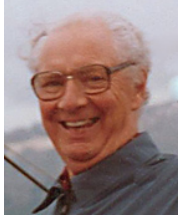


A File Maker Pro page taken from our database of images.

site (*http://seasia.museum.upenn.edu/*). Anyone can view images, photomicrographs, provenience and other data from hundreds of metal pieces and crucibles fragments, and even download the data for comparison with other sites!

In his five-year strategic plan, Richard Hodges, the Director of the Penn Museum, named Ban Chiang as one of five Penn Museum "key long-term research locations." He would like to see all of data and records put online, thus becoming part of the Museum's "Digital Spine." While the Ban Chiang Project has a head start in digitizing its artifacts in databases during the 1970s, much work remains to be done to digitize and migrate other classes of data and records to a current online format. Paper records need to be scanned and added to the artifact database and, as you can read in Elizabeth's previous article, scanning of images is ongoing.

The new Luce Grant will greatly assist in the digitization and study effort, particularly in year 3 when the loaned collection of Ban Chiang pottery will be the focus of study. Chet Gorman would have been amazed at the current use of computers in archaeology. Today all archaeological digs are computerized in various ways, but few have as long a pedigree as Ban Chiang.❖



John Hastings, Ban Chiang Volunteer

MMAP 2009

*by Beth Van Horn (**BH**), Elizabeth Hamilton (**EH**), and Joyce White (**JW**)*

JW: The Luce-funded MMAP 2009 season in Laos wasn't intended as an excavation season. The primary aim was to train thirteen Lao and two Thais in basic non-excavation archaeological techniques. When you say "archaeology," everyone thinks of digging, but of course most of the information comes from a protracted and often tedious process of analysis.

EH: Over the six weeks of the season, a rotating cast of teachers lectured and trained the students in computer care, databases, artifact drawing, raw material analysis, rock identification, GIS, survey, and exhibit preparation.

EH: But first the team had to get from Vientiane to Luang Prabang. Joyce rented a minibus to take ten of us on the spectacular 8-hour ride up the ominously named Route 13. A few years ago the drive would have been too dangerous because of bandits; now it's just dangerous because there's no guardrail. Luang Prabang is in the mountains, and most of the drive was spent careening around hairpin turns and observing tiny clusters of wood and bamboo thatched houses, usually built by villages of Hmong or Khamu, which clung to the narrow cliff

side of the road, and frequently half off. The inhabitants survive by slash and burn farming on slopes so steep I couldn't see how they could stand upright on them, much less farm.

BH: Although a challenge for the carsick-prone, Route 13 is the only way to get to Luang Prabang by road, not just for us, but for huge Chinese industrial trucks and tour buses. The mountains were like no others that I've seen before—dramatic towers of tall limestone "karst" that are the product of hundreds of thousands of years of erosion.

BH: Of course one of the draws of being an MMAP volunteer is living in Luang Prabang, a UNESCO World Heritage Site in its own right. Attractions include staying in guest houses steps from the Mekong, getting around town via the motorcycle-driven or small-truck "tuk-tuks" (named for the sound of a 2-stroke engine that typically powers the gaily painted smaller ones), watching whole families ride by on a single motorbike while we eat sticky rice at a roadside stall, all while Philadelphia was under 8 inches of snow!

BH: MMAP 2009 was the biggest MMAP team in the project's 5-year history—a diverse bunch of archaeologists, museum workers, anthropologists, cultural heritage workers, IT specialists, a geologist, a geographer, and a Penn Museum volunteer (me). Twenty-two people—Lao, British, Thai and American—participated in all or part of the 6-week intensive training in post-excavation archaeology disciplines. The main focus was on helping to build Lao "human capital" for Lao archaeological projects. Laos has no formal training for archaeologists, yet it is becoming apparent that it has a rich archaeological heritage that is in urgent need of study and preservation.

Left: Beth Van Horn and Elizabeth Hamilton taking a rare day off to enjoy an elephant ride in the Khan river. *Photo by Katherine Arrell*

Right: Later that day, Katherine Arrell scrubbing an elephant. *Photo by Beth Van Horn.*

EH: Our trainees worked hard, six days a week. I hope we taught them well, because they will be the future of Lao archaeology. One immediate result was the formation of the first countrywide professional network of museum workers and archaeologists in Laos. The trainees came from museums and offices of culture and information from all over the country that are normally so separated and polarized that very little contact takes place. The six weeks they spent with the MMAP training forged a professional network that can only improve interagency communication and cooperation in the future.

EH: Every day a team of trainees and staff went out to survey, asking villagers if they had seen artifacts and frequently having to climb far up to reach remote caves. We added 12 new sites to the 57 found in 2005. I quite enjoyed crawling around on my stomach in the tunnels, but when they got too narrow, I sent in young slender Lao to take over, much to their amusement.

JW: Our headquarters in Luang Prabang was in an old French colonial bank building, complete with chickens and a goat with kid.

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photo by Beth Van Horn

Trainee Phousavanh (Phou) Vorasing explains to Lao school children the shell key he developed for the MMAP 2009 analysis and exhibit.

While the survey teams were out having fun, other trainees and trainers struggled with computer tasks, endured periodic power outages, organized the artifacts from past and current MMAP seasons, and got lots of practice with digital data. After numerous virus outbreaks of the computer kind, MMAP trainer Shawn Hyla from Penn Museum IT found out we could get wireless at our lab!! Being able to send the person at the next table computer files by email (via Philadelphia, Thailand, Australia and more) in seconds—which for someone like me of the carbon paper generation was a magical experience—brought that problem under control.

BH: In addition to my general volunteer duties, I was the instructor for Public Communication, based on my career background in marketing and corporate communications. Not only did I teach basic concepts, but I worked with the MMAP team to create and prepare MMAP exhibits for Luang Prabang and Vientiane National Museum. Occasionally there was a day off…

EH: One highlight of my off-time was the elephant-riding trip. Several of us went to an elephant rescue camp, where elephants retired from logging work give rides to earn their sugarcane and vet care. We first rode on a seat with a *mahout*, feeling very imperial. Then we rode bare-back. Elephants, it turns out, are bristly and very tall, and they don't have much to hold on to. They sway as they walk, and I felt certain my elephant would fall off the narrow path. We rode them into the river and scrubbed them with brushes, the elephants having a great time ducking and trying to have us float off their necks. Elephants have a great sense of humor. *Ha-ha.*

BH: We wrapped up this season with an ambitious exhibit in Luang Prabang that summarized 5 years of MMAP work in Laos. Much prep work was involved, from class assignments on communicating archaeology to the public, to evaluating what appealed to Lao versus western audiences, to massive translations for this bilingual exhibit. At the "Grand Opening" on March 12th, potted plants appeared to spruce up the entrance, two elaborately-dressed and made-up young Lao ladies showed up just to hold the ceremonial ribbon, and dignitaries gave formal speeches. In addition, a huge contingent of school children came and were fascinated by the exhibit, as well as a few westerners who were drawn by the banner posted nearby. Food and wine were enjoyed by all, and Lao dancing wrapped up the day for the stragglers into the evening. It was a very gratifying day for the weary MMAP team.

JW: After the formal training season, we spent a few days in Vientiane. On one day, Elizabeth, Beth, and I, along with 27 staff members of the Lao National Museum, took a road trip across the Mekong into Thailand to visit Ban Chiang and its spectacular site museum. New buildings and displays had been added since my last visit a few years ago. The Lao got to see what an up-to-date archaeological museum could look like, and I got to see that in one part of the Museum, the Smithsonian exhibition I curated 27 years ago is still intact. The visit demonstrated how archaeology can transform a village into a thriving town. Guards in the Museum told me that they remembered me from when they were students at the primary school across from my house when I lived in Ban Chiang in 1979-1981. I asked are they and the people of Ban Chiang now happy? "Oh YES!!" was the reply.❖

Beth Van Horn, Ban Chiang Volunteer

LAB notes

Conferences

❖In early January, **Joyce** co-organized and presented a paper at the workshop: *Dynamics of Human Diversity in Mainland Southeast Asia* in Siem Reap, Cambodia. Support came from a Wenner-Gren Foundation Grant.

❖Publications

Joyce C. White, Dating early bronze at Ban Chiang, Thailand. *In* Pautreau, J.-P., et al., Eds. *From Homo erectus to the living traditions: Chiang Mai, the 11th International Conference of the European Association of Southeast Asian Archaeologists*, pp. 91-104, 2008.

Joyce C. White and Stephen Lang, "The Asian Section", in *Arts of Asia,* Vol. 38, No. 5, pp. 96-120, 2008.

Joyce C. White, "Bronze and rice: Digging in the Middle Mekong Basin", *Current World Archaeology,* No. 30, pp. 50-55, 2008.

Yanik Ruiz-Ramón, "Trench Fever: Writing history five centimeters at a time", *Penn Gazette,* Vol. 107, No. 2, pp. 14-15, 2008.

Online

❖**Yanik** has posted online two videos taken from the MMAP 2005 (footage taken by volunteer **Bill Henderson**) and 2008 (taken by Yanik and Bill) seasons. Please enjoy this insider's view into "A taste of Luang Prabang" and "Tham Vang Ta Leow, Laos excavation 2008," both available on ***www.youtube.com***. Search "MMAPvideo."

❖Please check out the searchable **Metals database** which can be found at the Ban Chiang Scholarly website: *http://seasia.museum.upenn.edu/*. And our new Flickr address: *http://www.flickr.com/photos/pennmuseum/page6/*.

❖An article about **The Middle Mekong Archaeological Project (MMAP)** by Joyce et al. in *Antiquity* (2009) can be accessed online at ***http://antiquity.ac.uk/projgall/white/***

❖Other News

Joyce gave the talk, "New Surprises from Ban Chiang, Thailand," for the *Great Sites of the Ancient World* lecture series at the Penn Museum on December 3rd, 2008. There were more than 100 attendees at this event.

Display case of BC artifacts and pots at the *Great Sites of the Ancient World* lecture series at the Penn Museum. *Photo by Ardeth Abrams*

❖**Soi Eyre** received a postdoctoral fellowship from the American Council of Learned Societies for a project entitled, "Prehistoric Local Systems in Central Thailand: Analysis of a Ceramic Subregion–Its Stylistic Patterns and Technology." She will be doing petrographic analysis on sherds collected from her 2001-2002 PhD survey and other archaeological sites of the Chao Phraya River Valley.

❖**Thailand Archaeometallurgy Project (TAP) Awarded American Philosophical Society (APS) Grant. Vincent Pigott** and **Oli Pryce,** a recent Ph.D. from the Institute of Archaeology, University College London, have been awarded an APS grant to continue their investigation of prehistoric copper smelting technology in the Khao Wong Prachan Valley in central Thailand. Their TAP study will focus on lab analysis of smelting crucibles from the site of Nil Kham Haeng, which dates from the 1st millennium BC into the early centuries AD.

In the Lab

❖**Katherine Arrell**, University of Leeds in Great Britain, visited the lab twice in the fall to go over MMAP GIS with Joyce and Elizabeth.

❖**Helen Lewis**, University College Dublin Ireland, visited the lab in December to work on MMAP publications and the database.

❖One of our long-time volunteers, **Fred Keith** passed away November 2008. Fred had been a volunteer with the Ban Chiang Project since 1994. He was the best pot-reconstructer we ever had. When everyone else had given up on a pot, he found the pieces, did the gluing, and made the struts that put these seemingly impossibly broken pots back together.

When there were no more pots to reconstruct, Fred worked on a database of radiocarbon dates from Southeast Asia, with over 800 entries. Soon this database will be available online in our growing scholarly Southeast Asian Archaeology data-sharing website.

❖A bittersweet goodbye to our work-study student, **Yanik Ruiz-Ramón**. Yanik started at the Ban Chiang Project in his freshmen year at Penn. He began as our bibliographer but soon was archiving video footage from the MMAP 2005 season. Last year, Yanik was able to travel with the team to Laos and made his own video documentation of the project. He will be spending Fall 2009 in Morocco studying Arabic and then graduating in the Spring of 2010.

❖***Save the date!*** On the evening of November 4th, 2009, **Joyce** is speaking on the discovery of Angkor.

❖**Levels of Giving:**

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ardeth@sas.upenn.edu

New Faces in the Ban Chiang Lab

❖**Heather Saeger** has been working as a volunteer for the Ban Chiang Project since June 2008. Her first task was organizing the BC offices with Sasha, but her most important work has been scanning and archiving the thousands of slides, negatives, and photos of the BC Project. Heather also works at the Philadelphia Museum of Art as a visual merchandiser for the Museum's seven gift shops. She is very interested in museum collections and will be attending graduate school in the fall at George Washington University. Her studies will include museum collections management and preventive conservation.

❖**Stephanie White** graduated in the summer of 2008 with a BSc (Hons) in Archaeological Sciences from Bristol University (England). She spent ten weeks helping with the digital archiving of images from the Ban Chiang Project. This involved scanning slides and negatives of artifacts from the various excavations at Ban Chiang, and compiling the scanned images into a new database. Upon her return to England she intends to apply for Masters programs in Museology, and to look for further opportunities to work in museums.

❖**Connie Ko** is a freshman at Penn and has been a work-study student at the Ban Chiang Project since September. She replaced Sasha Renninger as the Ban Chiang Project Bibliographer. She enters new and looks up old resources on Southeast Asia and compiles them in our bibliographic database, accessible at *http://seasia.museum.upenn.edu/*.

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