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 #7 Spring/Summer 1998*

From the Director. . .

An event to be remembered. . .

On the evening of October 24th, 1997, the University of Pennsylvania Museum and the Thai Embassy in Washington, D.C. co-hosted: *A Celebration of Thailand's Ancient Cultural Heritage.* The event recognized thirty years of archaeological cooperation between Thailand and the University of Pennsylvania, and commemorated the 5th anniversary of UNESCO's inscription of Ban Chiang as a World Heritage Site. The speakers that evening were the Ambassador of Thailand to the United States, Nitya Pibulsonggram; the President of the University of Pennsylvania, Dr. Judith Rodin; Executive Vice President, International Banking Group of CoreStates Bank, Mr. Michael Heavener; the Museum's Director, Dr. Jeremy Sabloff; and me.

In his speech to an audience of over 350 FOBC, Thais from up and down the east coast, and dignitaries from the greater Philadelphia region, Ambassador Pibulsonggram stated "This partnership with Penn is an important reflection of the overall relationship between our two countries. Our two nations and peoples have had a strong friendship for over 164 years."

The Director of the Museum pointed out the importance of the work of the archaeologist in preserving knowledge of the ancient past for posterity. He noted that, "Archaeological sites, like fossil fuels, are nonrenewable resources. Once ancient artifacts are removed from the ground, the knowledge that these artifacts can provide in understanding the development of human society is largely lost, unless archaeologists have meticulously recorded the evidence of context and go on to analyze and publish their findings."

The Challenge is announced. . .

Dr. Sabloff used the occasion, which was supported generously by CoreStates Bank, to announce the Thai Archaeology Challenge Grant to the public (mentioned in the previous *UpDate).* This grant has since inspired many new Friends to join as well as additional contributions from already established FOBCers. So far, we have raised over $30,000 in the six months since the event. We hope to see the support of all the Friends in this endeavor and we have been particularly gratified that old Friends are bringing in new Friends. We have a long way to go in reaching our goal of raising $200,000 by October, 2000. If you have not made a contribution recently, I urge you to do so with this newsletter and your dollars will count 50% more than before the Challenge. All donations are gratefully received! ❖

Joyce C. White, Ph. D.
Director, Ban Chiang Project

Dr. Jerry Sabloff, Dr. Judith Rodin, Ambassador Nitya Pibulsonggram, Joyce, and Dr. Vince Pigott.

University of Pennsylvania Museum of Archaeology and Anthropology,
33rd and Spruce Streets, Philadelphia, PA 19104-6324 (215)898-4028

In the Rotunda:
A Feast of Thai Culture

by Ardeth Abrams

The giant gong sounded at the end of the speakers' remarks, ushering the crowd of more than 350 guests, approximately 40% of whom were Thai or Thai-American, into the adjoining magnificent Chinese Rotunda at 7pm, October 24th. Thai food, enchanting traditional Thai music, and incense filled the grand space. Shimmering Thai silks worn by many of the guests dazzled one's eyes as the celebration continued. The four storey dome provided an impressive and dramatic site for the reception celebrating the cultural partnership between Thailand and the University of Pennsylvania.

Thirteen tri-state area Thai restaurants donated food to the event. The contributions were painstakingly organized by our special friend, Mr. Somsak Pramonjanee, of Somsak's Thai Cuisine in Cherry Hill, NJ, who took on a challenge of his own to make the evening a feast for the senses. Among the Thai delicacies we sampled were ginger chicken, pad thai, chicken and shrimp satay, spicy dumplings, and spring rolls (Thai style!) – just to name a few. One restaurant prepared an intricately carved watermelon, engraved with the Ban Chiang logo pot. (Please note the list of participating restaurants at the end of this article. Your patronage of these restaurants would be greatly appreciated and would show our thanks for their support of the event.)

While the rest of us dined on incredibly delicious Thai food . . . behind the scenes heroic efforts were made to ensure everything ran smoothly. FOBCers Bruce and Bea Nichols created the elegant atmosphere and dealt with the chaos that came with serving food from thirteen Thai restaurants and making sure it remained hot (or cold). Other critical "behind the scenes" individuals were Leslie Kruhly and Cris Gonzalez, who were involved from the earliest nitty gritty planning through to ensuring the graciousness of the evening.

We also enjoyed an unusual treat of traditional Thai music from Wat Vajiradhammapadip, a Buddist Temple from the New York area (see photo). The musicians played their exotic instruments while seated on an Asian rug on the floor of the Rotunda. The sound of their playing echoed throughout the third floor of the Museum, and was as interesting to watch as to hear, as many attendees had never seen nor heard traditional Thai music performed before. Musicians gladly helped children in attendance try their hands at playing an instrument.

Artifacts from Ban Chiang and other sites on loan from the Government of Thailand were on display at the top of the grand staircase in the Museum. Joint excavations by the University of Pennsylvania and the Fine Arts Department of Thailand were represented by artifacts, such as, ingot molds, a chimney for smelting, a crucible with copper remnants inside, copper ore, bronze bracelets, and, of course, pottery.

Who would have known that such a wonderful chain of events would result from Joyce and Vince's visit to the Thai Embassy in Washington, D. C. during January of 1997? Beginning with Ambassador Pibulsonggram's enthusiasm and interest in the

Thai Musicians from Wat Vajiradhammapadip performed traditional Thai music during the reception.

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A Feast *of* Thai Culture,
continued

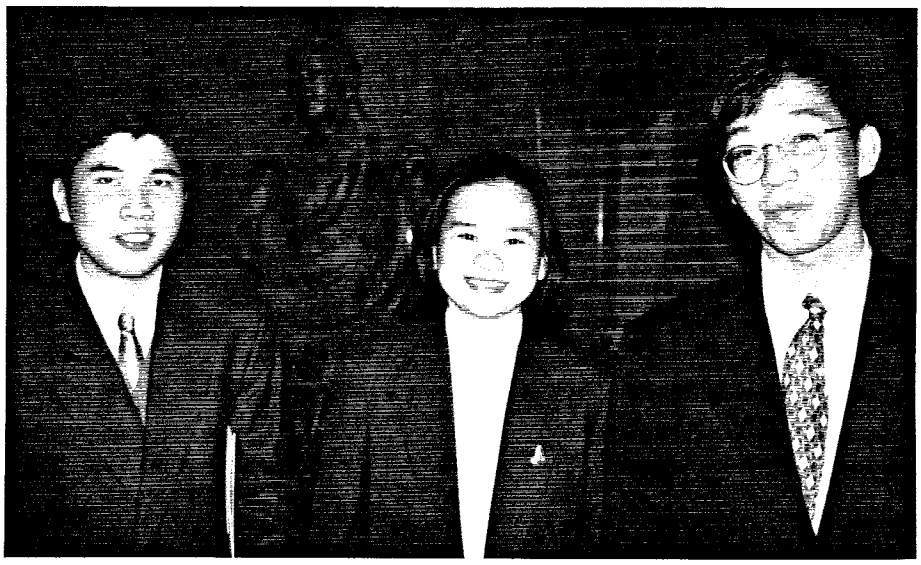
proposed event, leading to the Challenge Grant last September, and finally the event itself. With the incredible attendance on October 24th, and an atmosphere of multi-cultural warmth and conviviality, the event's goodwill and spirit of cooperation seemed to bode well for continued future partnership between Penn and Thailand. This has been proven in the months following the event, as we have added approximately 47 new Friends of Ban Chiang to our roster, for a total of 185 worldwide FOBC! Many of the new Friends are Thai or Thai American, due in part to the President of the Thais for Thai Association, Vichai Malikul, who organized a group from the Washington, D.C. area to participate in the evening.

We thank the staff of the Royal Thai Embassy, especially information officer, Kasama Subweis, for enduring the multiple fax/phone exchanges of important address lists, speech drafts, and countless other details. We also thank all of those who met the Challenge that night and in the months since. ❖

-A.A.

We would like to thank the following Thai Restaurants for donating examples of their fine cuisine on October 24th, and for making the night such a splendid success!

Somsak Thai Cuisine:
Cherry Hill, NJ
Gourmet Restaurant:
Philadelphia, PA
Lemon Grass: Lancaster, PA
Silk Cuisine: Bryn Mawr, PA
Thai Pepper: Wayne, PA
Erawan Thai Cuisine:
Philadelphia, PA
Jow's Garden: Philadelphia, PA
Singha House: Philadelphia, PA
Amara Cafe: Philadelphia, PA
Alisa Cafe: Upper Darby, PA
Nan Restaurant: Philadelphia, PA
Bangkok City Thai Cuisine:
Voorhees, NJ
Siri's Thai French Cuisine:
Cherry Hill, NJ



Approximately 140 Thai or Thai-Americans were among the guests at the Thai Archaeology Celebration on October 24th.

The Crucibles *of* Ban Chiang

by Dr. William Vernon

Dr. William Vernon is one of the Ban Chiang Project's rare gems. Dr. Vernon, retired Chairman of the Dept. of Geology at Dickinson College in Carlisle, PA, initiated, designed, and carried through a pioneering study of the Ban Chiang crucibles. He is also the Team Geologist for the Thailand Archaeometallurgy Project (TAP) and a Research Associate in the Museum Applied Science Center for Archaeology (MASCA). His pioneering studies of crucibles from Ban Chiang and Phu Lon have revealed a strong technological link between these two sites.

Crucibles are ugly ducklings. At first glance, a crucible fragment appears to be merely a piece of fired clay, perhaps a very thick sherd. Even a whole crucible is not beautiful. Appearances can be deceptive, however, and crucibles, properly studied, can make very important contributions to the study of a culture and its technology.

A crucible is a vessel used to hold ore during smelting or metal during melting. Study of crucibles therefore opens a window on two separate skill sets within a society. The vessels themselves reveal the knowledge of their makers in selecting, modifying, and shaping materials to create containers able to withstand the very high temperatures used in metalworking. Studies of the metal or slag (non-metal detritus from smelting or melting) residues left in them illuminate the techniques of metalworkers and the metals and alloys which were being worked at the site.

I studied eighty-five crucible fragments and two whole crucibles

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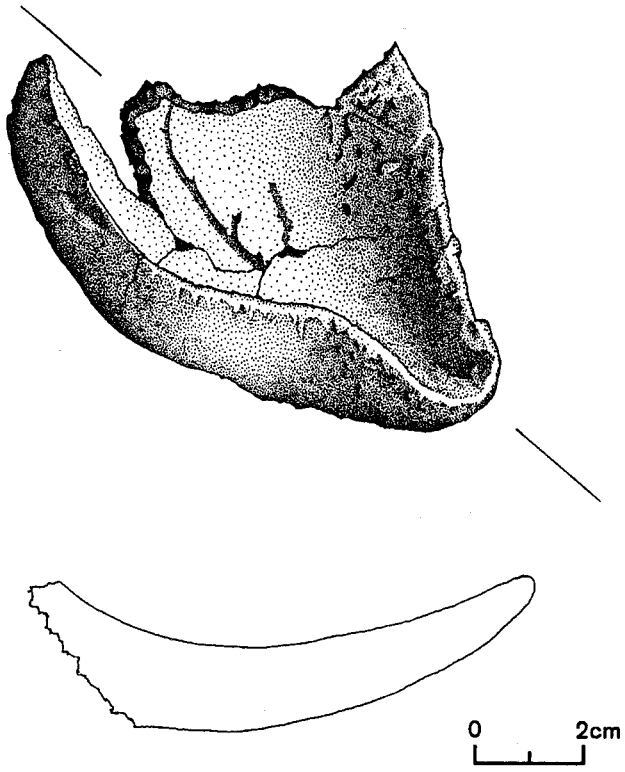
(a rarity) from the major temporal phases of Ban Chiang. Most came from the Middle Period. The Ban Chiang crucibles are relatively small, approximately 8 to 12 centimeters in diameter and generally no more than 5 centimeters deep. The capacity of the larger crucibles was probably no more than 200 cc. This is a little larger than the Phu Lon crucibles (see *Ban Chiang Update* Issue #5), which had a maximum capacity of approximately 65 cc. Whereas the Phu Lon crucibles were used primarily for the production of ingots, the Ban Chiang crucibles were probably used for the production of relatively small artifacts such as bracelets.

In order to study the fabric from which the crucibles were made, I prepared thin sections. A thin section is a very thin slice through a piece of pottery which is mounted on a slide and polished until it is thin enough to be translucent. A petrographic microscope, which shines a light upward from below the slide, is then used to examine the sections and identify their constituents by color, shape, and appearance in polarized light. The majority of the pieces consisted of a fine gray clay paste with many very small (generally 0.1 to 0.3 mm in diameter) quartz inclusions. Spicules from fresh water sponges, visible in the clay under magnification, show that the clay source was under water, and from a pond rather than along a stream. All of the fragments show additions (temper) made to the clay to improve its physical properties. Ninety-five percent of the fragments studied have rice chaff as the principal temper, either alone or with other organic matter, grog (fired clay), slag, or minor amounts of other minerals. The remaining 5 percent of the fragments contain grog as the principal temper.

Seventy percent of the crucibles were also lined on the inside with a layer of fine quartz-rich sand or silt held together by clay. This technique is called lagging. The quartz used is very similar to the quartz in the paste, and may have been prepared by washing the quartz out of some clay from the same source used for the crucibles. The purpose of this lagging would be to prevent the molten metal from sticking to the crucible, and to reflect heat, thus helping to protect the crucible from disintegrating during use due to heat damage. This indicates sophisticated knowledge of materials on the part of the crucible makers. Some crucibles have multiple laggings separated by layers of slag, showing that the crucibles were reused, sometimes several times.



A substantially complete crucible from BC, showing the spout and overall form.

Seventy of the crucible fragments contain slag or dross, ranging from very small patches to a layer almost covering the interior. The slag, prills (tiny blobs of metal), and other melting/slag products are often incorporated in the lagged layers. The slag is black, often frothy, and is sometimes accompanied by multicolored glass, usually black, brown, or red copper colored. The prills are very small (rarely greater than 0.1 mm in diameter) copper, bronze, and silvery colored spherules. Three prills were extracted and analyzed by X-ray emission spectroscopy. Two of the prills were copper, and the third was a bronze containing twenty-two percent of tin. The silvery gray prills may be high in tin, since they were identical in appearance to prills found in Phu Lon crucibles which proved to be tin rich. This tallies nicely with the presence of copper alloy casting detritus at Ban Chiang.

In sum, study of the crucibles from Ban Chiang is contributing key data to the definition of a prehistoric "Southeast Asian Metallurgical Province" with a distinctive and similar technology not only in northeast Thailand, but possibly extending from Burma to Vietnam. ❖

edited by Alissa Hinckley

JFFOBC
(**J**ust **F**or **F**riends of **B**an **C**hiang)

Please join us . . .

. . . on October 2nd to hear new results from the Ban Chiang Project. Joyce will have just returned from presenting recent results in Bangkok, Melaka (Malaysia), and Berlin. Come hear about, "Sex, Dates, Pots, and Bronze: An example of why four+ fields will be needed to resolve Southeast Asia's pre-historic enigmas." Watch your mail this fall for a postcard invitation.

October 2nd, 1998
5:30 - 7:30 p. m., Classroom #2
University of Pennsylvania Museum
of Archaeology and Anthropology
Philadelphia, PA

A Recipe Recommended by Joyce . . .

Sticky Rice with Mango
Khao Neow Ma-Muang

1 cup sticky rice
1 can coconut milk, "Chef's Choice" or "Chaokoh"
1/3 cup plus 2 Tbsp. sugar
1/4 tsp. salt
1 large ripe mango

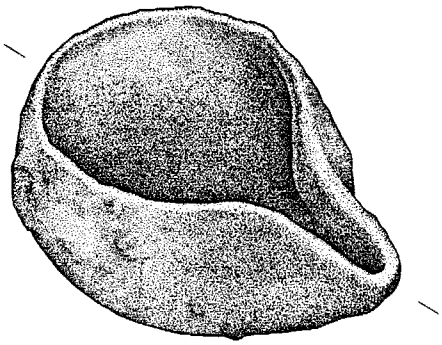
Soak, rinse, and steam 1 cup sticky rice. *(recipe in Issue #5 UpDATE)*

In a small saucepan over medium heat, combine one cup thin coconut milk (refrigerate can of coconut milk so cream separates easily from the milk), 1/3 cup sugar, and 1/8 tsp. salt and cook, stirring constantly, 3 to 4 minutes, or until sugar is just dissolved. Pour 1/4 cup over warm rice and toss gently until well combined. Cover and set aside for 30 minutes.

In a small saucepan over medium heat, bring remaining ingredients - coconut cream, sugar, and salt - to a boil. Cook, uncovered, stirring frequently, 5 to 8 minutes, or until thickened.

Mound the warm rice on an oval-shaped platter and drizzle with coconut cream mixture. Peel, halve, and cut mango into 1/2 inch thick slices. Place next to rice on platter. Serve at room temperature. Makes 4 multi-course servings.

Adapted from the "The Best of Thailand" cookbook.



Spread the word, renew your support – every contribution is gratefully received!

-Levels of Giving

over $1000	Bronze Caster
$500-999	Pottery Painter
$100-499	Iron Smith
$25-99	Stone Carver

-Send to:
Friends of Ban Chiang
University of Pennsylvania Museum
of Archaeology and Anthropology
33rd and Spruce Streets
Philadelphia, PA 19104-6324

Become a Friend of Ban Chiang!

☐ Enclosed is my contribution of $_____ payable to the **TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA.**

☐ I would like to renew my contribution of $_____ to support the Ban Chiang Project.

☐ I would like more information about the Ban Chiang Project.

☐ I have changed my address. The following is my new address.

_____

_____

_____

FRIENDS OF BAN CHIANG
University of Pennsylvania Museum
33rd and Spruce Streets
Philadelphia, PA 19104-6324

UNIVERSITY OF PENNSYLVANIA MUSEUM of Archaeology and Anthropology

LAB notes

❖ **Dr. Vince Pigott** presented "Where's the Bronze? Tracking the Sources of Thailand's 'Lost' Bronze Age," to the annual Curator's Party of the U. of P. Museum on January 20, 1998.

❖ **Birtan Collier** has been hired to consult on fund raising strategies. She is known throughout the Museum for her success with the Gordion Project.

❖ **Alissa Hinckley** and **Joyce** have begun editing our first monograph, *Ban Chiang, a Prehistoric Village Site in Northeast Thailand II: The Human Skeletal Remains*, by Michael Pietrusewsky, Ph. D. and Michele T. Douglas, Ph. D. (See their articles in *UpDATE*, Issue #6.)

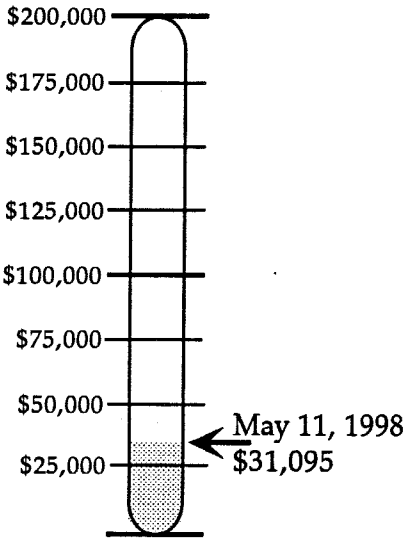
❖ **Chureekamol Onsuwan (Sol)**, FOBC and graduate student in Anthropology, will be a new summer employee for the Ban Chiang Project. She will be helping with the data tables for the chronology and stratigraphy monograph.

❖ Ban Chiang lab illustrator, **Ardeth Abrams** and her husband Dan welcomed a new Friend of Ban Chiang, with the birth of a healthy baby boy, Benjamin. He will be the youngest FOBCer yet!

❖ **Joyce** will be attending the Indo-Pacific Prehistory Association conference in Melaka, Malaysia this July and presenting, "Sex, Dates, Pots, and Bronze: An example of why four+ fields will be needed to resolve Southeast Asia's prehistoric enigmas." While she is in Southeast Asia, Joyce will also be presenting a lecture to the **Siam Society** in Bangkok. Publicity for the lecture is already in motion to the hundreds of Siam Society members via the Worldwide Web.

❖ **Joyce** will also be attending the conference for the European Association of Southeast Asian Archaeologists in Berlin, Germany this September. The talk is titled "Update on Ban Chiang Dates."

Thai Archaeology CHALLOMETER



September 1997 - May 1998
The Thai Archaeology Challenge Grant was established in early September of 1997. ***Please help us reach our goal of $200,000 by the year 2000!***