



# BRIDGES

W I N T E R 2 0 0 1

BRIGHAM YOUNG UNIVERSITY • DAVID M. KENNEDY CENTER FOR INTERNATIONAL STUDIES



Biodiversity  
Firsthand:  
Field Instruction  
in Amazonia

Interdisciplinary  
Focus: The Need  
Beyond Disciplines

Deep Focus:  
BYU's "Special"  
Countries



BRIDGES MAGAZINE—AN EXPRESSION OF RESEARCH, OPINIONS, AND INTERESTS FOR THE INTERNATIONALLY INVOLVED.

WINTER 2001

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"I know of no better way to provide students with a deeper understanding of any natural ecosystem on earth than to show them firsthand what these environments are like and to design teaching experiences that require them to do hard field work."

—by Jack W. Sites, Jr., professor of zoology, BYU

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"Current organization of departments in most U.S. universities follows a model established nearly a century ago by European traditions and institutions. Since that time, most universities have fallen into lock-step uniformity, without always considering the needs and desires of students in the fast-moving world-village of the twenty-first century."

—by Ted Lyon, professor of Spanish, BYU

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"The coordinators follow a "Centers of Strength" plan, which focuses BYU's exposure—and the Church's—on select major cities and universities. They also participate in the allocation of SCF funding to appropriate projects within the plan. Although they give other proposals consideration, the coordinators generally target three main programs: student, scholarly, or cultural exchange."

—by Andrea K. Harker

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Donald B. Holsinger, PUBLISHER  
Jeffrey F. Ringer, MANAGING EDITOR  
J. Lee Simons, EDITOR  
Andrea K. Harker, ASSISTANT EDITOR  
Robert H. Boden, DESIGNER

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Phone: (801) 378-2652  
E-mail: [kennedy\\_publications@byu.edu](mailto:kennedy_publications@byu.edu)

## Director's Message

Rodney B. Boynton

Kennedy Center associate director, International Study Programs



At the Back to School Conference in August 2000, President Bateman articulated seven criteria that have become the significant features of all international study experiences involving students and faculty at BYU. He asked that these issues be discussed and reviewed with Sandra Rogers, associate academic vice-president for International, Distance, and Continuing Education, before initiating programs.

- Academic Strength: Is there a strong link to academic programs?
- Wise Resource Use: Weights the strategic importance with cost and benefit.
- Personal and Institutional Safety: Avoids risks for students, faculty, and university.
- Strategic Value: Is it the strongest affiliation for BYU among many options?
- Cultural and Political Sensitivity: Is the program culturally and politically appropriate?
- Adherence to Welfare Principles: Does the service provided to others follow general Church welfare principles?
- Close coordination with Church officials: Are activities coordinated within the university and with the Church?

We invite you to take a moment to reflect on the almost 2,000 students who, during the academic year 2000–01 have, or will have, chosen to participate on an international study program. This will amplify integration of their academic discipline with hands-on experiences and enhance application to graduate school for those continuing their education. The numbers are broken down below:

PROGRAM	STUDENTS (approximate numbers)
<b>Study Abroad</b> .....	<b>800</b>
(traditional)	
<b>International Volunteers</b> .....	<b>150</b>
(service-learning)	
<b>International Internships</b> .....	<b>200</b>
(work-study)	
<b>International Field Studies</b> .....	<b>200</b>
(field research)	
<b>Jerusalem Center</b> .....	<b>650</b>
(administered outside the Kennedy Center)	

Within the Kennedy center's administration, International Study Programs assists all colleges, departments, and faculty members in the development and implementation of international educational experiences. We are at our best when we can share our cooperative spirit, successes, and experience with our colleagues across campus. If asked to identify one of our greatest strengths, we would quickly point out our efforts to help students be fully prepared for their experience abroad. We have enjoyed great collaboration with faculty and former students as we have taken the time to thoroughly examine the many issues that lead to rewarding experiences and academic success in many areas of the world. Thanks for allowing us to be involved in this meaningful and rewarding work!

# Center Garners Reviewers' Support

**F**indings of an Educational Support Review of the Kennedy Center were released in February by Addie Fuhriman, assistant to President Merrill J. Bateman. The report represents the conclusions and recommendations of both an on-campus and an external review team. Consensus on the value of the center's merit was high. Quoting from the document:

In all of our interviews we did not encounter any individual who did not feel that this university needed to be engaged in international activities. . . . Some also expressed the view that the Kennedy Center should play a specific role in furthering the image of The Church of Jesus Christ of Latter-day Saints to the international and diplomatic communities. It is quite clear that . . . was a prime consideration and motivation of the donor and his family.

On-campus reviewers made their assessment after careful study of the center's own internal evaluation and that of Barbara B. Burn, University of Massachusetts—Amherst, and Joe D. Hagan, West Virginia University—recruited by the university for their expertise in international studies. "Not only is it [the center's curriculum] consistent with international affairs programs throughout the United States, but this interdisciplinary focus is quite appropriate—indeed essential—to BYU's mission of global service," Burn and Hagan asserted. "Indeed, the Kennedy Center programs exceed those of most other schools."

Reviewers noted the center's unique and qualifying characteristics, which include high caliber students; increasing enrollment in the interdisciplinary major and area studies minors; second-language proficiency; and student participation in international study.

"The broad, substantively-rich, international education provided by the Kennedy Center is central to at

least two of 'the aims of a BYU education' as stated in the university's catalogue: first, that an "enlarging education provide an 'informed awareness of the peoples, cultures, languages, and nations of the world,' and second, that this education 'provide students with talents for a lifetime of service to their community and society.' As we have tried to point out, interdisciplinary programs are tailored precisely for training students to appreciate the complexities of problems from different perspectives. That, along with language training and study abroad opportunities, would appear to be ideal for BYU's training of its students for global service in both the government and the private sector," Burn and Hagan affirmed.

Reviewers recommendations for improved curricula included the addition of undergraduate first-year global issues and senior capstone courses. The need for clarified directives and protocol among university administration, the center, and other campus departments was unanimous. The concluding evaluation from Burn and Hagan states, "Finally, given the importance, size, and quality of the center's programs both on campus and abroad we recommend that the position of the Kennedy

Center within the university should be reconceptualized and renamed as the Kennedy School for International Studies."

*Maurice A. East, Elliott School of International Studies at George Washington University, served as reader of graduate theses. Gary Cornia, Romney Institute of Public Management; Martin Fujiki, Department of Audiology and Speech-Language Pathology; Brent D. Slife, Department of Psychology; and Julie Franklin, Residence Life, participated as the on-campus review team.*



# Biodiversity Firsthand: Field Instruction in Amazonia

*by Jack W. Sites, Jr., professor of zoology, BYU*

Biodiversity

Hylidae

Nymphalidae

Scorpionidae

Cerambycidae



## Introduction

Biodiversity—a relatively new word in the English language that is unfamiliar to most—is simply a contraction of *biological diversity* that all of us encounter personally on a daily basis. Whenever we eat a meal, make any kind of purchase, work in the garden, or take a vacation, we derive direct and indirect benefit from biodiversity. Simply defined, biodiversity is the grand total of the profusion of all life forms on earth (plants, animals, and microorganisms). When we think of *life*, we immediately conjure up images of familiar plant and animal species.



Scientifically, biodiversity is more precisely defined by three components. The first of these is a *genetic component* that specifies the different combinations of genes in all individuals that comprise any

species. Groups of individuals sharing the same habitat in nature usually share the same local adaptations to that habitat, and are often recognized as discrete races or varieties that differ regionally from other populations of the same species, but all comprise the total genetic diversity of the species.

Second, the *species component* itself defines groups of individuals that breed predominantly with one other, but not with other groups. One of the great scientific mysteries of modern biology is determining how many living species inhabit the earth. The latest official count is just over 1.8 million, but educated guesses take the total number from 10 to 100 million.

Finally, biodiversity is defined by an *ecosystem component* that refers to specific regions of land or water that can be defined by their physical structure, predominant climate, and the interacting species that comprise their living communities. It will be obvious to most people that a desert is a very different ecosystem than a forest, but perhaps less obvious is there are many different kinds of deserts. There are a minimum of four in the United States alone and distinct subdivisions within each of these. The different kinds of environments found across the earth's surface, combined with the uncounted myriad of living species adapted to live in each, generate an enormous diversity of ecosystems.



**Amazonia—the name itself conjures up mythological images of deadly diseases, stifling heat, giant snakes, schools of man-eating fish, stinging plants, and biting insects—in reality contains but a tiny fraction of these things.**

Collectively, these three components of biodiversity are responsible for the productivity of the earth and provide humanity with uncountable, and usually undervalued, benefits. Because it is the ultimate source of new foods, medicines, and a host of other products, biodiversity can be thought of as *living wealth*—humanity's *genetic savings account*.

Amazonia—the name itself conjures up mythological images of deadly diseases, stifling heat, giant snakes, schools of man-eating fish, stinging plants, and biting insects—in reality contains but a tiny fraction of

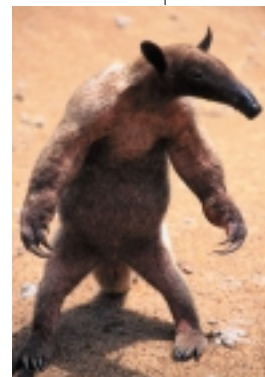
these things (the danger of which is vastly over-blown in all cases). It offers students of the life sciences a living laboratory unparalleled by any other landscape on earth.

Much of this allure stems from the immensity of the region, and the innumerable species it contains. In size, the original expanse of Amazonia was about six million square kilometers (almost the size of

Australia), and, while some regions have been completely cleared of forest or heavily disturbed, probably 75 percent of the Amazon forest remains relatively intact. It is by far the largest single block of rainforest on earth, and it is drained by a river system through which one-fifth of all earth's freshwater flows. The main channel of the Amazon River itself carries twelve times the volume of our Mississippi River, opens to the Atlantic Ocean at a mouth wider than the distance from London to Paris, and contains in its mouth an island the size of Switzerland. The sheer immensity of the region, and the remoteness of much of this forest, makes comprehension difficult.

I can do no better than the Brazilian geographer Euclides da Cunha, who penned these sentiments:

It is entirely impossible in the Amazon to take stock of the vastness, which can be measured only in fragments; of the expansiveness of space, which must be diminished to be appraised; of the grandeur which allows itself to be seen only by making itself tiny, through microscopes; and of the infinity which is meted out little by little, slowly, indefinitely, excruciatingly. The land is still mysterious. Its space is like Milton's: it hides from itself. Its amplitude cancels itself out, melts away as it sinks



Tamandua (anteater) found foraging on beach (approximately two feet tall).



Fulgoridae, insect mimicking dead organic matter covered with fungus.



Newborn Bothrops (tropical pit viper) that uses yellow tail as a lure.

on every side, bound to the inexorable geometry of the earth's curvature or deluding curious onlookers with the treacherous uniformity of its immutable appearance. Human intelligence cannot bear the brunt of this portentous reality at one swoop. The mind will have to grow with it, adapting to it, in order to master it. To see it, men must give up the idea of stripping off its veils (Um Paraíso Perdido [A Paradise Lost], 1906).

Descriptors such as "the world's greatest forest" and "Genesis unfinished" have been used to portray the vastness that so impressed da Cunha. In 1999, as a

result of previous research in Brazil, I was invited to organize a Tropical Biology field course to convey some of the Amazon's mysteries to students. For me this was an opportunity not to be missed.

Descriptors such as "the world's greatest forest" and "Genesis unfinished" have been used to portray the vastness . . .

### The Trip

The original invitation was issued in 1999 by Vitor H. Cantarelli, director of the Centro Nacional dos Quelônios da Amazônia (CENAQUA or National Center for Amazonian Turtles), an agency within the larger Instituto Brasileiro do Meio Ambiente (IBAMA or Brazilian Institute for the Natural Environment; equivalent to the U.S. Department of Interior). Cantarelli suggested that if several biologists could organize a field course in tropical biology that integrated lectures and field work, for a duration of perhaps eight to ten days, then he could pull staff from other field stations in the reserve to assist with support of perhaps twelve students. He envisioned a mix of students representing

BYU and several Brazilian institutions, with enough bilingual students to translate all lectures in both directions as needed.

I returned to BYU after the 1999 trip, and quickly recruited Professors Mark Belk and Riley Nelson to participate with me in developing such a course—with generous support from the Roger and Victoria Sant Educational Endowment for Sustainable Development in the College of Biology and Agriculture, and the Department of Zoology. The three of us were required to submit outlines of the subject matter that each of us would present, and Cantarelli then integrated our outlines into a document for presentation to his superiors within IBAMA.

We also signed on Malinda Wallentine and David Gonzales—BYU undergraduate students both chosen for their academic records, interests in conservation biology, and previous research experiences—to join us in Brazil during the 2000 fall semester.

The project was approved by IBAMA, and Cantarelli was able to secure travel funds from a private source (a bauxite mining company with leases just south of the reserve) to support travel for twelve Brazilians. This number included nine undergraduate students from six Brazilian institutions, and CENAQUA employees (including Cantarelli). When combined with the two BYU students, our class totaled fourteen students. One additional student, an MS candidate in Zoology from the University of São Paulo, had been at the Rebio Trombetas station for three months doing field research for her thesis work, and she joined some of our group's activities as time permitted.

We departed 27 October 2000 and, after thirty-plus hours of travel, including a five hour boat trip up the Rio Trombetas, reached the Reserva Biológica do Rio Trombetas (Rebio Trombetas hereafter) in the state of Pará, in eastern Brazil. I had been invited to organize a field course here due to the outstanding educational opportunities offered by the reserve, and the infrastructure provided by the four field stations within it.

### Purpose, Setting, and Content

The immediate objectives of the field course were two-fold. First, we wanted to provide students with some hands-on field experience in what is almost certainly the richest (in terms of species numbers) terrestrial environment on earth. The second objective was to expose all students to the daily tasks of the IBAMA staff in patrolling and protecting the reserve, the challenges they faced, and the constraints they worked under. The Amazon's enormous storehouse of biodiversity makes its conservation globally significant, but many First World solutions are inappropriate, or at least incomplete, for effective conservation in the



View of research station from opposite bank of Trombetas River.

Vitor H. Cantarelli, director of the Centro Nacional dos Quelônios da Amazônia.



Dr. Mark C. Belk with pirarara (giant catfish).



Dr. C. Riley Nelson looking for insects.

Amazon region.

The field station used by our group is equipped with functional wet labs, lecture halls, dormitories, kitchen, and a full-time staff (cooks, guards, etc.). It offered an ideal setting by providing a means of staying in close contact with the forest and the river for an extended time, in relative comfort and safety.

Belk, Nelson, and I each offered four classroom lectures (not including the introductory and wrap-up meetings), and augmented these with day and night excursions through the forest, along the river, and/or

along the shores of lagoons, to collect and observe many native species of plants and animals (any animals collected were held only for photography, and then released). On the first day, each student received a packet with their name on the cover and an outline of the lecture topics (provided by CENAQUA). Each professor organized handouts for their individual lectures, collated these in the order of their presentation, and, with student help, also placed these in the packets. Students could follow lectures, take notes when needed (lecture rooms had desks, blackboards, slide projectors, and an overhead projector), but focus primarily on what was being delivered by each lecturer.

On the afternoon of 28 October, we had a general introductory meeting in which all faculty and participants introduced themselves. The director of Rebio Trombetas, Alberto Guerrero, briefly described the history of the reserve; its main natural landscapes and wildlife; the duties charged to him and his staff; and the cultural and economic context in which his employees have to carry out the conservation work. Rebio Trombetas was established in 1979, and includes 385,000 hectares (about 950,900 acres) of lowland rainforest along a 100 mile length of the Trombetas River, a major clear-water tributary of the Amazon River.

The reserve contains large stands of upland *terra firme* forest (forest that is above water all year) with several extensive groves of Brazil-nut trees; low elevation *igapó* and *várzea* forests (both seasonally inundated during the rainy season); an extensive network of seventy inland lakes with an intact Amazonian fish fauna; and large nesting beaches for several ecologically important freshwater turtles, including the threatened *tartaruga* (*Podocnemis expansa*, the Giant Amazon River Turtle). The health of the forest in this

region is indicated by the abundant presence of *onça* (jaguar), an apex predator that is one of the first species to disappear from tropical ecosystems subject to intense human disturbance.

Cantarelli outlined the history and mission of his own agency, CENAQUA, and the work they were doing to protect and restore nesting populations of several species of heavily exploited native turtles. Students learned that most species of freshwater turtles are hunted for their meat and eggs by *ribeirinhos* (people of either mixed Indian-Portuguese [*caboclo*] or African

slave [*quilombo*] descent, who live subsistence lifestyles in the forests along the major rivers). However, a habit of synchronous nesting in large colonies on specific beaches, and a large body size, makes the *tartaruga* the most vulnerable of all species to overexploitation; this is therefore the highest priority species

for CENAQUA's programs. In the past two decades, CENAQUA has established bases at sixteen major nesting regions in nine different river basins in Brazil's Amazonian territory, which makes this the most extensive effort anywhere in the world for conservation of a freshwater turtle. Because of this effort, CENAQUA has managed in places to stabilize and even reverse some local population declines.

The background information provided by Guerrero and Cantarelli whetted student appetites, and we returned several times to both themes. Thereafter, we continued a daily routine of lectures and field work through 5 November.

### Classroom and Field Experiences

My lectures dealt with two themes. First, the general definition and structural configuration of lowland rainforest communities and how these differ from other forest types. General points emphasized included how patterns of mean annual temperature and rainfall determined the global distribution of rainforests, and how the crown shape and spacing of dominant canopy trees influenced the intensity and angle of sunlight that creates a multilayered structure beneath the canopy layer. Temperate zone students are unfamiliar with the structural complexity of a tropical rainforest, but the geometry of tree shapes is a primary determinant.

The second theme focused on the general issue of



Left to right: Mindy Wallentine (BYU), Sergio Henrique C. de Carvalho, David Gonzales (BYU) in class.

**A habit of synchronous nesting in large colonies on specific beaches, and a large body size, makes the *tartaruga* the most vulnerable of all species to overexploitation.**



Dr. Jack W. Sites with sub-adult *tartaruga*.

Amazonian biodiversity, and hypotheses about possible evolutionary mechanisms that might either accelerate speciation or reduce extinction rates in tropical regions. We spent considerable time discussing hypotheses of riverine barriers, Pleistocene vicariance, and rapid ecological speciation across ecotones and transitional habitats. The latter idea has not been studied at all in the Neotropics, yet it holds enormous potential for improving our scientific understanding of how tropical regions become so rich in species.

Field work associated with these themes centered on general techniques for monitoring amphibian and reptile diversity, and on the nesting biology of the freshwater turtles. For example, we walked transects at night around the perimeter of a nearby lagoon, and located several species of breeding frogs by their calls. Similarly, we established pitfall trapping stations to collect small lizards confined to the leaf litter. Students had to dig holes deep enough to sink large plastic buckets flush with the surface, drive wooden stakes into the ground adjacent to these, and then staple strips of plastic onto these stakes to form barriers stretching across the ground between the buckets. These stations were checked twice daily, and were successful in catching several small lizard species that were otherwise not seen.

Because the timing of our visit coincided with the nesting activity of the tartaruga, CENAQUA staff took small groups of students onto the main *tabuleira* (beach) each night to observe nesting behavior. This required students to depart the station in the middle of the night, and then to sit on the beach with the guards until sunrise.

No lights were permitted, but students could see the females emerging from the river by moonlight, and watched them first dig body pits, a nest chamber, deposit eggs, and then cover everything before returning to the river. Guards catch the females before they reach the water, and turn them on their backs to immobilize them. At sunrise, a new crew relieves the night patrol, weighs and measures each female, and releases them back into the river. Guards also build small screen pens to fence each nest, and night patrols continue until all nests hatch, when the young are hand-released into the river.

Students learned two important lessons from this work. First, CENAQUA must keep up nightly beach patrols from the beginning of the nesting season through the end of hatching of all nests (about 400 nests were recorded this year at Rebio Trombetas); a period of about 2.5 months. This discourages human poaching and reduces the normal rate of predation. Many nests are 100–200 meters from the river's edge, and hatchlings suffer extremely high mortality from

avian predators when they run the gauntlet to reach the river. If not heavily exploited by humans, this natural predation would be an acceptable loss, but under present demographic conditions, CENAQUA must head-start the hatchlings to reduce all causes of mortality on the beaches.

Belk's lectures dealt with the ecology of fish. The Rio Trombetas' fish species is the second most diverse anywhere on earth (the first is the Rio Negro upstream). He covered four main topics: interaction of fish with their environment; competitive interactions and feeding

strategies; reproduction and mating behavior; and predator/prey interactions. With the Trombetas and many lakes as the backdrop, it

was relatively easy to illustrate these points. To illustrate how tolerance limits define habitat use, he took students to two contrasting habitats: a swampy arm of a lake and cutoff pools found on a sandbar in the river. He and students used a small seine to sample the fish in these habitats and discussed differences among species found. In total, the group found over thirty fish species.

One field exercise had students doing multiple removals of fish from the sandbar pools to estimate total population sizes. They learned how difficult reliable data are to come by, and why many conservation decisions are made with incomplete data. One pool was seined over twenty times, and after sore backs and blistered hands, students learned what was required to do thorough field work.

Perhaps the most appropriate lecture covered predator/prey interactions, due to great diversity of predatory species native to Amazonia. Belk illustrated some basic principles at a nearby swamp, where students recorded predation attempts by fish in relation to physical structure of the environment, for thirty minutes. They were to record each time they observed a fish chase something. At the end of this experiment he and the group compiled the data, and clearly demonstrated the relationship between habitat structure and predation.

Insects are the most species-rich group of animals on Earth, and the Amazon is the single most species-rich location. Nelson's lectures centered on this fact and provided information on sorting through the sometimes mind-boggling variety of insects and other

**No lights were permitted, but students could see the females emerging from the river by moonlight, and watched them first dig body pits, a nest chamber, deposit eggs, and then cover everything before returning to the river.**



Students seining for fish in isolated pool at Praia Farias.

invertebrates that exists at a place like Rebio Trombetas. His lectures followed four themes: collecting, curating, and identifying insects, as well as wildland preservation and conservation. He discussed collecting organisms by hand and with a variety of traps. These techniques were demonstrated during the lecture and then reinforced by frequent visits to the forest, where students gained firsthand knowledge of the immense numbers of species and individual invertebrates present in the various plant communities and microhabitats.

The richness of individual microhabitats was very clearly demonstrated in quickly assessing the forms encountered under a single slab of loose bark of rain forest tree. Our trips to the forest, pool, beach, and river were full of such firsthand information concerning the kinds of animals encountered. Students constantly found more animals to show Nelson and the class. Introductions to each of these particular species were always interrupted by the presentation of the next species in rapid-fire succession. This resulted in the knowledge that the diversity of individual invertebrate species is indeed immense and that the work ahead for insect taxonomists, physiologists, and ecologists is unlimited. Unlimited, that is, if the forest and other habitats are held intact so that the associated plant and animal species are not driven to extinction.

As a matter of proper scientific protocol, Nelson encouraged students to keep field notebooks, and outlined the types of information most valuable to future biologists that may see specimens in museum collections. Students had quick but detailed demonstrations in specimen preparation, which were followed by hands-on exercises in many of these techniques. Students also explored specimen identification in both lectures and wet lab situations. In this identification section, two exercises stand out in their particular success.

First, in the classroom, students determined common names, in local terms, for a wide variety of insect scientific names. This was a wonderful learning experience when the standard Latin names of groups of insects were translated into the common names used by the students, both Portuguese- and English-speakers. Students became animated as they voiced adamant opinions regarding the appropriate common names for each organism. This pointed out the need for standard scientific names as well as a working understanding of the common names used by local people in a region. We summarized, on a conservation note, that the need for communication is paramount and outweighs petty disagreements.

Second, in the wet lab, students viewed a variety of insects collected in a trap, which required sorting

the trap samples into the huge number of species encountered. Microscopes were available and each person viewed the interesting forms under magnification, while Nelson helped them interpret what they were seeing. This gave students a direct view of body form adaptations that individual species have to deal with their particular environment.

All discussions were tied to the need for conservation of biodiversity in the face of competing human needs. It was pleasurable and informative to make these associations in the lab and field setting offered at

**The size and shape of Rebio Trombetas—the fact that it stretches along 100 miles of the Trombetas River—makes it impossible to effectively patrol.**



*IBAMA patrol at station dock.*

Rebio Trombetas. Students greatly benefited from the coupling of lecture with hands-on activities and were surprised by how difficult it was to collect good data in the field.

### Take-Home Lessons

Cantarelli and the CENAQUA staff gave all of us several informal lectures on sustainable rainforest resources usage, and IBAMA staff followed with examples of the challenges posed on them to enforce laws and carry out their conservation mandates. Given the size of the reserve, IBAMA is understaffed for the complete development and implementation of a science-based management plan. They maintain four permanent bases in the reserve, each with a staff of two to three people. The size and shape of Rebio Trombetas—the fact that it stretches along 100 miles of the Trombetas River—makes it impossible to effectively patrol. Invasion from either side could be unstoppable if the human population density outside of the reserve ever increases to a large size. Cantarelli estimates that IBAMA would need to maintain about eight permanent bases, each with a staff of four to five full-time employees, to effectively manage the reserve.

Some local examples gave students a better idea of specifics. In one case, local people are permitted in the reserve to harvest Brazil nuts when these ripen and fall, but this requires that they build temporary shel-

ters and spend perhaps one to two months in a single spot (near a grove of these trees). Normally two or three young men will do the nut collecting, but they must usually kill one or two animals per day to eat (monkeys, armadillos, agoutis, etc.) throughout their stay in the reserve. The IBAMA staff estimates that this adds up to a loss of 2,000–3,000 animals each year from the reserve. If local people were denied access, they would likely retaliate by killing animals throughout the year, and therefore remove even larger numbers. For the present, the seasonal harvest is the only option.



IBAMA guard carrying adult female tartaruga (Amazon river turtle) back to river after nesting.

A second example describes the problem of poaching for selected species of fish that are common in the lakes and lagoons of Rebio Trombetas. Again, because of the shape of the reserve, staff and budget constraints do not permit continuous patrolling of all relevant habitats, so poaching is not uncommon.

However, many people catch common species for their own consumption, such as the peacock bass or *tucunaré*, and IBAMA does not worry about this harvest. Indeed, their staff caught these fish daily to feed us—the biomass seems immense.

A second form of poaching centers on the large *pirarucú*, a species highly prized for its meat. In contrast to many species, local people hunt pirarucú for illegal commercial sale to restaurants in Belém and Manaus. One large specimen (this fish can grow to two meters in length and attain a weight of 100 kg) was confiscated from a poacher during our stay, and IBAMA is as diligent about protecting this species as funding and staff will permit.

The third type of fish poaching is done by large-scale commercial fishermen. Although rare, occasionally a very large, well-equipped vessel will motor its way up the Trombetas River and attempt to off-load a fleet of smaller boats to invade one of the large lagoons with gill nets. This was last attempted in early 1999, and IBAMA's own large boat met the intruding vessel. After an exchange of gunfire, they overtook the vessel, arrested the crew, and confiscated the equipment. Fortunately no one was injured, but processing the arrests required a ten hour boat trip downriver to the nearest large town—Oriximiná—to put the suspects into custody with the federal police—something that IBAMA cannot afford to do frequently, so they must

carefully choose their battles to leverage the most gain for conservation with each arrest.

The final and most detailed example of their conservation efforts, and the trade-offs they face, is freshwater turtles. Three species have been heavily exploited for meat and/or eggs. As mentioned before, the largest and potentially most vulnerable of these is the colony-nesting tartaruga, but two smaller species are abundant and also exploited: the *tracajá* and the *pitiú*. The *tracajá* is a solitary nester, and uses not only exposed sandbanks and gravel bars, but also mud flats of the igapó forest. Because of these dispersed nesting habits, IBAMA does not have the manpower to patrol for protection of this species, but it is less vulnerable and its populations appear to be stable.

On the other hand, the *pitiú* selectively nests in groups on the exposed beaches also preferred by the tartaruga, but begins two months earlier. IBAMA does not regularly patrol beaches to thwart poaching of *pitiú* nests. During my 1999 visit to Rebio Trombetas, I saw fresh human tracks and excavated nests everyday during the nesting season of this species. Cantarelli told me that one of his objectives, and one reason for the BYU invitation to develop the field course, was to simply increase use of the reserve. His argument was that increased visitation and use, even for short periods of time, would increase both the public profile of the reserve—therefore its value—and indirectly discourage some illegal transgressions because of the sheer presence of people unknown to the local ribeirinhos.

On this trip, students met the Brazilian graduate student, Erica Hallar, a master's candidate from the University of São Paulo. Hallar had been at Rebio Trombetas for almost three months prior to our arrival. She was conducting an intensive study of the nesting ecology of the *pitiú*. This involved tracking females at night when they emerged to nest, marking the nests, capturing females on their return to the river to collect weights and measurements, and then monitoring nests until they hatched. She had implanted thermocouplers in some nests to record the temperature of the nest chamber every thirty minutes, throughout the incubation period (55–60 days). She also transplanted a total of forty nests to incubation boxes at the field station for more controlled studies of the influence of nesting temperature on the differentiation of sex in the hatchlings. Like many turtles, sex is not genetically fixed upon fertilization of eggs, but rather determined by the incubation temperature during the first three weeks of development.

Hallar gave one guest lecture on the details of her work, which the students found fascinating, but the significance of her work is that it appears to bear out

**I know of no better way to provide students with a deeper understanding of any natural ecosystem on earth than to show them firsthand what these environments are like and to design teaching experiences that require them to do hard field work.**

Cantarelli's approach to increased reserve use. At the beginning of her study, Hallar visited the nearest caboclo and quilombola communities in the vicinity of Rebio Trombetas and explained the purpose of her stay, and what she would be doing. Unlike the 1999 season in which pitiú nests were heavily poached on the main beach, there had been no poaching in the 2000 season. Simply because a twenty-four year-old woman had, along with one IBAMA guard, maintained a nightly patrol, the beach has been empty of all people except the researchers.

For many reasons, IBAMA puts most of their time and effort into protecting the large female tartarugas when they come ashore to nest—often dozens in a single night. They are aided by considerable support from Pro-Tartaruga, a non-governmental organization, that has successfully used the big turtle as its poster child to raise public awareness of turtles and the Amazon's wild nature in general. They now have sufficient public support and funding to annually loan at least six full-time staff to IBAMA's work in Rebio Trombetas during the tartaruga nesting season. After the last nest hatches, Pro-Tartaruga employees then relocate to another CENAQUA station, where additional manpower may be needed for the same reason.

This is equivalent to the National Park Service being loaned full-time employees from a citizens group, such as the Nature Conservancy (TNC), at Yellowstone National Park, when the elk begin to drop calves. As soon as calving season was over, the TNC employees might then pack up and head for Glacier National Park, where calving would occur at a different time. This arrangement was a real eyeopener to all of us from the U.S., as we could never imagine something like this being needed here.

It is all the more remarkable because the beach guards are occasionally defending turtles at personal risk. Two IBAMA employees were wounded by shotgun blasts at Rebio Trombetas in the past five years, when approaching poachers on beaches at night.

Although rare events, they do serve as a reminder that most of the Amazon region is still a frontier forest that requires people to travel in groups and be on the alert.

On our last full day in Rebio Trombetas, we all met again with Guerrero for an open discussion for the purpose of feedback to the three professors. We wanted to know what they liked, what they did not care for, and how we might make improvements if given another opportunity. This was also a chance for us to extend out heartfelt thanks to the IBAMA guards and station staff who worked so hard to make our visit pleasant

and safe. I personally let the Brazilian students know how much time Cantarelli spent lobbying his superiors, and the mining company, to secure financial support for all of them to travel to the reserve to join us for the course. The response from all of the students was immensely favorable. To a person, they benefited tremendously from their participation in this experience with us and by their interaction with each other. In the end, they forgot about the heat and insect bites. Their minds had been expanded with new challenges and possibilities.

I know of no better way to provide students with a deeper understanding of any natural ecosystem on earth than to show them firsthand what these environments are like and to design teaching experi-

ences that require them to do hard field work. I think we accomplished this at Rebio Trombetas, and with a little luck, maybe even helped initiate a research program designed to generate good science, educate students in the process, and integrate science into reserve management. A further challenge will be to broaden the discussions to include the surrounding caboclo and quilombola communities in a dialogue on sustainable resource usage. Only by successfully integrating these communities into long-term conservation goals will poaching of turtles, selected species of fish, and large mammals ever really be controlled. BYU and Brazilian students gained a more in-depth understanding of tropical biology within the larger cultural and economic context that is the reality of Amazonia.

David Gonzales, a zoology major, had worked with Dr. Belk for one and a half years, including a survey near Tropic, Utah. That was the first Gonzales heard about Brazil. "It was the chance of a lifetime," he said. "I will focus my studies to become a scientist/researcher in field-based ecology," Gonzales decided after his Amazon adventure.

While on a mission in Costa Rica, he first became aware of rainforest issues. His experience in Brazil only added fuel to his quest. "Knowledge is power. Seeing brought understanding and gave focus to how my passion could be played out," he said.

Mindy Wallentine, a wildlife biology major and December 2000 graduate, was invited by Dr. Sites to join the research team in Brazil. "I am an environmentalist," Wallentine said. "This trip cemented things for me. My learning came primarily from textbooks as a vague concept.

Now I have talked directly with the people involved. I saw the political and scientific sides," she said.

When asked about the insects, she reassured that this was a trip during the "dry" season, and they encountered "only two mosquitos."

"This was the capstone of my undergraduate experience. I didn't know what to expect. It was amazing—better than I imagined," she said.

Ben, a bright, but unfocused university student, recently shared his academic desires with me. I had known of his phenomenal abilities with computers, his excellent people skills, his unbounded love for learning, and his never-ending questions.

"I've finally decided what I want to study in the university," he excitedly reported. I nodded, eager to finally know his focused dedication to academic discipline.

"I want a classical education," he proudly announced.

"And what does that mean for you?" I inquired.

"Well," he said, "I'll have to study a lot of history, which I love, and Greek and Latin, to be able to read literature in the original languages; I have been told that translations just don't give the true meanings. I'm also fascinated by archaeological finds I've been reading about, so I plan to take advanced classes and participate in some digs in Egypt or Turkey. I want to study Arabic in depth to see how that culture relates to the classical world as well, and. . ."

# Interdisciplinary FOCUS

## The Need Beyond Disciplines

*by Ted Lyon, professor of Spanish, BYU*

I had to cut him off. Ben was very sincere, excited, and anxious to get going and had been doing a lot of reading and learning on his own. My next question dampened his flame. "In what department will you major?" I asked. A big pause. He was wounded, caught off guard, and I too was hurt by having to bring him down to the reality of university life.

"Well, I dunno; do I have to major in a single department? Can't I just take good classes that all relate? You know, a real classical education?"

Unfortunately, I had to explain that such a personalized, but perfectly logical study was not available at most universities. His desires would cut across at least four departments: history, languages, humanities, and anthropology—that would be nearly impossible to carry off in four or five years.



Current organization of departments in most U.S. universities follows a model established nearly a century ago by European traditions and institutions. Since that time, most universities have fallen into lock-step uniformity, without always considering the needs and desires of students in the fast-moving world-village of the twenty-first century. Institutions have divided academic study into standard compartmentalized units without examining whether these departments still meet student needs when they leave the university.

This compartmentalization often results in conflict among departments as knowledge expands and borders between disciplines become fuzzy. Most university professors will admit to having witnessed “turf” battles, where a department’s new course offering may encroach on the sacred territory that another has marked as their private domain.

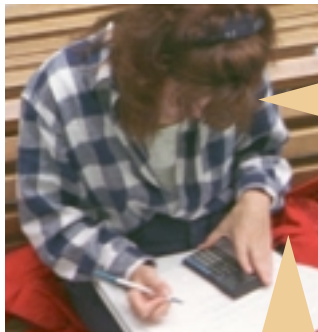
Departmental barriers have been extremely resistant to change. Universities have not kept up with the ever-changing needs of students as they enter the workforce. In the current academic world, some of the most exciting discoveries have come from combined fields of study, such as genetic engineering, neuro-chemistry, astrophysics, environmental engineering, multicultural studies, osteo-paleontology, and, at BYU, a unique program in molecular genealogy. Faculty research indeed has become increasingly interdisciplinary.

A delightful example is Freeman J. Dyson, a professor at Princeton’s *very* interdisciplinary Institute of Advanced Study. Dyson has combined his own discipline—physics—with astronomy, microbiology, ecology, and biology to produce such innovative and readable books as *Infinite in All Directions* and *Disturbing the Universe*.

A further example is William H. McNeill’s very broad book, *Plagues and Peoples*, in which the world-famous historian expands his scope to view the way disease has altered demographic movements. “How could such a small band of Spaniards—approximately 500—so easily conquer the Aztec empire with its millions of trained warriors?” His question expanded to include medicine, anthropology, governmental policy, early exploration, and more, as he involved himself in the entire history of world disease.

Large universities are now filled with newly created centers and institutes that cross disciplinary fences and bring professors together from multiple departments. Yet much too infrequently do universities involve their undergraduate students in the excitement of interdisciplinary studies; they must wait until they become graduates or faculty. Still, when they go into the “real” world, they will likely be involved in work that carries them beyond the realms of a single discipline. Life is simply not a compartmentalized major. Employers frequently reward those employees who bring breadth to their work.

Interdisciplinary courses and approaches at a university need not be *anti*-disciplinary. Too many professors, stuck in a single discipline, view interdisciplinary education as *undisciplined*. This need not be the case. If interdisciplinary programs are merely a potpourri of similar-sounding courses, held together only by geography or language, then they may indeed lack disciplinary cohesiveness. Further, if they are a series of courses that are really anti-disciplinary attacks, then they do no favor to students either. However, students who can handle the rigors of advanced



courses in three or four departments should be able to see much farther than a traditional major in any one of the departments, and eventually add more to their career after graduation.

Noting the great waste of time, talent, and money that results when once-eager freshman students drop out after the first or second semester, BYU, along with many other universities, has instituted Freshman Academy. Students who choose this option may register for American Heritage, a religion course, a foreign language, and a class from their major. The same students work together in all classes and the professors coordinate a unified learning experience. Not only has the program kept many more students in college, but it has also produced a high level of interdisciplinary cooperation and excitement about learning.

At BYU, as well as across the country, undergraduate students planning to go to medical, dental, or law school, or study for an MBA degree, are often counseled to complete a broadly-based major different from the specific field of future specialization. While this is not a precise example of interdisciplinary study, it does indicate that they will be more “marketable.” And, the fact that they have to complete the necessary pre-required courses for the specific discipline provides an interdisciplinary effect in the students.

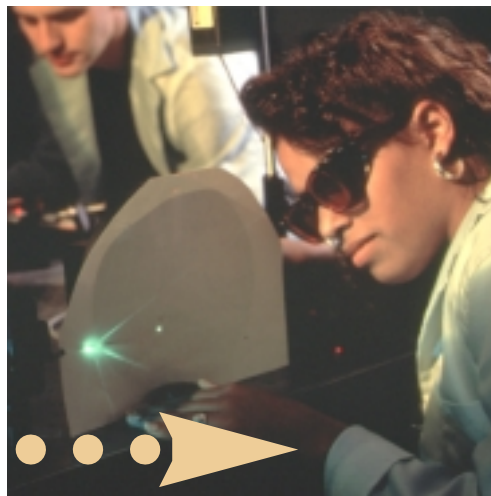
Wilfred Griggs, professor of ancient scripture, and Scott Woodward, professor of microbiology, both at BYU, have combined energies and knowledge in their studies of DNA taken from Egyptian mummies. Students who have participated with them have written honors theses combining history, languages, culture, and even the study of textiles. The result is an expansion of the limited perspectives of a single discipline to include two or three others, which creates an excitement in learning that carries them into unique, broadly-based careers.

Interdisciplinary study encourages high levels of very disciplined thinking about broad, knotty, and unresolved problems, epic concerns such as poverty, migration, power struggles, ethnocentricity, and so on, which a single academic department only views partially. Pushing the limits of one’s specific discipline takes the researcher (read, undergraduate student) into new territories. Interdisciplinary studies can be a unifying

approach that focuses on the world through a combination of related disciplines. New insight and new vision is the inevitable result of good interdisciplinary education.

I offer a personal example. Eighteen years ago the honors program dean asked two BYU colleagues and me to develop and teach an honors “colloquium.” I asked her, “And just what is a colloquium?” She explained that it was a wide-ranging course that allowed each professor to develop his or her own area, coordinated with the disciplines of the other faculty members. I asked her what the subject should be. She responded with a twinkle, “Truth!”

We planned together and created a year-long general education course which we titled “Shaping the Modern Mind.” The broad title gave us latitude to combine the three disciplines in



which we were each well prepared: social science, biological science, and the humanities.

For our texts we selected the best books that each of us had read in the past five or six years, and then attempted to relate each book to the three broad areas of our expertise. With the students we discussed how the novel *Bless Me, Ultima* looks beyond Hispanic Culture in the southwest U.S. and focuses on the sociology of minorities anywhere in the world. We studied the scientific background of *Desert Solitaire* and its unique ecological vision, but also probed the English writing techniques that make it such an enduring essay. Students in this course read a book a week and related each to basic themes of conflict, cultural change, dependence, and human and biological ecology. We as professors grew too—often in unexpected ways—and have each shifted some of our personal research as a result of this in-depth interdisciplinary course. We are grateful for a university that allows such visionary innovation.

Some argue that interdisciplinary studies cripple our students by throwing them into the big bad world without the depth gained by examining a single discipline. This argument may have had some validity in a day when all French majors became French teachers, or economics majors went directly into jobs using skills acquired in college—simply no longer the case. Many university students now use their degrees merely to gain admission to quite unrelated graduate programs. Others, political science majors for example, might pursue a career in that area for a few years, but statistics show that ten years later they will be in new, unrelated professions. Many will start their own businesses. Others accept new opportunities brought on by family or friends.

Instead of preparing students for a specific career, the university must assist them in learning to read well and thoroughly, think deeply, write clearly, and analyze critically. These skills should be honed in both traditional disciplines as well as in interdisciplinary studies. After all, we are a university. This is a place where we unite, where we come together to see knowledge through a unified lens—a place where we do not split knowledge into unrelated prisms, but rather, into a focused whole.



# Deep Focus: BYU's "Special" Countries

*by Andrea K. Harker*

## The Big Picture

China, Jordan, and Ukraine may not seem to have much in common, but for two years they have been linked through at least one avenue: BYU. To become better known and understood in the international arena, the university has targeted these three countries to be part of BYU's "Special Country Focus" (SCF).

The general goal of the SCF is "to coordinate the activities of various departments and schools on campus in order to make the most of our international contacts," explained Eric Hyer, China program coordinator. "The hope is to eventually have one person generally overseeing all international projects for each country—not to control things necessarily, but create a consistent approach, help coordinate relations, and act as a resource." Hyer continued, "We would like people to understand the vision. They will often be more successful in international initiatives if they go through the SCF program." Those interested in working within China, Jordan, or Ukraine should contact the coordinator.

For example, during President Merrill J. Bateman's recent China visit, Hyer scheduled meetings for him with influential people. Afterward, Hyer learned of others who would have appreciated such a meeting, but since he was not aware of their desire to make connections in China, they missed out on those opportunities.

Hyer, Howard Biddulph (Ukraine), and James Toronto (Jordan) were chosen as SCF coordinators because of their vast experience in the selected country. Each coordinator individually follows the goals of the university to coordinate its overseas projects, but all three meet periodically to discuss plans, fund-raising projects, and generally assess their relative progress.

The coordinators follow a "Centers of Strength" plan, which focuses BYU's exposure—and the Church's—on select major cities and universities. They also participate in the allocation of SCF funding to appropriate projects within the plan. Although they give other proposals consideration, the coordinators generally target three main programs: student, scholarly, or cultural exchange. "We communicate to promote academic exchanges and include a discussion of 'educating the whole person'—including spiritual nourishment," Hyer explained. Recently, President Bateman's academic presentations were received warmly in all three SCF locations.

Additional information about the individual SCF programs are outlined below:



# China Close-up

**Program Coordinator:** Eric A. Hyer has studied China's people—their language, culture, and politics—extensively since 1971, and he has lived and traveled within China's borders at various stages in his life. Hyer is an associate professor of political science at BYU, where he received his BA degree. He obtained his MA and PhD degrees and certificate in Asian Studies from Columbia University.

**Goals:** "BYU is already well known for our cultural groups—our current focus is to raise our academic and research profile in China," Hyer said. This is one reason for President Bateman's May 2000 visit there, coupled with a desire for "the Chinese to feel more comfortable with Latter-day Saints in general."

**Activities:** Hyer coordinates closely with the Kennedy Center and Sandra Rogers, associate academic vice president for international and distance education at BYU. He has worked to place student interns in China, but so far has met little success, as he explained, "Internships are a very different animal in China. It seems that the strategy of multinational corporations is to recruit locals—even if that means recruiting Chinese students from BYU. Some BYU students will find internships in China, but comparatively speaking, they are not very substantive."

Other projects include BYU's McKay School of Education collaboration with Beijing Normal University on teacher development research and training and jointly sponsored conferences. This year, eight elementary education majors are completing their certification while teaching at the Helen Foster Snow School in Xi'an, China.

In October, President Bateman made a second trip to China, leading a delegation of BYU faculty. They made presentations in Beijing and Ningxia Province on distance education, ESL, technology transfer, and water and range management. Chinese leaders are interested in Utah as a model for developing China's sparsely populated and arid western region. BYU is opening doors for further cooperation in these key areas.

Hyer also recently finished work on a China-related project of his own. The film *Helen Foster Snow: Witness to Revolution* (see *Bridges* summer online and fall print issues), he said, "was largely made possible because of SCF. We foresee it being influential in both cultural and scholarly arenas, and also a significant public relations tool." A major multinational corporation has agreed to fund a Chinese version of the documentary and screenings in several major Chinese cities are scheduled for July 2001. The film will also be aired on KBYU and other PBS channels in 2001.

**Progress:** "Since the Young Ambassadors' first visit in 1979, BYU performing groups have traveled to China nearly every year. Because of similar cultural exchanges, we are possibly the most famous American university in China. Our current strategic goal is to maintain these cultural exchanges, but open doors for broader academic exchanges as well. This is a new strategic initiative, and I think that it will take several years to develop a similar reputation for BYU's academic programs and faculty scholarship. In the long term, this will also raise the profile of the Church in China," Hyer summarized.





## Jordan Close-up

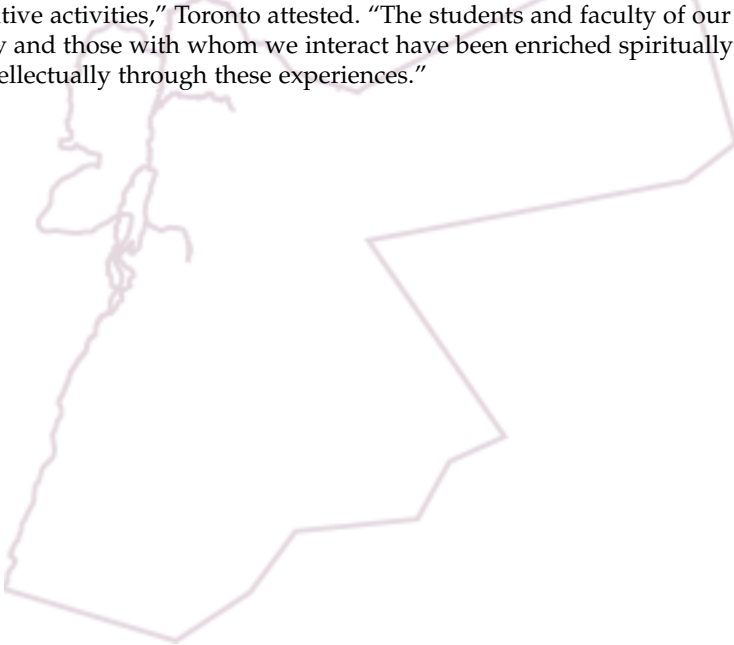
**Program Coordinator:** James A. Toronto has worked and studied for ten years in the Middle East, including Saudi Arabia and Egypt, and recently returned from a three-year assignment as director of BYU's Center for Cultural Educational Affairs in Amman, Jordan. Toronto received his BA in English at BYU, with minors in history and Italian and then obtained his MA and PhD in Middle Eastern Studies from Harvard University. He has taught courses in comparative world religions, Islamic studies, and Middle Eastern politics and culture at BYU.

**Goals:** "Jordan and the surrounding Arab countries (included in the focus) have traditionally not been understood in Western societies," Toronto related. "And, likewise, Western Christian institutions are commonly viewed with mistrust and suspicion in the Islamic Middle East. Our presence and activities there are an important means of breaking down prejudices on both sides of the fence, dispelling stereotypes, and building friendships and contacts that are mutually beneficial."

**Activities:** "I act as liaison in managing our academic agreements and interaction with Arab universities, and I communicate regularly with LDS Charities so that our academic programs mesh well with their humanitarian and development activities," said Toronto.

Specifically, he said, "BYU has formal academic agreements with both the University of Jordan and the University of Damascus. We have had faculty and students from many departments across campus—including nursing, archaeology, business, engineering, agriculture, development studies, and Arabic—participate in exchanges and study in the Arab Middle East. We have also had a number of performing groups tour these countries."

**Progress:** BYU has been involved primarily in three areas of the Arab world: Jordan, Syria, and the West Bank/Gaza. "I think that BYU and the Church's reputation and opportunities to serve have been enhanced through our cooperative activities," Toronto attested. "The students and faculty of our university and those with whom we interact have been enriched spiritually and intellectually through these experiences."





# Ukraine close-up

**Program Coordinator:** Howard L. Biddulph joined the team in January of 1999.

An associate of the Kennedy Center, he is an emeritus professor who not only specialized in Ukraine political science, but was also the first mission president for the Church there (1991–94). Consequently, Biddulph has solid contacts in the country. “I am very happy to be involved with the project,” he affirmed.

**Goals:** “This program is generally an effort on the university’s part to build relations with various countries and universities—which benefits both the institutions and the Church” said Biddulph. “We are working on several different projects right now to bring this goal about.”

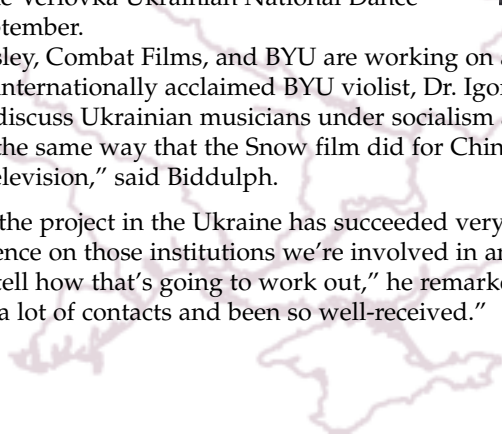
**Activities:** President Bateman and Biddulph visited eight institutions of higher education in Kyiv, and established close relationships with three of the most prominent: The Ukraine Institute of International Relations (UIIR) of the Kyiv National Shevchenko University; Ukraine’s Academy of Public Administration; and the Religious Studies Department of the Ukrainian National Academy of Sciences (UNAS). BYU established an annual MA fellowship in international relations for graduates of the UIIR and agreed to support the new Ukraine Center for Religious Information and Freedom (UCRIF), established by the UNAS.

Igor Darmogray, the first recipient of the fellowship, was awarded his degree in the December 2000 convocation, and the second and third recipients will arrive for the fall 2001 semester. The UIIR reciprocated by hosting nineteen BYU students and two faculty members summer 2000, to study the “Political, Economic, and Cultural Transition of the New Ukraine.” Seven Ukrainian professors helped Biddulph teach this course. Students were also involved in two volunteer service programs—anti-tobacco education and internships at the new UCRIF—and taught English. The Ukrainian media gave prominence to their work on television and radio, and in numerous newspaper articles, resulting in excellent contacts with top government officials. During summer 2001, a second group of BYU students and professors will continue this service-learning program in Kyiv, under the sponsorship of the UIIR.

Biddulph has also been working hard to get Ukrainian visitors to BYU. “In the past, members of parliament, scholars, prominent citizens, and even the ambassador (December 1999) have been invited to our campus. In fact,” Biddulph told us, “we will host the director of the UIIR at BYU sometime early this year.” Other Ukrainians shared their talents with the BYU community when the Verioivka Ukrainian National Dance Company performed last September.

Currently, Dodge Billingsley, Combat Films, and BYU are working on a film for PBS and Ukrainian TV. It will feature internationally acclaimed BYU violist, Dr. Igor Gruppman, who is a native of Kyiv. The film will discuss Ukrainian musicians under socialism and capitalism. “This will showcase BYU in much the same way that the Snow film did for China, and we hope it will be appealing for Ukrainian television,” said Biddulph.

**Progress:** Biddulph believes that the project in the Ukraine has succeeded very well so far. “I think it has had a very positive influence on those institutions we’re involved in and I hope it will on the government, but it’s hard to tell how that’s going to work out,” he remarked, “It’s encouraging to see that we’ve already made a lot of contacts and been so well-received.”



# Campus

## Winning Photography

In September, the Kennedy Center's First Annual Photography Contest netted cash awards to three talented students. Malcolm Botto-Wilson received \$100 for best portrayal of student interaction in the international experience with his first-place entry "Ki'che Lesson," taken in Santa Catarina, Guatemala.

The bulk of the entries naturally divided into two categories: architecture/landscape and portraits. The judges determined that two, second place \$75 awards would be given—the best from each category. Kevin Croxall won for "Djenaba," a portrait of a joyful woman of Sanar Peul, Senegal. Jacob Ball won for "Streetlight Magic" which captures Madrid, Spain, after dark.

In addition to the top awards, thirteen photos warranted honorable mention. Both Botto-Wilson and

Croxall have photos in this category along with Julie Hillebrant, Olivia Lowry, Jeremy Keele, Stephen Backman, Mark Troger, Meredith Maynes, Nichole Bryson, Kimberly Rose, Eric Peterson, and Rosanne Wilcox.

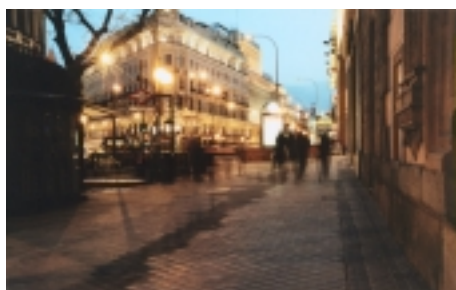
Each year over one thousand BYU students participate in international study programs. Fifty-one students entered hundreds of photos taken in the 1999–2000 academic year, while studying and providing service abroad. Plans for the use of these photos include an online photo gallery, display at the center and inclusion on promotional materials.

The 2000–2001 contest has been expanded to involve international study programs' faculty and Kennedy Center alumni working and traveling abroad. The contest deadline has been extended and will conclude 30 September 2001. For more information and to view the complete photo gallery, visit

<http://kennedy.byu.edu/photo>.



First Place "Ki'che Lesson" taken by Malcolm Botto-Wilson in Santa Catarina, Guatemala.



Second Place "Streetlight Magic" taken by Jacob Ball in Madrid, Spain.



Second Place "Djenaba" taken by Kevin Croxall in Sanar Peul, Senegal.

## Snow Symposium

The Helen Foster Snow symposium, held 26–27 October 2000, drew a crowd of 300 people and included presentations by seventeen Chinese and twelve American scholars. These distinguished guests presented papers delving into various aspects of Snow's China experience, as well as historical and political research on the Chinese communist movement. An edited volume of the papers presented at the conference will be made available later this year.

The premier of the documentary *Helen Foster Snow: Witness to Revolution* was the highlight of the conference. It has since aired on KBYU (22, 25 January) and, due to a large grant from United Technologies, a Chinese version will be shown in China sometime in July. This remarkable film is also being considered for national distribution and is available on home video through Creative Works. Interested parties may purchase the video at <http://creativeworks.byu.edu/office>.



Helen Foster Snow in China.

## Kennedy Center Pioneer

Many Kennedy Center alumni will remember Spencer John Palmer, pioneer supporter of the center and professor of world religions, who died 27 November in Provo. Palmer was 73. "He always had a very broad scope—the world was his campus," commented Paul Hyer, International Society executive director and former Palmer colleague at BYU. "He was always involved with the international outreach of the Church"

Educated at BYU and Berkeley, Palmer served as Army chaplain during the Korean War and later returned as mission and temple president in South Korea and as a regional representative in Southeast Asia. His travels also included Japan, China, India, South Africa, and the Middle East. He enjoyed a friendship with the late David M. Kennedy, who at the time was a special ambassador-at-large for the First Presidency.

Remarking on Palmer's death, Elder Jeffrey R. Holland said that he lost a personal friend, BYU lost a remarkable professional, and the Church lost a faithful servant, who will be missed by all that knew him. "Seldom has man made a greater contribution in his professional and personal life," Elder Holland said. "He has left us wonderful memories and given us a great example to follow."



## Enrollment Up

Kennedy Center majors are increasingly popular with BYU students. Arlene Pritchard, academic advisor, reported that enrollment for 2000–2001 is 960—up 116 students—compared to 844 in 1999–2000, and 834 in 1998–1999. "The increase began just at the time the Porter Commission proposed a restructuring of our majors, and we changed from International Relations to International Studies. The growth signals continual recognition from students that interdisciplinary studies are valuable," said Phillip J. Bryson, associate director of the center over academics and research. "Other majors focus on one aspect—economics or politics for instance—but our major offers numerous perspectives: i.e., economics, geography, politics."

Bryson added, "Globalization is a fact of life; it grows apace, and we all need to understand the global scene. Our students perceive this need due to their language abilities, travel, and/or mission. It is commendable of our students that they recognize they will be required to move beyond the narrow urban scope. And it is likewise a compliment to the center that we give our students broad preparation."

## Educational Sacrifice

Many of us take for granted the fact that we were able to attend school close to home, or at least, in the same country as our loved ones. A few graduate students at the Kennedy Center are not so lucky, but they consider themselves blessed in other ways. We spoke with three of our international students to learn about their motivations for coming to the center, their experience so far, and to see if they feel that leaving their parents, spouses, and in one case, children, was worth it.

### Ananta Gondomono



Godomono, who is from Indonesia, likes that Provo is a fairly small city because it has "much less traffic and pollution than Jakarta." Gondomono was enticed here by Don Holsinger, director of the Kennedy Center, who offered him a scholarship when he visited the University of Indonesia, where Gondomono was studying. He related, "When offered the chance to study in the U.S., I grabbed it without thinking. I had heard a little about BYU—I knew it was large—but I had no idea what it was all about at first. I knew who Brigham Young was, but that's about it. I had to look it up in the Fulbright Center catalogues." With his tuition scholarship, and a research assistantship lined up with a Japanese company, Gondomono set out for Provo last fall with high expectations.

Scholastically, these expectations have been well met. "BYU has great facilities. I am amazed at the library—it is much more advanced than Indonesia's or other developing countries.'" Gondomono has met other difficulties, however. First, he suffered setbacks regarding funding for his research job. Unfortunately, he was not made aware of these problems until he flew to Japan—three weeks into the school year. Gondomono is still working for the Japanese company, but they cannot pay him as much as he needs to remain at BYU. When Professor Phil Bryson, associate director of the center, learned of Gondomono's troubles, he set up a research assistantship for him here, which has allowed Gondomono to stay. Because of efforts such as this, Gondomono stated, "Even without good planning, I've thought about it, and I still think it will be a good experience."

The other item that he neglected to realize fully was just how much he would miss his family. He has been married for five years, but was forced to leave his wife in Jakarta, due to the grueling process involved in bringing international dependents into the United States. "It is hard for her, but she is aware of the good future that is in store for us when I graduate from an American school," Gondomono said, "In the meantime, I am just trying to finish as soon as possible."

He and his wife e-mail every day and talk to each other weekly, to make up for the distance. "I am very homesick," he expressed, "I miss my wife, and my parents are elderly. Plus, the country is going through a crisis. I am looking forward to going back to help my country."

Although he is not a Latter-day Saint (he is Catholic), Gondomono affirmed, "I have a good relationship with my classmates. I have found the people here are very religious, but they are also generally open-minded and knowledgeable about other cultures—probably due to the missionaries' world experience." He has been impressed by this and noted, "I have learned that there really isn't one 'American' culture. BYU students are so unlike the Americans I have perceived. I was surprised to learn of their focus on the family—it is quite admirable. We feel the same way in Indonesia, but never have I seen so many small children on a university campus!"

He also quipped that "the number of children per family is surprising—very much like Catholic Indonesian families." Gondomono has met several other BYU Catholic students since he has been here and has had the opportunity to worship with them.

Next to family focus, Utah weather is the second major change Gondomono encountered.

"At home, it is very humid—you are always sweating. Here it is too dry," he indicated, but he also feels that the "view of the beautiful mountains" mostly makes up for this. He has never experienced snow before, and was surprised when he saw his breath one morning and snow on the mountains. He also mentioned that "shopping is strange here. Lettuce is cheaper, so I eat salads all the time. You have to cook all your vegetables in Indonesia, but you can get them fresh here. It's a great thing that raw vegetables here are healthy."

As for his future plans, Gondomono definitely plans to return home to Indonesia upon graduation. He hopes to teach at his alma mater, but would also like to work in an environmental NGO, especially in the war against forest fire pollution. "Because I am one of the few who can study abroad, I have to help the bigger community. You avoid 'brain drain' in your country by improving conditions with your knowledge. If there is no facility, you have to create it. Your study in an advanced country is only half of the story—the other half is how you implement it to help your own people. Even though it's only a small contribution, at least it is one." He was quick to say that he knows his time at the center will be worth the struggles he has gone through to stay here, remarking, "I think this is a great experience. I will not regret it."



## Tigist Negash

Negash came from Ethiopia to study at the Kennedy Center. She is a convert to the Church and also learned about the center's graduate program from Holsinger. She was willing to leave her husband and family behind to journey to BYU for this year-and-a-half in order to take advantage of the high standard of education, and, like Gondomono, use it to help her country when she returns.

Negash would like to work in an NGO in Ethiopia, but she also hopes to help her country spiritually—an area where she is no stranger. According to Negash, "The reason the Church is not growing in my country is because 80 percent of the members cannot understand English." In Ethiopia, the missionaries teach, and the Book of Mormon is available only in English. Negash herself was not very fluent when she followed the footsteps of her brother and took the missionary discussions in 1995. As she attested, "I didn't speak much English, but I learned it in school. I read the Book of Mormon and then asked the missionaries to help with the interpretation."

Not long after her conversion, Negash was approached by the Church's Translation Department to translate the Book of Mormon into her native Amharic. At first, she refused. Her job required her to travel extensively, and transporting her translation materials would have been difficult. When asked to fit it into her spare time, she relented. Three-and-a-half years later, the translation is complete and has been sent to Africa.

Negash was excited, but didn't have time to dwell on her anticipation very much. Since beginning graduate school August 2000, she has found it somewhat difficult to adjust to the rigors of the BYU experience. In Ethiopia, there are not enough textbooks available (usually only three or four are supplied in the library for a class of about seventy students), so she is not used to daily the homework grind—she and her classmates were tested solely on their lecture notes. She is also unused to the access to technology that she has been privy to at BYU. "Here, you are blessed with computers. I am very thankful for that," she affirmed.

"At home, you become successful by yourself. And your mind is narrow because you only have one teacher's outlook—you don't get other people's opinions." With the perks of broader knowledge at BYU come the hardships as well, however. "The school system here is very different from what I am used to. There is a lot of reading, and it is difficult for me because I need more time than the rest—time to read and time to *comprehend*." Negash said that it is all she can do just to keep up, "I come to class, I go home, I read, I sleep, and then it's time to wake up and start over again."

When asked what she does for a social life, she responded, "I get the perception that nobody is interested in socializing here because they are too busy doing homework all the time. This is very different from at home, where everyone is very friendly and sociable." Negash also noted that, because her husband is not here, she is not very interested in extracurricular activities. It is hard not to be homesick in

such a situation, but Negash simply stays focused and keeps in contact with home when she can. "I know that this is a great opportunity, and though it is hard, I have to thank my God very much."



## Pertti Reijonen

Reijonen is from Finland, and his story is somewhat different from his classmates'. Since his conversion to the Church when he was just nine years old, he has known about BYU. In fact, Reijonen received his BA in history from BYU-Hawaii. He chose to come to the Kennedy Center, after working at home for a year, because he wanted to work in international relations and heard that

BYU had a good program.

That, and because "my wife kicked me here to get my master's," Reijonen quipped.

Like the other two students, Reijonen has had to leave his spouse behind, but, he said, "she wanted me to come over here. She knows how good this will be for us in the end." Reijonen met his wife at BYU-Hawaii. She is from South Korea, and doesn't speak much Finnish, so he feels bad that he had to leave her behind. He is also sorry that he had to leave his two baby boys (twenty-two and eight months). He e-mails his family everyday, however, and returned home for Christmas, for which he is grateful.

Reijonen's experience also differs from Negash's and Gondomono's in several other respects. His previous stint in Hawaii removed the need to obtain a new visa to come to Provo. Also, he was accustomed to North American culture because of the continual exposure to missionaries at home, his own mission to Eastern Canada, and his previous college experience.

In spite of those experiences, he has found that Provo has its own quirks, and he has been disappointed in his perception of many BYU students. "There are only 5,000-6000 members in all of Finland. I was the only member in my high school, and the next member lived on the other side of town. I think that there are too many members here. A balance of members and non-members helps keep you from narrow-mindedness. Many people here need to realize that there are other ways of doing things that are not necessarily *bad*."

He added, "The education is good though; I like it." Classes are much larger than he is used to, but he likes his Kennedy Center teachers. Dr. Valerie Hudson is his mentor. "She is more formal. She makes you sweat, but it makes you learn a lot. (I think that maybe 'no pain, no gain' is her unofficial motto.) Her class has opened up a totally new way of thinking for me. I wish I had known part of what I know now during my undergraduate experience."

Overall, Reijonen feels that he has been treated well as an international student. "You are not treated differently—except language problems. And that doesn't bother me. I don't mind people correcting my English, because that is the only way to learn." He is disappointed with the help he has received with his writing. "I have found it difficult to find help specifically

with grammar. It is frustrating to know that there are still many mistakes in my paper that I won't be able to find."

Besides being away from his family, Reijonen has also found that "there are too many distractions when I need to get my homework done—recreational books in the library and cable are the worst. It is difficult to remain focused." He also misses his wife's cooking, but he still gets to be part of the Korean culture—he is part of the Korean club on campus. After all, he said, "I'm half-Korean now!"

Other social opportunities are few and far between, mostly because of the homework load, but also because, similar to Negash, "I don't want to go anywhere to hangout—my wife is not here so what would be the point?"

Reijonen doesn't have specific career plans as of yet. "That depends on my wife. I am very flexible—I could work with the European Union, UN, Finnish Government, or any other international organization. It really depends on her." Reijonen feels secure that he will be able to find something worthwhile once he obtains his degree from the center. Despite his longing for his family, he declared, "I am glad that I came—it has definitely been worth it so far."

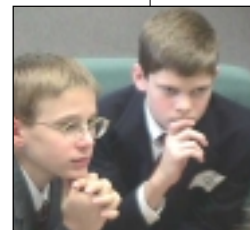
## MUN Conference Success

More than 600 high school and junior high school students from Utah and Montana participated in the eleventh annual Model United Nations (MUN) conference sponsored by the Kennedy Center, 20 January 2001. They were encouraged by keynote speaker, Dr. Faisal Al-Rfouh, professor of political science and former Jordanian Minister of Culture, who told them "patience and thinking are the best tools for any diplomat." Administration, participation, and student achievement at the conference reached an all time high.

The top high school award went to delegates from Brighton, and the top junior high school award went to Lakeridge students. Other ranking high schools included Alta, Bitterroot Valley Home School Association, Bonneville, Meridian, West Jordan, West, and Woods Cross.

The International Labor Organization committee, directed by Derek Hable, was awarded Best Overall Committee, while Brooke Gregg of Woods Cross High School received the Outstanding Faculty Advisor award.

This event helps prepare BYU MUN students for their competition at the National Model UN Conference in New York City, 9-14 April 2001. For the past six years, the Kennedy Center program has been ranked among the top ten programs nationally. For more information on this program, go to: <http://kennedy.byu.edu/modelun/munmain.html> or search *Bridges'* summer online archives for the feature article "Model UN Builds Life Skills."



Delegates ponder issues and prepare in committees.

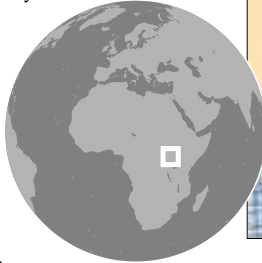


## Harvard Success

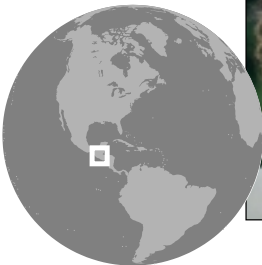
Three Kennedy Center graduate students were selected by the Harvard University Graduate School of Education to present papers at a conference 23 February. Christopher B. Mugimu, W. James Jacob, and Kacey Widdison-Jones surpassed hundreds of qualified applicants—recent Harvard graduates, visiting scholars, and other graduate students from various prestigious universities—to attend the 2001 Student Research Conference and International Forum (SRCIF).

Mugimu presented his and Jacob's "Private Secondary Education in Uganda: An Analysis of Costs, Benefits, and Government Policy," on one panel, while Widdison-Jones presented "An Educated Girl is the Mother of Development: Girls Education as a Strategic Development Initiative in Guatemala" on another. Unfortunately, Jacob was unable to attend the conference.

Widdison-Jones related her experience, "I presented on a panel with a doctoral candidate who had completed two



Christopher B. Mugimu



Kacey Widdison-Jones

years of field research on the aborigines in Australia. I thought that our presentations blended well together, and there was a great discussion on the topic of indigenous education. Several of those who attended our panel remarked that they were impressed by the quality of our research.

"Choosing a field study to Guatemala was one of the best decisions I made at BYU—it really turned me into a graduate student and opened my eyes to personal research. The Harvard conference was a truly incredible experience. I was able to interact with professors and students who were as interested and intrigued by the research I was doing as I was by theirs. The level of academic discourse was extremely high and informative. The most rewarding part of my experience was interacting with individuals from the Harvard School of Education, who were very kind to both Christopher and me. I even found someone who was doing research on my thesis topic, and we are now considering co-authoring an article. Overall, it was an amazing experience—even better than I expected."

The SRCIF occurs annually and culminates in a research conference where candidates present works-in-progress, completed research, and research proposals on education-centered topics. It is designed as a learning environment that gives presenters the opportunity to prepare to submit paper proposals to national research conferences. For more information on the conference, visit:

[http://www.gse.harvard.edu/~src\\_web](http://www.gse.harvard.edu/~src_web).

## BYU Unveils E-Newsletter

Alumni now have customized access to university news sent directly through e-mail. *My BYU News* went public in March; Beta testing has been taking place since late last year. Mike Walker, a new associate editor for *Brigham Young Magazine*, is also the editor of *MyBYU News*. Alumni who sign on will automatically receive general university news, but will also have the option to receive additional selections such as news from their college, performance news, FARMS reports, and sports. The address to subscribe to the online newsletter is: <http://mynews.byu.edu>.



# Alumni Alumni

## Rebecca (Wood) Callahan



Rebecca (Wood) Callahan lives in Iwakuni, Japan, where her husband is stationed with the Marine Corps. During a tour of duty in Arizona, Callahan "became a mentor for the Marine Corps Family Team Building (MCFTB) program. I conducted classes for new Marine Corps (and some Navy) spouses on this 'strange' and unique lifestyle. In Japan, I am still a MCFTB trainer, but I

do not have as much hands on work with the local team. Instead, I am one of ten trainers who go to various bases and sites to train new mentors and team leaders. This has been a very rewarding job."

She has taken her volunteer opportunities seriously. "I am now also the key volunteer coordinator for Marine Air Group 12 in Iwakuni—the official liaison between the commanding officer and families and spouses of the group. I ensure that families are taken care of and that vital information is passed to them."

This is in addition to her own family responsibilities. "Since my children are now in school full-time, I have become a substitute teacher for the elementary school here. I would like to continue my higher education, but my husband has not been stationed in areas that are conducive to obtaining the graduate degree I would like. Internet schools are becoming more numerous and with higher quality degree programs, so perhaps some day I will be able to do most of my graduate work in that manner," said Callahan.

She received her degree in international relations from the Kennedy Center in 1987. "My degree opened the door at Syscon. However, because it was not a technical degree, I could not expect to be paid very well at that type of company. I did receive great experiences while there though, so it was worth it.

"I worked on the defense contract side of the company where I began as test information manager in support of integration and certification testing, conducted at the Land Based Evaluation Facility (LBEF) at TRICCSMA in Newport, Rhode Island (no longer active due to downsizing). I then served as a project manager and contract liaison for the Central Data Repository. Eventually, the contract I was assigned to was converted to government positions. I moved to offices in Middletown, where I served in several management positions.

"In 1996, my husband was transferred to Virginia. I had every intention of staying home during this time, but Syscon asked if I would telecommute from my home. I was thrilled to be able to continue working and yet stay home to be with our children during my husband's many absences," explained Callahan.

Her education continues to serve her in unexpected ways. "My degree has actually helped me more in supporting my husband's career. I participated in ROTC at BYU, which now helps me understand when my husband has to be gone so often. I also understand the regional conflicts and dynamics that affect where we go, when he will be gone, and why he is gone. Additionally, I find that I am open to new cultures and excited to go places that some military spouses are not excited about. I am more accepting of the cultural differences because of my educational background, and because of how my parents raised me—my father has a degree in foreign affairs," Callahan concluded. (Robert S. Wood has been a lecturer at the center.)

## David Deem



In April, David Deem joined the strategy group of Xqsite, Inc., a startup web design company that is part of the Internet incubator Divine InterVentures, Inc.

"I chose international relations (IR, now international studies) as a major due to a long-time interest I had, and continue to have, toward international issues. I particularly enjoyed the holistic approach the interdisciplinary education

afforded me," said Deem. "Specifically, Professors Richard Jackson and Chad Emmett enriched my experience with geography. Similarly, Professor Valerie Hudson's national security class was great."

Deem worked on the *Journal of International and Area Studies* staff, culminating as co-editor. The journal played a significant role in his Kennedy Center experience, creating friendships and providing experience that continue to serve him well to this day.

After graduation, Deem accepted an offer as business manager with Kennedy Center Publications, where he managed the financial, marketing, and fulfillment areas. In 1994, David redesigned the fulfillment and inventory processes and created the office's first web site.

"Another memorable event came after I graduated, but while still working for the center," Deem explained. "David M. Kennedy had passed away and we were able to attend his funeral. There were several general authorities in attendance, including President Hinckley, and others from the Quorum of the Twelve. I gained an even greater appreciation of his life and couldn't help but be impressed by that incredible tribute to him."

After three years, Deem returned to the familiar surroundings of Chicago to pursue a career in information technology (IT) with Electronic Data Systems (EDS), and shortly thereafter went to work for one of its subsidiaries, A.T. Kearney. While with Kearney, he managed several global IT

projects that afforded him the opportunity to travel to South America, Europe, Asia, and Australia.

"While I've been working within IT, I've frequently used the skills gained from my undergraduate education. It has been extremely important to identify and be sensitive to potential issues when designing systems that will be used by people of different culture and ethnicity. Also, when working with committees made up of people from around the world to gain consensus, I was able to utilize important principles learned while a student at the Kennedy Center," Deem articulated.

"I'm fortunate that even though I don't have a "hard skill" like engineering or computer science, my employers have valued my IR degree as indicative of a well-rounded education," he added.

Deem graduated from BYU in 1993 with a BA in international relations and a Portuguese minor. He and his wife, Julia, celebrated their tenth wedding anniversary this year and have three sons: Trevor (6), Zachary (4), and Benjamin (18 months).

## Mark Henshaw



A native of Buckingham, VA, Mark Henshaw moved to Falls Church, VA, in 1999 when he began working as an analyst with the Office of Transnational Issues, Directorate of Intelligence at the Central Intelligence Agency (CIA).

"As an undergraduate, I had never seriously considered attending graduate school, but a brief conversation with Professor Valerie Hudson [political science]

changed my mind.

"She told me a graduate degree would open doors for me. I thought she was merely referring to job possibilities, but looking back I suspect she had more than that in mind. She was right," Henshaw offered.

That encounter brought him back to BYU, where he enrolled in the Kennedy Center's graduate international relations program. Hedging his bets, he also enrolled in the Marriott School's MBA program. Henshaw elaborated, "I figured that while international study would be interesting, I would use the MBA to support myself after graduation. My attitude changed in a hurry. My time at the center not only prepared me to become an analyst, but encouraged my desire to pursue security studies.

"At the center, I first learned the satisfaction that comes from tackling important societal and political issues. Now that I've felt that same satisfaction in helping strengthen our national security, I doubt that many private sector jobs would be nearly as fulfilling. I've had Marriott School friends ask why I took a government job that pays half what I could be making elsewhere. Many of them don't understand my perspective when I tell them it's more about personal fulfillment than money," he added.

Henshaw's education was not limited to the classroom, "Looking back, I realize that I learned just as much outside of the classroom as I did inside. Other students and I fre-

quently spent hours excitedly debating political theories, current events, and other subjects in the graduate carrels. There were probably times when I got a little too excited during those debates and lost my share of those discussions. I learned how to find the strong and weak points of an argument. I was exposed to points of view that I had never considered, and I was forced to take a hard objective look at my own viewpoint."

The influence of the center's interdisciplinary faculty, drawn from departments across campus, also left a lasting impression. "I developed strong relationships with my professors that were very satisfying. I spent hours talking with Professor Eric Hyer (then director of graduate studies) and Professor Hudson (my thesis advisor who I still keep in touch with) about a broad variety of subjects. I hadn't really expected to become friends with my instructors—no student ever does—but it happened.

"The center took me to a whole new intellectual level. My professors helped me develop critical thinking skills that made me look at concepts and theories in a whole new light. In a few short years, I learned some of the same skills that many of my fellow analysts at the agency have tried to develop. Through my Kennedy Center studies, I became both a general scholar and a national security specialist in an area that lead me directly to the agency's door. I joined the CIA right out of school, but from the beginning I was able to contribute," Henshaw revealed.

"My only regret about the center is that there's no doctoral program. If there were, I'd definitely go back when the time comes. That aside, I think my experience there was about as perfect as any graduate student can expect," he concluded.

In 1999, Henshaw received a combined MA in international relations from the center and MBA with an information technology emphasis from the Marriott School. During his undergraduate years he served as a missionary in the Argentina Trelew Mission (1990-92). He also received his BA in political science and a communications minor from BYU in 1995.

## Jennifer Johnston



Jennifer Johnston will complete an intelligence training course for officers as a civilian in April 2001. "After two years of working on a U.S. Agency for International Development (USAID) - funded economic development program focusing on Eastern Europe and Russia, I decided to redirect myself toward national security. I took a job with the

Office of the Secretary of Defense in the Pentagon, and went back to school. Though my master's degree is in government, my focus was national security, and my thesis was on information operations as an aspect of asymmetric war," Johnston said.

She attributes much of her direction to experiences at BYU. "So many doors and experiences have opened to me directly as a result of my experiences and education at BYU. Not only because of the knowledge that I gained, but also in

part because of the reputation of BYU students—particularly in the intelligence field,” maintained Johnston.

“My last semester at BYU was in the Washington Seminar internship. I interned at, what was then, the U.S. Information Agency. At the end of my internship, I was torn between pursuing a career in international development or national security. I felt a keen desire to work in national security largely due to Professor Valerie Hudson’s national security and foreign policy analyst courses. At the same time, Hudson and Professor Donna Bowen’s course, International Political Economy of Women, had a significant impact on my interests in international development. Through this course I developed a better sense of my potential for good regardless of the field I chose,” Johnston observed.

Following graduation from the Kennedy Center in December 1995, her job with USAID led Johnston to John’s Hopkins to receive her master’s degree in December 1999. “At the end of my master’s program, I was accepted into an Air Force fast track career development program for civilians (PALACE/Acquire) as an intelligence specialist. Through the program, I receive the same training as those in the military and will be placed in excellent civilian leadership positions. Currently, I am one of two civilians who will complete the intelligence training course this year,” she added.

Johnston will complete her PALACE/Acquire training in the year 2003.

## Amini C. Kajunju



Amini C. Kajunju is a project officer over the Africa Trade and Investment Program (ATIP) at International Executive Service Corps. Kajunju gained international affairs experience while working with other companies’ programs in research and marketing.

Travel opportunities for work and leisure have taken her to Liberia, Cote D’Ivoire, South Africa, India, and

Ethiopia. One journey took her to Kenya in conjunction with the Kennedy Center. “I ended my collegiate international career doing a six-month internship in Kenya.”

Her introduction to the center began immediately upon her arrival at BYU. “I am from the Democratic Republic of the Congo and had traveled around prior to coming to BYU. Initially, I sadly thought that I would not be able to travel or take part in international opportunities during my schooling—I was wrong. My first week at BYU, I was introduced to the Model UN (MUN) class and the rest, as they say, is history.” She continues to stay in contact with Cory Leonard, student programs coordinator at the center, whom she met through MUN.

Kajunju acknowledged, “I was always very impressed with the efforts that the ‘management’ of the center made to bring the world to Provo. Professors Jeffrey Ringer, Dave Buckner, Ted Lyon, and many more, served as my mentors. These individuals and all the resources available to students made my time at the Kennedy Center worthwhile and fulfilling.”

Kajunju received a BA in international relations (now international studies) from the center in August 1995. She is currently a graduate student in finance and management at NYU’s Robert F. Wagner Graduate School of Public Service. Kajunju will complete her degree May 2002 and will continue her career in economic development in the private sector or with non-profit organizations.

## Kevin Kohn



Kevin Kohn, a 2000 Kennedy Center graduate, landed a job with Quantum, a hard drive company in the San Francisco Bay area. Of Kohn’s good fortune, he remarked, “Although this is the technology world, I got the job through a combination of my experience with Model United Nations, international studies degree, international experience, and a little luck or blessing. I am currently

working on publishing documentation for various products my division of the company manufactures for an Intranet web site designed to assist training new hires.”

He feels there was a direct connection between his international degree and experience and being hired at Quantum. “The work environment is primarily international in its employee base, with representation from all corners of the globe. I have been asked many times what I will do with an international studies degree. Through networking with people in the course of my studies, experience with various cultures, and diverse types of work and volunteer experience, I stood out among the candidates for the job as one who held a unique perspective and background. I also acknowledge openly that this job was and is a great and marvelous blessing,” he admitted.

Kohn’s background has already paid off in his new work environment as well. “Learning about different cultures in school and abroad enhanced my ability to relate to and cooperate with engineers from various countries. They are intrigued about my interest in them. This enables me to have a great deal of success in carrying out my job of tying the different projects, and their teams, together. They are also extremely interested in the international characteristics of BYU and the Church respectively,” said Kohn.

His career path will also open doors to further learning. “I have the opportunity now to enroll in a master’s program at Stanford University. This benefit is in addition to a generous salary,” Kohn added.

He is also quick to remember others for helping him along the way. “I appreciate the advice from professors and friends over the years. The opportunity to work with the faculty of the center, namely Professors Jeff Ringer and Cory Leonard, provided me with the real world insight into countries and their peoples in the work environment. My education through the center has enabled me to successfully bridge the ‘cultural gap’ faced by many in our modern economy and society. One of my most influential teachers, Paul Kerry, professor of history, instilled in me the vital skill of critically listening to and resolving difficult issues encoun-

tered when differing cultures are brought together into one forum," Kohn summarized.

## Ron Sasine



Ron Sasine received an international relations degree from the Kennedy Center in 1989 after serving a mission to Ecuador (1985–87). "I was very active in the student programs of both the center and the Political Science department and served as the founding president of BYU's chapter of Sigma Iota Rho," said Sasine. However, he did not contain all his international activities to campus. "I

spent a summer as an intern at the State Department working in the public affairs bureau during Secretary of State George Shultz's tenure. I originally planned a career in the foreign service and eventually passed both the written and oral exams, later I was disqualified on medical grounds. By that time, I had already begun to redirect my career path toward the private sector with some help from a very influential course I took from Professors Earl Fry (Canadian Studies coordinator) and Lee Radebaugh (of BYU's Marriott School). At the end of my studies at BYU, I spent five weeks touring with the BYU Singers in the Middle East—Jordan, Israel, and Egypt," Sasine reported.

As with many students of international studies, Sasine pursued his master's degree. While attending the Paul H. Nitze School of Advanced International Studies at Johns Hopkins University in Washington, D.C. he "continued to work at the State Department, this time as an analyst on the Cuba desk. We first came to Brazil in 1990 when I accepted a temporary assignment with Westvaco Corporation, a U.S. packaging manufacturer with operations in Campinas. I completed my degree a year later and accepted a full-time

position at Westvaco's international headquarters in New York City. Two years later, we moved to Miami, where I continued to focus on Latin American markets, and in 1995, we returned to Brazil. I am now responsible for our marketing efforts here, as well as my continuing involvement in strategic development throughout the region," Sasine remarked.

His professors played an important role in moulding this career path. "I can recall several professors who were very important during my Kennedy Center years. First, there was Ray Hillam, who made the world come alive to me and made me believe that I had a role to play. Stan Taylor helped me focus on how to play that role. Earl Fry, Valerie Hudson, Greg Peacock, and Scott Dunaway all shaped my learning in unique and special ways—some focused on the theoretical, while others focused on the practical aspects of foreign policy. I was clearly a child of the Cold War, and I can vividly remember trying to keep track of my throw weights, SALT's, and MIRV's for Valerie Hudson, while at the same time listening to Earl Fry's explanations of what he foresaw as a coming wave in free trade zones," Sasine elaborated.

"My education has been invaluable to me over the years, both for the academic background it provided and for the wider perspective it gave me from which to view world events. In my graduate program, I fared well compared to my colleagues from other, more prominent undergraduate institutions, and in my career my BYU background has been a continual source of interest on the part of those with whom I come in contact—both in the U.S. and abroad. I look back at BYU with fondness, and I constantly recognize the value of what I gained as a student of the Kennedy Center," he affirmed.



## Keep in Touch

Kennedy Center alumni, please take a moment to update your records and classmates. Share your relocations, promotions, additional degrees, awards, and other noteworthy items. Submit names for the Alumni Profile section or share information about a classmate's newsworthy attainment.

Alumni Update Form:

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## Global Report Income-generation: A Viable Option for Poverty Alleviation

by Amberly Knight and Jenny Oman

The question of poverty alleviation holds center stage for development theorists and practitioners around the world. They use cooperative, cottage industry, income-generation, microcredit, and macro development schemes to combat this global problem. However, in spite of their efforts to change the economic and social reality of the poor, often it fails to create lasting impact.

Out of all the options for poverty relief, the latest buzzword in development is free-market microcredit, which boasts thousands of loans and little donor investment and provides empowerment through entrepreneurship. Despite these enticing assertions, it has failed to become the panacea to world poverty. While effective in many cases, microcredit has been unsuccessful in others.

For example, it has been disastrous in some rural populations, because it fails to provide the business, distribution, and skill-building support so desperately needed. Critics of microcredit also suggest that it often produces cycles of dependency, rather than the independent entrepreneurs it claims to create. As Kennedy Center graduate students in the International Relations program, we have observed examples of this in our experiences.

While working with microcredit in 1999 in Venezuela, I (Jenny Oman) discovered that although some organizations boasted about many loans to small businesses, a number of those loans were actually *hurting* the businesses rather than helping them. I (Amberly Knight) observed similar patterns in my work in southern Jordan in 2000. Shopkeepers, who started with a \$500 loan three years ago, now owe over \$3,000, being trapped in a cycle of loan dependency.

Last fall, we both studied income-generation projects in Jordan. This type of project was once hailed as the model aid enterprise, but in recent years it has been discarded—criticized as being highly subsidized, tightly regulated, and not easily adaptable. However, our findings suggest that income-generation can be an economically viable method of poverty relief and community development. The following two Jordanian projects have been tremendously successful in their ability to provide income to local populations, be financially sustainable, empower the women in the community, and increase the local people's skill base.

### Bani Hamida Women's Weaving Project

The Bani Hamida is a quasi-settled Bedouin tribe located along the Dead Sea in Jordan's desolate and arid mountains. This tribe is a particularly interesting case study in light of the fact that it is an extremely rural population. Makawir, the largest village, is 30 kilometers (18 miles) away from its nearest neighbors.

Save the Children began work with the Bani Hamida tribe in 1985 with three separate projects: a health project, an agricultural project, and a cottage industry income-generation project. The latter, a weaving project, is the only one of the original three projects that continues to exist today.

This successful project began with a \$7,000 grant and thirteen women. Nine years later, in 1994, the project was earning more than \$500,000 a year in sales, with about \$250,000 going directly to the women—not including the women directly employed as full-time staff with Save the Children. As the project grew, it also became internationally famous when *Architectural Digest* displayed a Bani Hamida rug under news magnate Katherine Graham's coffee table. Despite the project's impressive impact, in 1996, Save the Children transferred Bani Hamida to a local NGO, Jordan Society for Development—who later moved it to Her Majesty Queen Rania's Jordan River Foundation—in order to pursue new microcredit ventures.

Fortunately, the project continued to thrive under new management. The weaving project has provided income over \$1.5 million for the tribe and has been financially sustainable since the late 1980s. In addition to the funds provided by the project, the community is also receiving indirect benefits, such as increased business in other areas: some community members are building a restaurant and a guest house for tourists who visit the weaving center and shop.

The project also empowered the tribe's women. When they first began to make money, Field Office Director Rebecca Salti explained, "One woman reported that she spent her money to buy a light bulb and another a pencil. All these women couldn't read, but they wanted their children to be able to read. *Allah* (God) sent them schools for the first time in the history of their existence, and now they could pay for some supplies. This project enabled women to



Yarn being dyed on the stove.



solve the simplest problems in their household. Whether it's to put a piece of chicken on their plate or to buy a light bulb or to get a pencil. If you've got women in every household being able to bring home some money and to get something that was very necessary, then you are solving the problems of the community."



Artisans display their wares.

The increase in their weaving and business skills has also been remarkable. Of the young women originally chosen to work as supervisors, many continue working today—now as established women with families. They run all local production operations and have been trained in accounting, production, leadership, and other business skills. Their ongoing personal development is perhaps the most exciting result of the project.

Halima Qa'edy is a wonderful example of women's empowerment. One of the original women, she has since become the manager of operations on the mountain. With the money, skills, and confidence acquired from her experience, she has accomplished things tribal women had never done before. One

such achievement occurred when Qa'edy became the first woman on the mountain to receive a driver's license, breaking into a domain that had been previously exclusively reserved for men.

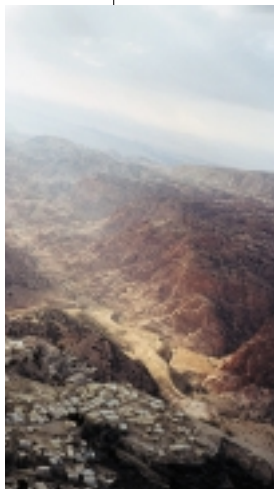
While the Bani Hamida project still faces challenges, overall it is a marvelous success in providing income and empowerment to the tribe. Salti emphasized its effect, "We are liberating women. We are enabling women to solve their problems."

## Dana Jewelry Project

Located in southern Jordan, Dana village sits on a tiny plateau of land attached to the side of a steep canyon that drops into the Great Rift Valley. The Ata'ta tribe, nomads from Palestine, settled there over 400 years ago. About fifty years ago, families moved to the top of the canyon, where they had better access to the benefits of modernization, such as transportation, schools, healthcare, electricity, and sewage systems. Only remnants of the original population—a few farmers and shepherds, the elderly and the very poor—stayed in Dana; most of the village crumbled to ruins.

In 1991, a group of women from Amman, eager to help the suffering citizens of Jordan after the Gulf War, adopted Dana. They raised half a million dollars and used the money to buy food and clothing, rebuild sixty-five homes, remodel the mosque, clean out irrigation channels, and re-pave the main road. They called themselves the Friends of Dana.

In 1993, the government of Jordan declared the surrounding area "protected" and transferred management of it to the Royal Society for the Conservation of Nature



Great Rift Valley in Jordan.

(RSCN), an NGO founded by Her Majesty Queen Noor in 1966. RSCN's slogan is "Helping Nature Helping People." When developing a protected area, they attempt to integrate and assist the local people. In 1994, they hired Rebecca Salti, based on her excellent track record with projects such as Bani Hamida, to head their socioeconomic division. She began with a silver jewelry project that would employ women to create jewelry with designs inspired by nature.

Because RSCN emphasizes sustainability, they only hire those who are qualified or trainable for the job. When the project began, RSCN management explored the possibility of working with the local jewelry cooperative, but Salti recognized they did not utilize sound business practices. She instead looked to Amman for qualified employees. There she discovered and hired an accomplished designer, Amar Khamash, and a young jewelry worker, Mahmoud Saudi. Although this initially roused local animosity—understandable in a country where connections are often more important than capability—it proved to be one of the key reasons behind the project's success.

Due to cultural constraints, it was at first difficult to locate women who could participate. Many of the young women only left their homes to shop and most of them did not even have friends outside their immediate family. Additionally, women and men rarely worked in the same building, because it was considered inappropriate. RSCN representatives refused to give up, going door-to-door in the village, inviting women to attend their information meetings. Salti and Saudi officially launched the Dana project in 1995 with eight women.

The jewelry project now employs fifteen local women, who would otherwise not have the opportunity to work. Men and women are paid equally depending on the skill level, and currently women contribute half or more of their income to their families, many of whom are the goat herders who have been restricted by the reserve.

Dana's silver project success can also be attributed to its solid management principles. In order to capitalize on the economies of scale provided by all of RSCN's socioeconomic projects throughout Jordan, qualified personnel in Amman handle the administration, bookkeeping, and marketing of the products. Plus, RSCN has discovered the environmental product niche in Jordan that is not currently being filled by other companies. Customers feel they are buying quality goods while also helping nature.

Beyond its financial stability, the Dana silver workshop is a success for having developed the skills and empowering the women who work for it. When Saudi began the project as the manager and trainer, Salti instructed him to stay in Dana until he found and trained a local worker who could replace him. The current manager, Faiza Hamid Na'ana, was among the first eight women in 1995. She began working when she was nineteen. The eldest daughter of impoverished shepherds, Na'ana left school after sixth grade to assist her mother with caring for the sheep and goats. When Salti first met her, Na'ana was searching for old magazines or newspapers so that she would not lose her basic reading skills.

Na'ana attended the first information meeting with a friend and was very interested in the opportunity. Her



Young women artisans in Dana.

father was not supportive—being concerned with her reputation—but Na'ana persevered and began to work. She reported that, in the beginning, she never knew whether she would be allowed to go to work the next day. People in the village harassed her for working outside the home. However, over time, her work gained a respectable reputation, and her salary became a huge benefit to her drought-stricken and impoverished family.

Na'ana replaced Saudi (who is now developing another silver project in Wadi Rum) as manager in 1997. Placed in an environment where she had an opportunity to use her natural talents and to learn business management skills, Na'ana became an excellent manager. She never misses deadlines, quietly motivates her employees, and resolves their differences—all while keeping production high. Her attitude has built a safe community among the other employees based on unity, respect, and teamwork. This incubator for personal change has impacted many of the other women in the community as well—the word is out in the community, and Na'ana has over fifty applications for the next available opening.

Na'ana openly expresses how much this opportunity has empowered her. It has helped her to develop confidence, communication and teamwork skills, and has given her a chance to make many friends. She also made a better marriage, because she possessed desirable skills and a position. She feels that many changes in her personality have occurred as she has been able to play the role of a producer, not only a consumer.

Many of the other women report similar changes in their lives and say that they are strengthened through the relationships they build with each other. Additionally, the secure income—base salary with production incentives—is very desirable in Jordanian culture.

This mutually beneficial situation allows the women to gain a very competitive, secure salary, and the chance, through RSCN's skill-building programs, to develop management and interpersonal skills. RSCN gains through the project's profits that are cycled back to cover costs of the reserve and to develop additional income-generation projects in other poverty-stricken areas.

The Bani Hamida and Dana Reserve projects demonstrate that income-generation is still a viable option for poverty relief. With careful management strategies and a clear focus on skill building, income-generation can be successful and sustainable, particularly in extremely rural populations where other development strategies have proven to be less successful.

## Puppetry spreads Health Messages



In 1993, Humanitarian Services contacted Harold Oaks, professor of theatre and media arts at BYU, with a proposal to develop a series of puppet shows dealing with basic health concepts. "Eventually we wrote modules of plays five to seven minutes long dealing with anti-smoking, hygiene, nutrition, and alcohol abuse. Countries selected to receive the plays were: South Africa, Zimbabwe, the Ukraine, Belarus, Armenia, and Guatemala," said Oaks. His wife, Ima Jean, helped construct the puppets, but neither had seen the plays in operation until last July.

Oaks and Ima Jean attended the 7th National Children's Theatre Festival in his role as president of ASSITEJ International (the International Association of Theatre for Children and Young People). ASSITEJ Secretary General Niclas Malmcrona of Sweden and delegates from Malawi, Mauritius, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe also participated in the festival.

After the conclusion of business, the Oaks' took the opportunity to see their plays in action. "We were pleased to see an actual presentation in Africa given to fifth, sixth, and seventh grade children," Oaks reported. "It was received very well, and before leaving Africa, I was asked to do a series of plays on AIDS to be presented as part of a health fair in areas where the disease is devastating populations. We observed conditions, studied cultural differences, and discussed the situation with specialists and citizens in Zimbabwe and South Africa."

In December, Oaks returned to Africa for a test of the new plays before 100 children from the fourth to sixth grades. He received excellent feedback from the plays. "I learned what did and did not work with the puppet shows and got ideas on how to improve them. I also gathered more information about the AIDS epidemic and the social, political, and moral attitudes that impact this issue for the African population," Oaks concluded.

## Reconstructing a Family



**M**y name is Ngaio Palmer. I was born and raised in Auckland, New Zealand. When I was ten years old, my parents immigrated to the United States and settled in Wilmette, Illinois, a suburb of Chicago. I attended New Trier High School and graduated in 1998. That fall, I entered BYU as an honors student. I am

now a senior, majoring in history with a minor in political science.

Last May, I received grants from the History and Honors Departments and from the Kennedy Center to pursue research in England at the British Library, the Public Records Office, and the Bodleian Library at Oxford University. It was an incredible experience. Although I had initially proposed to research late nineteenth century yellow journalism and British African policy, I quickly discovered the British East India Company Collection at the British Library and a very different research topic.

Before I left for England, my father gave me a family group sheet with the names of four generations of my family who had lived in India. With the invaluable assistance and support of my thesis advisor, Dr. Paul Kerry, I spent four weeks reconstructing my family's involvement in the British East India Company. With additional guidance from many individuals, I was able to find personal and official correspondence, military histories and records, and government files about my ancestors.

The most memorable discovery occurred during my last three days in England. I had been looking unsuccessfully for any information about the Lithographic Press of Calcutta, of which my great-great-grandfather had been the head for quite some time. I happened to ask one of the head librarians of the collection, a Mr. Baxter, a question about the press. In a matter of fifteen minutes, Mr. Baxter retrieved three government files relating to it. The first file was almost three hundred pages of official government documents about a scandal involving my relative and the press. Naturally, I was very excited by this discovery. The last two files did not appear to be relevant.

On the last day, five hours before I was scheduled to fly out of Heathrow, I felt impressed to go back and read the last two files again. As I was about to leave, I accidentally opened one of the books to the wrong file number and found that it was the file that I had been looking for. It contained an additional two hundred pages of material relating to the scandal. Both of these files were microfilmed and sent

to me in the States. I am now in the process of transcribing the microfilms and writing my honors thesis.

From what I have gathered so far, until about 1859, India was essentially controlled and run by the British East India Company—a private stock company in which people bought and sold shares. Profitability depended on trading, exportation of cotton and opium, etc. Because of the amount of official dispatches and correspondence that went on between the British government, the British East India Company, and various subsidiaries, the company established a Lithographic Press to produce official government documents—namely maps—for the company and the public.

Dr. Rind, superintendent of the press, was a close friend of my ancestor, George Wood. In fact, Rind was accused of having too close a relationship with Wood—permitting Wood to establish a rival lithographic press, known as the Lithographic Press of Calcutta or the Asiatic Press. The accusations came because Rind not only allowed the press to operate in the same building as the Official Lithographic Press, but he also supplied the press with ink, paper, and stones (for carving). The arrangement lasted for five or six years, but blew up in 1829 when one of the senior assistants, disgruntled that he had lost his job, exposed the illegalities. The account of exactly what transpired is still very murky, filled with accusation and mudslinging from both sides.

I have the original transcripts of letters, meetings, and disputes that went on between the various parties—Rind, Wood, and the company. They also provide incredible insight into the history of Calcutta and the inner workings of the company during this time. With this information, I plan to put together a history of this scandal and Calcutta life during this time.

I am currently working at the International World Headquarters of Rotary International in the Polio Plus department. Together with WHO and UNICEF, our goal is to eradicate polio by 2005. I also volunteer at the Newberry Library in an effort to put a cartography catalog of fifteenth, sixteenth, and seventeenth century maps and articles online.

After graduating from BYU in April 2001, I am planning to attend Oxford University to read for a Master's of Studies in British Commonwealth History. I would like to pursue a PhD in Modern History with an emphasis on European interaction and intervention in Southeast Asia and Africa during the nineteenth and twentieth centuries. I am interested in teaching or possibly working for an NGO.

*Palmer's research, and that of many other students and faculty each year, is made possible by grants provided by donors who have established endowments through the center. Learn how you can become a donor at <http://kennedy.byu.edu/gifts.html>.*



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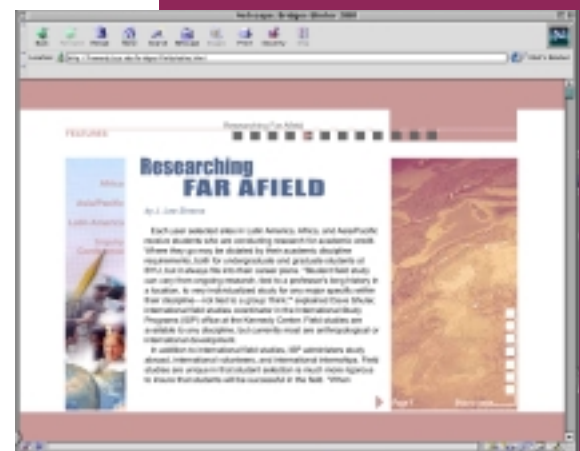
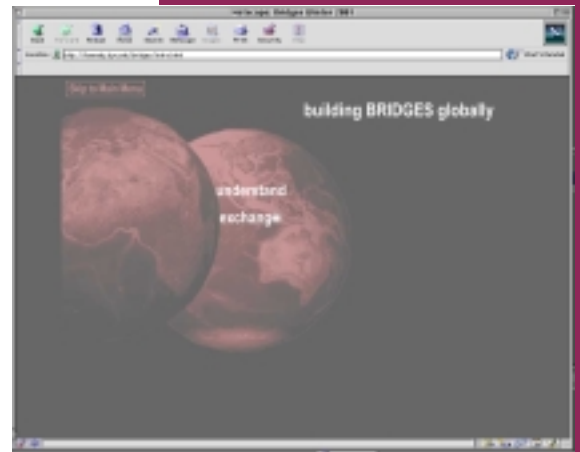
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**Amazonia—the name itself conjures up mythological images of deadly diseases, stifling heat, giant snakes, schools of man-eating fish, stinging plants, and biting insects—in reality contains but a tiny fraction of these things.**