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National Conservation Leader's Gift to Aid F&ES Students

By John Courtmanche

Donnelley

In hopes of developing a new generation of environmental leaders, Strachan Donnelley, a national conservation leader, has pledged $2 million as a scholarship endowment gift to the Yale School of Forestry & Environmental Studies (F&ES).

"Yale's major push to be a home for global environmental studies is a very exciting and significant venture," said Donnelley YC '64. "In that venture, scholarship money is really needed." Donnelley has been an active member of the F&ES Leadership Council since its founding more than two years ago, a valuable participant serving on the External Advisory Board of the Yale Institute for Biospheric Studies (YIBS), and is a long-time patron of environmental studies at Yale.

About the new Strachan and Vivian Donnelley Endowed Scholarship Fund, F&ES Dean James Gustave Speth commented, "What this wonderful and generous gift will ensure is a steady stream of Donnelley Fellows attending our school–outstanding young leaders who otherwise could not afford to be here."

Donnelley currently serves as president and founder of The Center for Humans and Nature, a recently organized nonprofit organization with offices in Chicago, New York and South Carolina. From 1998 until last year, Donnelley was head of the Humans and Nature program at the Hastings Center, a leading research and educational institution based in Garrison, N.Y. Since 1985, he has held senior positions at Hastings, and he's credited with founding the Center's Environment and Ethics program.

The new Center for Humans and Nature reflects many of the concerns of the Gaylord and Dorothy Donnelley Foundation, of which Strachan Donnelley has until recently served as chair. Based in Chicago, the foundation is named for Strachan's late mother, Dorothy, and late father, Gaylord Donnelley YC '31, the conservationist and former chairman of R.R. Donnelley & Sons, one of the largest U.S. printing and communications companies. The foundation supports efforts to promote healthy human communities and natural environments in the Chicago region and the "low country" of South Carolina, comprised of Charleston and its surrounding counties. Specifically, the foundation supports efforts to preserve natural lands permanently, restore degraded natural lands and inform community debate on these issues.

The Center for Humans and Nature has similar goals; it is dedicated to ensuring the collective well-being of human communities and nature by exploring, articulating and promoting social and ethical responsibilities. The center works toward this mission using interdisciplinary research, education and outreach.

Donnelley explained that in most communities today, the concerns for human beings and those for nature are treated separately. For instance, land use, wetlands or biodiversity wouldn't naturally be taken into account on transportation issues. Likewise, human cul-

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INSIDE THIS ISSUE

Michael Marsland

This issue of the Yale Environmental News is dedicated to Alison Richard for her deep commitment to Yale, for her firm dedication to supporting the mission of the Yale Institute for Biospheric Studies (YIBS) and the promotion of excellence in environmental research and education at Yale. *see story page 2*

Michael Marsland

Alison Richard *continued from page 1*

At the Spring 2003 YIBS External Advisory Board (EAB) meeting, YIBS EAB members and members of the YIBS Faculty Council celebrated Alison Richard's years at Yale, wishing her well in her new role as Vice Chancellor of the University of Cambridge.

YIBS Director Karl K. Turekian read the following testimonials from Edward P. Bass, who in 1991 formed YIBS with an endowment gift to Yale for this purpose, and from Ecology & Evolutionary Professor Leo W. Buss, the first YIBS Director. Neither person could be at the meeting.

Remarks by Edward P. Bass:

Alison Richard—As I have known her; how could we not miss her.

My first experience with the vortex of Alison Richard at Yale was in 1991 or so when I was appointed by Benno Schmidt to Chair a University Council Committee on the Peabody Museum of Natural History. Alison was then Peabody Director, and in the first couple of meetings of the committee Alison demonstrated obvious mastery of all matters relating to museums and collections, not to mention boundless energy and infectious good spirits.

For the third meeting, I told Alison we should delve into the finances and the budget of the Peabody. Acknowledging and accepting this as a challenge, Alison produced for the meeting an impressive collection of archival material in the form of financial statements and spreadsheets. The presentation was well prepared and comprehensive, as might have been produced, it impressed me at the time, by a brilliant scholar who had immersed herself in the library for a week to craft an in depth treatise on a previously unfamiliar topic. Alison began a bit tentative–she is, after all, an anthropologist, and lemurs do not have monetary systems–but progressed to studious and insightful, and, over the course of our committee's tenure, to masterful.

Alison began a bit tentative—she is, after all, an anthropologist, and lemurs do not have monetary systems...

A "quick study"? Within a few short years Alison was to become, as Provost, master of all Yale's exceedingly complex, one-point-six billion dollar budget. There are apparently few things that anthropology cannot prepare you for.

Alison is also a master of relationships, partnership in particular. Finding the Peabody under-appreciated and relegated too far from the mainstream of the university, she allied with Leo Buss of YIBS and John Gordon of FES to invent the Yale Environmental Partnership. Having instantaneously bestowed upon themselves new and impressive stature, they did more than merely lay plans: together they plotted.

First they envisioned wildly ambitious needs: new, state of the art, climate controlled collections facilities for the Peabody, and a new, interdisciplinary environmental science building for research and teaching. Undaunted by an administration ban on even giving thought to new buildings until a half-century of deferred maintenance could be remediated, the environmental partnership camouflaged their plan as "a storage shed in the Peabody parking lot" and "a little renovation to Bingham Labs" (a building at the end of its economic life worthy only of demolition). Beginning with a few studies, consultants and reports, the Partnership worked their sorcery to build what is now The Class of 1954 Environmental Science Center (ESC).

Yale has seen a miraculous metamorphosis in the last decade, in no small part as a result of the event often referred to as "the greening of the blue": Alison Richard's appointment as Provost. I have often noted that no one in the history of this great university had ever been so appropriately prepared for the duties and challenges of the Provost's job, having spent a lifetime studying small, curious primates in a difficult third-world country.

About a year into Alison's tenure as Provost, I asked her while strolling down Hillhouse Avenue one sunny afternoon, how things were going. She immediately and vociferously expressed frustration over how impossible it was to change anything. The inertia inherent in Yale was all too often insuperable.

"Now Alison," I reminded her, "at a university such as Yale, this inertia is called tradition, and it is regarded not a shortcoming, but a strength. Were it not for this inertia, the Peabody Museum would have been shut down in the 1970's and its cumbersome, expensive, old collection disposed of to make way for the new sciences of the invisible."

But under Alison's reign—pardon me—tenure, change has been wrought at Yale, beneficial change, proving properly applied force does overcome inertia.

The ESC stands monument to her initiative and influence.

The Biological Sciences have been reorganized, with the recently formed Department of Ecology and Evolutionary Biology reflecting simultaneously both tradition and innovation at Yale.

The University's budget and finances are on sound footing, guided by clear, right thinking as has not been seen for many decades.

...the environmental partnership camouflaged their plan as "a storage shed in the Peabody parking lot"...

And, symbolic of the stature she brought to the office of Provost, the new Provost's office at #1 Hillhouse Avenue houses Alison's successor in resplendent surroundings. How usual for a ruler to prepare resplendent surroundings, how unusual to depart leaving them for a successor, but how typical of Alison.

Will we miss Alison? YES.

Will we lose Alison? NO. She insists she is returning in seven years.

Alison, I intend to hold you to that.

Ta. Safe journey. See you anon."

If you are a hub at an institution like Yale, you have to be very careful, as flaws in your judgement will have wide consequences. Most institutional hubs are careful indeed to limit such potential damage. The strategy is one of inspired inaction. By making no changes, you are deemed wise merely by your avoidance of the unanticipated consequences that action would bring.

Novel action, then, is recipe for disaster for a hub. It is remarkable then, when, a hub is active and, even more remarkable—indeed, almost astounding—when repeated actions repeatedly have positive consequences.

Alison has been a very active hub. Her accomplishments in our own little corner of the institution are legend.

Remarks by Leo W. Buss:

While it may be justly argued that academics do entirely too much toasting of one another, there are rare occasions when such behavior is actually appropriate. Celebrating Alison is such an occasion.

An area of intense research in recent days has been that of the study of networks, that is, systems of connection where the overall behavior of the system is dependent upon who is connected to whom. Examples of networks are the connections between the computers that constitute the internet or connections between airports that comprise the air transport system. Both airlines and the internet belong to a class of networks called 'scale-free' networks, and by that one means that the networks have 'hubs', nodes that are connected to a disproportionately large number of locations.

Networks with hubs have a particular vulnerability to bad news. If SARS becomes a global epidemic it will be because an infected individual visited an airline hub. Hubs are inherently dangerous.

Leaders at institutions like Yale are inevitably hubs.

Alison has been a very active hub. Her accomplishments in our own little corner of the institution are legend:

- Revitalizing the Peabody,
- Establishing YIBS in its current role,
- Conceptualizing the ESC and guiding it to fruition,
- Leading the effort to restructure the Biological Sciences in a fashion that created the Department of Ecology & Evolutionary Biology,
- Helping frame the growing role of the School of Forestry and Environmental Studies in undergraduate education,
- Shaping the transformation of the Studies in the Environment program into a free-standing major, and
- Launching the current campaign for the School of Forestry & Environmental Studies.

These are meaningful improvements in Yale as an institution and they have, to a remarkable degree, have been orchestrated by one key individual. She richly deserves our praise, and since we all know well what happens when Chicago–O'Hare is closed, we all have reason to ask her to hurry home.

National Conservation Leader's Gift

continued from page 1

tures and communities aren't usually taken into account on land use matters.

Donnelley is hoping to change that. "That's probably one of the unique, singular dimensions of our center. We take ethical concerns for humans and nature equally," he said. Donnelley said that the philosophy and ethics behind the evolving discipline are in the formative stages.

On the practical side, Donnelley said the center has begun working with civic organizations on development, open space and land conservation issues. The center's goal is to inform social organizations, business groups, politicians and others in helping to educate the community about human responsibility to nature. Toward that end, the center has begun organizing public forums and producing publications to present its research and views. Last year in Chicago, the organization hosted a civic forum called "City Mouse, Country Mouse, Global Cat," which explored environmental issues that affect both metropolitan communities and the global community. The meeting attracted over 90 people from a broad range of Chicago–area organizations.

Donnelley's patronage of environmental studies at his alma mater began in 1994 when he contributed to a $3 million family gift to YIBS, a memorial gift honoring his father that established both a Fund in Studies in the Environment and an Environmental Fellows Program. In 1999, he gave $1 million to F&ES' New Century Fund.

"It is great to see the greening of Yale and New Haven," Donnelley said. "Let's hope that the White House, Washington and North America, in general, quickly follow Gus Speth and F&ES and face their long-term global responsibilities to both humans and nature."

Top: Kathleen Hall canoeing on the Situk River in Yakutat, Alaska

Bottom: Pete Land holds a king salmon, weighing about 50 pounds, that he caught for dinner. Standing next to him is Hanna Bassich, the daughter of Andy Bassich, a dog musher whom Pete stayed with in Alaska. The Yukon River is in the background.

Doris Duke Fellows Discover That Working with Opponents is Part of the Landscape

by Dave DeFusco

Pete Land, M.E.M. '03, was reared in Shelburne, Vt., where it's hard not to have an interest in things natural. As a boy, influenced by his mother who rehabilitated wildlife, and his father, a physician, Land wanted to become a veterinarian. As he matured, however, he became less intrigued by the diseases and injuries that afflict animals than by how animals and people interact. "In Vermont and most other rural places, wilderness is typically seen as separate from the human landscape," he said. "We're becoming increasingly detached from the resources we use and the other species with which we evolved."

Kathleen Hall, M.E.M. '03, who grew up in East Meadow, N.Y., 15 minutes from the ocean, has always been drawn to the water. In particular, coastal systems, which she says are ecological hotspots, are her personal and scholarly passion. "Coastal systems are important to the world's populations but are threatened by a lot of conflicting interests, including development and population pressures, and pollution."

Both Land and Hall are nature enthusiasts and devoted to the cause of environmental preservation, as you would expect, but their idealism has been infused with a practicality as a result of internship experiences last summer. As Doris Duke Conservation Fellows they learned that promoting what they regard as sacrosanct—the environment—requires working with people and organizations that have interests contrary to their own.

"What motivates me is mediating conflicts where people focus on their differences rather than a shared interest in the environment," said Land, whose academic concentration is social ecology.

"My passion is to devise solutions that help both people and the environment, because they come as a package deal," said Hall.

The Yale School of Forestry & Environmental Studies (F&ES) recently received $550,000 from the Doris Duke Charitable Foundation to renew its participation in the Doris Duke Conservation Fellowship Program until 2006. The grant provides tuition support, internship stipends and loan forgiveness to eight students matriculating in the master's degree program this academic year. The loan forgiveness program, which is new, is for fellows who are employed full time at a nongovernmental organization or in the public sector for at least one year. The recent grant is in addition to two earlier foundation grants that have, in all, supported 41 F&ES students over the past five years.

As part of his internship, Land served as the pilot participant in a three-week wilderness immersion experience last August in Alaska on the Yukon River, which is the second longest (2,300 miles) in North America. His job was to evaluate the program, which is sponsored by the Wild Gift, a fledgling nonprofit that identifies future environmental leaders. While there, he cut down spruce trees and built a cabin from scratch, ate only what he could catch and grow (he hunted for the first time and ate duck) and caught salmon for 24 sled dogs that he cared for. It was subsistence living, and Land reveled in it. "If you live out in the wild, you might as well really rough it," he said. He is going back to Alaska when he graduates in May.

Prior to going to Alaska, he was an intern at the Vermont Natural Resources Council. He conducted research on three wetland areas that the council targeted for a more stringent classification by the state that would result in greater protection from development. He gathered whatever scientific data was available for each wetland and visited the sites to become familiar with each area. He also met with local landowners to discuss how their property would be affected by the increased protection that comes with reclassification. In addition, he represented the council during a campaign seeking the designation of additional wilderness areas in Vermont.

"We proposed a spectrum of options, ranging from a more intensive model that would include building interpretive signs and trails, to leaving the islands in their 'pristine' state to preserve the red spruce, balsam fir and yellow and white birch trees that blanket them," she said. The Nature Trust has yet to make a decision on what direction it will take with the archipelago.

While the esprit de corps among the staff and mission of the land trust galvanized her, she gained an appreciation for the many logistical issues facing a small nonprofit agency. "Limited funding, staff size, resources and time had a huge impact on what we were and were not able to accomplish. I've seen first hand the many hurdles that must be overcome when dealing with different interests to realize a worthy goal."

"There is no doubt that industries such as timber, fishing and mining are essential to the state's economy, but it is important that these activities are done in a sustainable, environmentally-friendly way. My passion lies in trying to make this crucial balance happen."

"This gave me a unique perspective of the range of values people place on wilderness and the degree to which environmental organizations can cooperate when they represent different interests and regions," he said. "I also learned that the supposedly 'anti-environmental' rural working class often has the most credibility for—and interest in—sustainably managing their resources." Land has received funding to organize a symposium on this subject at F&ES this fall.

Hall interned at the Quebec Labrador Foundation, working as a conservation associate for the Nature Trust of New Brunswick. Her activities focused on coastal land conservation issues in Charlotte County. Her principal project was to develop a conservation plan for the L'Etang Islands Nature Preserve, a recently donated archipelago.

This involved working with a team of consultants in assessing the islands' marine and terrestrial flora and fauna, and geology and archaeology, and proposing future models of outdoor education. Unlike other parts of the mainland, the islands are completely undeveloped and inaccessible.

Like Land, Hall will return to Alaska after graduation, where she spent part of the summer of 2000 working aboard a fishing vessel. She was a deckhand on a power troller that harvested King and Coho salmon, working 19-hour days that often began at 3 a.m. This experience provided her with valuable exposure to alternative perspectives on conservation. She says Alaska is unlike any other place in the Lower 48, where human population is scarce and the environment is still truly wild.

Still, the state has an extraction-based economy, and there is much pressure to develop its natural resources. Hall is currently collaborating with a city planner and writing a paper analyzing loopholes in the Juneau Coastal Management Program, which is undergoing administrative changes that may ultimately favor increased coastal development. "There is no doubt that industries such as timber, fishing and mining are essential to the state's economy, but it is important that these activities are done in a sustainable, environmentally-friendly way. My passion lies in trying to make this crucial balance happen."

F&ES Dean Speth Uses Prize Money to Establish Fellowships

Gus Speth, Dean of the School of Forestry & Environmental Studies (F&ES), has chosen to designate the lion's share of his $400,000 Blue Planet Prize in ways that benefit the school. Two of his gifts established fellowships at the World Resources Institute (WRI) and Natural Resources Defense Council (NRDC), both nonprofit environmental organizations, to provide for an annual summer or similar internship at each organization beginning this year. The fellowships, named in honor of his wife of 34 years, Cameron C. Speth, will normally be awarded to students from the developing world, from Japan, or at F&ES. He also has made a substantial gift directly to the School, which will support research, and communication and outreach activities.

Dean Speth received the international environmental Blue Planet Prize by the Tokyo-based Asahi Glass Foundation last November. The prestigious prize has been awarded annually since 1992 to two individuals or organizations that have made major contributions to global environmental conservation. He was awarded the prize for "a lifetime of creative and visionary leadership in the search for science-based solutions to global environmental problems and for pioneering efforts to bring these issues, including global climate change, to broad international attention."

Dean Speth founded WRI in 1982 to search for independent, science-based solutions to large-scale environmental threats. After leading WRI for a decade, he left to become the administrator of the United Nations Development Programme. He is credited as among the first leaders to call for global action on climate change. He co-founded the NRDC in 1970 and led programs there in energy and water until 1977. He holds a B.A. in political science from Yale and a J.D. from Yale Law School.

GE Fund Grant Supports Underrepresented Students to Attend F&ES

Up to five students from historically underrepresented U.S. communities will receive full financial support to pursue master's degrees from the Yale School of Forestry & Environmental Studies, thanks to a $100,000 grant from the GE Fund.

"The School of Forestry & Environmental Studies is a recognized center of excellence on environmental and natural resources issues. It develops the leaders needed to manage these important issues for the years ahead," said Steve Ramsey, GE vice president for environmental programs. "This GE Fund grant will help attract more diverse talent into the program and ultimately into industry and the nonprofit sector."

The goal of the GE Fund Environmental Scholars Program is to increase the number of applicants and enrollment of master's students from historically underrepresented communities in the United States, which comprise urban and rural poor, ethnic and racial populations including Native Americans. With matching funds from Yale and other sources, the students will have full financial support for both years of study.

Dean James Gustave Speth said that the school's success relies on its ability to attract the best and brightest students with high leadership potential. "While the school has an outstanding track record in preparing students to become environmental leaders, it has been less successful in attracting underrepresented students from the United States. Rising tuition costs, coupled with modest permanent sources of scholarship funding for master's students, complicate the effort," he said. "The GE Fund's generous grant will help us achieve the school's strategic goal of educating a new, more diverse generation of environmental professionals."

The tuition for 2002-03 is $21,990 to obtain a two-year master's degree in environmental management, environmental science, forestry or forest science. F&ES provides $1.5 million a year in scholarship aid to its 200 master's students, 33 percent of whom come from outside the United States. Seventy-five percent of master's students receive grants or loans. Admission to F&ES master's programs is not based on financial need.

The GE Fund (www.gefund.org), the philanthropic foundation of the General Electric Company, invests in improving educational quality and access and in strengthening community organizations in GE communities around the world. GE, the GE Fund and GE employees and retirees contributed over $100 million to community and educational institutions last year.

Glaser Progress Foundation Funds Joint Research Project in Economics and F&ES


Nordhaus


Mendelsohn

With funding from the Glaser Progress Foundation, William Nordhaus, Sterling Professor of Economics, and Robert Mendelsohn, Edwin Weyerhaeuser Davis Professor of F&ES, are collaborating to understand the environmental damage produced from air pollution. Air pollution produces the greatest environmental damage that industrial processes can impose on society. Although a great deal of pollution has abated, the current United States economy still generates considerable quantities of emissions. For example, the emissions in 1998 were 19.7 million tons of sulfur dioxide, 8.4 million tons of small particulates, 24.5 million tons of nitrogen oxide, and 89.5 million tons of carbon monoxide (USEPA, 2000). Ambient concentrations of these pollutants remain high in many regions of the country, especially metropolitan areas where the bulk of the population lives. There is every reason to believe that air pollution contributes to high morbidity and mortality levels in the population. In addition, air pollution and the resulting acid rain contribute to low visibility levels, defacement of public structures, and damage to ecosystems. The current project will carefully measure the potential damage of air pollution in the United States. The study will provide valuable information on the economic impact of air pollution by pollutant and by region. It will serve also as a key component for construction of a set of environmental (or "green") accounts for the United States.

GAYLORD DONNELLEY ENVIRONMENTAL FELLOWS

Claudio Ciofi (left) and Indonesian collaborators setting up a Komodo dragon trap.

Claudio Ciofi Featured in National Geographic Today

The Komodo dragon *Varanus komodoensis* has long captured the interest of ecologists and evolutionary biologists for its unusual size and for having one of the narrowest natural occurring ranges of all large terrestrial predators.

Accounts on the species' life history traits, in particular the demography, population genetics and reproductive biology, are being collected by Claudio Ciofi, who set up a research project on the Komodo dragon just before his appointment as a Gaylord Donnelley Post-Doctoral Environmental Fellow at the Yale Institute for Biospheric Studies (YIBS.) Beside its scientific goal, the initiative envisages logistical support and training for Indonesian students and personnel of the Indonesian Department of Forestry to create local expertise in wildlife monitoring, update survey methodologies, and help devise management strategies directed towards the conservation of extant dragon populations.

As part of this program, a laboratory for DNA and hormone analysis is also being set up by Claudio and colleagues at Udayana University, Bali, to work on blood samples collected during field work. The laboratory will not only allow a quick screening of samples and production of data which can be immediately applied to management plans, but will also provide necessary infrastructures to train Indonesian academic staff in molecular biology techniques.

On January 29, 2003, National Geographic Today featured an article by Bijal P. Trivedi about Ciofi's research on the Komodo Dragon.

To catch a Komodo dragon in the dry deciduous monsoon forests of Indonesia's Flores Island, biologist Claudio Ciofi and his colleagues set a "10-foot mousetrap" with a freshly killed goat as bait. Then they wait.

The Komodo dragon is the world's largest lizard that sometimes grows up to 10 feet long (3 meters) and exceeding 150 pounds (70 kilograms), and is in danger of succumbing to man's depredation. However, Ciofi's research stands to boost this species' population in the wild and in the world's zoos.

GAYLORD DONNELLEY ENVIRONMENTAL FELLOWS

Ciofi describes the Komodo's as charismatic beasts that live in a habitat where the human population is rapidly growing and where there are few protected areas for the dragons, which qualifies them as "vulnerable to extinction" according to the United Nations' International Union for the Conservation of Nature and Natural Resources. These fearsome lizards, considered mythic by westerners until discovered during expeditions in the early 20th century, now live only on five islands, 300 miles (500 kilometers) east of Bali: Flores, Gili Dasami, Gili Montang, Komodo, and Rinca. The lizards also inhabited the island of Padar until about 1980 when they mysteriously disappeared, and researchers believe that there are either very few dragons there, or they have become extinct. The remaining population hovers somewhere around 3,000.

In 1980, Gili Dasami, Gili Motang, Komodo, Rinca, and Padar all became part of the Komodo National Park. Later, two reserves—Wae Wuul Reserve on the west coast and Wolo Tado Reserve on the north coast—were added on Flores. However, there is still much of the dragons' range on Flores that is not protected.

Trapping Dragons

During visits to the islands over the last 10 years, Ciofi has had a hand in tagging and examining about 250 Komodo dragons. Once a Komodo dragon is caught in the trap, the researchers restrain it with ropes, then take measurements and draw blood for genetic studies. They implant a small microchip—essentially an ID tag—underneath the skin behind the right hind leg and harness the creature with a radio transmitter.

James Murphy, a research associate at the Smithsonian National Zoological Park in Washington, D.C. who recently retired as curator of herpetology at the Dallas Zoo, considers Ciofi a superb biologist and major player in genetic and captive breeding research. Murphy notes that Claudio's main contribution is that he has alerted people, in particular the Indonesian government, to the threats facing each population of Komodo dragons.

Threats to the Dragon

On Flores, Ciofi believes that dragons probably once ranged throughout the entire island, but with a human population of 1.5 million, the dragons are now thought to inhabit only parts of the western and northern coasts. On both coasts the dragons face threats, and in the west poachers set fires to the savanna to frighten deer, the dragon's main prey, out of the area, and then kill them. Thus, the fires destroy the lizard's primary habitat and between 1991 and 1998, after fires had ravaged nearby savanna, researchers noted a 25 percent drop in the number of dragons in the Wae Wuul Reserve on the west coast, which, according to Ciofi, suggests that man is indeed impinging on the dragons' territory. On the northern coast, farmers who employ slash and burn agriculture are also destroying the dragons' forest habitat.

Ciofi emphasizes human development must be sustainable–balancing the welfare of both the local community and the dragons. He notes that by preserving the dragons and their habitat, the community benefits by bringing tourist revenues.

Ciofi is establishing a field research station on the west coast of Flores Island, near the headquarters of a national park, which will serve as a training center for rangers, a temporary storage facility for blood samples and will provide Internet access for data analysis. He is collaborating on his research with

Top: Training of Indonesian Park Rangers is one of the main goals of the project.

Bottom: Claudio Ciofi collecting blood from the caudal vein of an adult female dragon.

Professor Putra Sastrawan of Udayana University in Bali, with local villagers, and with the Indonesian government.

Komodo dragon breeding programs around the world depend on this from-the-field genetic data to maintain their populations, and there are about 300 Komodo dragons live in captivity—more than 60 of which have been born and bred in the United States. Since November 2002, seven baby Komodo dragons have hatched at the Denver Zoo in Colorado, and Rick Haeffner, curator of reptiles and fishes at the zoo commented that he never dreamed that someday he would be raising seven little dragons!

Ciofi notes that strengthening the Komodo dragon's genetic legacy helps preserve these creatures in Denver and in Indonesia, and the dragon also serves as an "umbrella species" that protects other less charismatic critters that also share the distant islands.

Each island has a distinct genetic population of lizard. Ciofi takes blood samples from lizards from all of the islands to determine the relationships between the populations, effectively creating a family tree for the species. Eventually researchers may decide to repopulate the island of Padar, and the genetic data gathered on the other islands will help choose the right lizards to colonize the island.

An adult male Komodo dragon.

GAYLORD DONNELLEY ENVIRONMENTAL FELLOWS

CONFERENCES, SEMINARS, SYMPOSIA

Three New Gaylord Donnelley Environmental Post-Doctoral Fellows Selected

In 1997, the family of Gaylord Donnelley, a conservationist dedicated to advances in research and education, established the Gaylord Donnelley Environmental Post-Doctoral Fellowships in his memory. The fellowships are intended for research in biodiversity or containing biodiversity and are awarded under the auspices of the Yale Institute for Biospheric Studies (YIBS).

YIBS is pleased to announce the selection of three new Gaylord Donnelley Fellows, bringing to 13, the total number of fellowships awarded to date.

Dr. Stephen Meyers will arrive at Yale in October to work with Professor Mark Pagani in the Department of Geology & Geophysics. Dr. Meyers research will involve evaluating temporal and spatial stability of the Holocene hydrologic cycle with compound-specific D/H ratios of higher-plant and algal biomarkers.

Dr. Amy Russell arrives this summer to work with Professor Anne Yoder in the Department of Ecology & Evolutionary Biology. Dr. Russell's research will involve the evolutionary history and biogeography of chameleons in a megadiversity hotspot.

Dr. Benjamin Twining arrives this summer to work with Professor Gaboury Benoit, Professor of Environmental Chemistry at the School of Forestry & Environmental Studies and in Chemical Engineering. Dr. Twining's research will involve the use of a combination of synchrotron-based x-ray fluorescence microscopy, AAS and/or ICP-MS, and voltammetric techniques to study the factors controlling the accumulation of metals by estuarine biota.

Yale Hosts Memorial Symposium in Celebration of Hutchinson's 100th Birthday

On Saturday, October 25, 2003, Yale is hosting the G. Evelyn Hutchinson Memorial Symposium in celebration of Hutchinson's 100th Birthday. Stephen Stearns, Edward P. Bass Professor and Chair of the Department of Ecology & Evolutionary Biology (EEB) and Professor in the School of Forestry & Environmental Studies (F&ES), has arranged a one-day symposium and various related events highlighting Hutchinson's achievements. In addition, a small exhibit on Hutchinson will be on view at the Peabody Museum.

Hutchinson (1903–1991)

G. Evelyn Hutchinson (1903–1991), an English born American Zoologist known for his ecological study of lakes and also known as the father of modern limnology, grew up with the field of limnology and he began his university education a year before the founding of the International Limnological Association. He also contributed to the development of several other fields of science, notably evolutionary ecology, and his understanding of geochemistry as well as biology gave him an unusual command of biogeochemistry. Hutchinson communicated equally well with oceanographers, geochemists, anthropologists, paleontologists, sociologists and behaviorists, but also was at home with artists, writers and musicians. Hutchinson deeply appreciated natural history collections and was an important supporter of Yale's Peabody Museum.

He studied at Cambridge, became a professor at the University of Witwatersrand, Johannesburg in 1925, and arrived at Yale in 1928 as a Post-Doctoral Fellow. He enjoyed a distinguished 43-year career at Yale, developing courses in natural history, general ecology, limnology and biogeochemistry, and attained Yale's highest faculty honor, a Sterling Professorship. Upon his arrival in New Haven, he searched out lakes in the area looking for suitable objects for research and found Linsley Pond, which provided excellent material for him and his students. As word spread of his presence, graduate students interested in working with him began arriving, and until his retirement in 1971, Ph.D. degrees were finished under his direction at the rate of about one per year.

The October 25th celebration will include presentations by Yale faculty Michael Donoghue, the Director of the Peabody Museum of Natural History and the G. Evelyn Hutchinson Professor in EEB; Professor David Post from EEB; Professors Oswald Schmitz and David Skelly from F&ES; Sterling Professor Karl K. Turekian from the Department of Geology & Geophysics, and by Melinda Smith, Post-Doctoral Associate at the National Center for Ecological Analysis and Synthesis, who will soon join the EEB faculty. Other presenters include Sharon Kingsland, Professor of History, Science, Medicine & Technology at Johns Hopkins University; Earl Werner, Professor of Ecology & Evolutionary Biology at the University of Michigan; Peter Vitousek, Professor of Population Biology at Stanford University; David Schindler, Professor of Biological Sciences at the University of Alberta; and Lillian Randall, Curator of Manuscripts and Rare Books emerita, The Walters Art Museum, among others.

THE THOMAS R. MANLEY COLLECTION:

A Lepidopteran Treasure Trove

In October, Dr. Thomas R. Manley of Port Treverton, Pennsylvania, presented one of the larger private butterfly and moth collections in the U.S. to the Peabody Museum's Division of Entomology, complementing and strengthening the Museum's already rich Lepidoptera collections. The Manley Lepidoptera Collection comprises approximately 65,000 specimens, most from North America.

Tom Manley is well known to the Entomology Division. In the early 1960s he came to Yale as a John Hay Fellow to pursue an interest in horticulture, but became enthralled with insects after working with then Curator Charles Remington. An assiduous field worker, Dr. Manley's nearly 40 years of Lepidoptera collecting and breeding has always involved local lepidopterists as well as his students at Bloomsburg State University, in central Pennsylvania, where he spent his teaching career as a biology professor.

The donation came last October just as the Division of Entomology was preparing to relocate most of its curated holdings from the Peabody's basement into the new Class of 1954 Environmental Science Center (ESC). This was no small task, as the Division has about one million specimens to its name, more than one third of which are in the Order Lepidoptera, the butterflies and moths. In anticipation of the Manley donation, planning for the move reserved 500 Cornell storage drawers in the ESC.

The make up of the collection mirrors Dr. Manley's butterfly and moth passions. His early love was silk moths, especially the Io (or bull's-eye) moth, *Automeris io*. Through careful breeding and backcrossing experiments, he worked out the genetics of many hindwing eyespot patterns found in this handsome moth. At about the time he began working with Io moths, he also used mass sampling to document morphological patterns at the populational level, traveling widely throughout North America to collect in butterfly hybrid zones, isolated mountain ranges, and along altitudinal and geographic gradients. He was particularly fond of Montana, and made repeated trips to document the fauna of the Judith Mountains in Fergus County.

Robert Lisak

Manley's early passion for moths was sparked by *Automeris io*, one of the giant silk moths common to the northeast, and known, in English, as the Io Moth.

Dr. Manley also tracked the spread of melanics (dark forms) in Pennsylvania in certain moth species (the Geometridae [inchworms] and Noctuidae [millers]). His work and that of Ted Sargent at the University of Massachusetts assembled some of the better long-term data on melanic frequencies in North American moths (Sargent donated his material to the Peabody several years ago). Most recently, Manley focused his mass sampling on the genus Parnassius, tail-less swallowtails of the alpine zones of western U.S. and Canada, to collect from all the known Parnassius populations in western North America.

One weekend last October, Curatorial Affiliate Larry Gall and Collections Manager Ray Pupedis drove a 24-foot rental truck to Dr. Manley's house to pick up his collection for the Peabody. With the assistance of lepidopterist Steve Johnson, who lives near the Manley farm, they filled the truck, and brought the collection to New Haven. To learn more about the Entomology Division, visit www.peabody.yale.edu/collections/ent/.

Yale Herbarium Moves to Class of 1954 Environmental Science Center

The Peabody Museum of Natural History's (PM) Division of Botany recently relocated to a custom-designed, climate-controlled space in the new Class of 1954 Environmental Science Center (ESC). At its core are the approximately 350,000 specimens of the Yale University Herbarium.

A herbarium is a collection of plant specimens available to scientists for a variety of research purposes. Specimens are typically pressed, dried, mounted on sheets, and stored in appropriate cabinets. When maintained in optimal environmental conditions, they can last indefinitely. In addition, plant specimens are often pickled in alcohol and therefore are available for study in their original shape.

A herbarium provides a historical record of changes to our vegetation. For example, the Yale University Herbarium collection is rich in specimens collected during the 19th and early 20th centuries, offering a representation of the historical environment, and help monitor change over time. Each specimen is accompanied by a label on which the collector records many types of information, including identification (if known), collection date, location, elevation, and habitat type, making the herbarium an excellent source of information on plant distribution and enabling us to determine which plants are rare or endangered, and which are common.

In many parts of the world, especially in tropical areas, plants collected in the wild may have significant sustainable value to local people, and therefore these records provide an invaluable framework to help explain the intricate relationship between plants and people, a study known as ethnobotany. The herbarium is often used as a reference collection, providing the basis for plant identification. Specimens are the repositories of precious morphological

Top: Collections Manager Nico Cellinese.

Bottom, left: A herbarium specimen showing *Paeonia coriacea* Boiss (Paeoniaceae). Plants are pressed, dried and mounted on acid-free sheets. Both morphological and molecular characters are preserved.

Bottom, right: Sonerila maculata Roxb., an Old World species in the Melastomataceae (meadow beauty family). Nico Cellinese is working on the systematics of two lineages in the family (Sonerileae and Bertolonieae).

and genetic information. Through their study we can assess morphological variation within and between species. The herbarium is also a *de facto* gene bank, as DNA data can be extracted from leaves of pressed plants even after many years. Specimens, therefore, represent a key to the understanding of evolutionary processes and plant relationships.

Current Curator of Botany, Michael Donoghue, the G. Evelyn Hutchinson Professor of Ecology and Evolutionary Biology and Director of the PM, was responsible for hiring Dr. Nico Cellinese, the first Collections Manager in the herbarium's history. A native of Italy, Dr. Cellinese completed her higher education at the British Museum of Natural History and the University of Reading. She was responsible for the relocation of the collections, and at the same time reorganized the herbarium using a systematic arrangement that reflects current knowledge of plant phylogeny based on both molecular and morphological evidence. This reorganization makes the Yale University Herbarium the first large collection to be arranged according to modern knowledge of plant relationships.

The Yale University Herbarium was founded in 1864 by Daniel Cady Eaton, one of the first professors of botany in the United States. His grandfather, Amos Eaton, was the first natural history lecturer in the country, and his plant collections, dating back to the early 1800s are bound into three volumes and stored in the Herbarium. These volumes represent one of the earliest plant collections in the United States. The earliest collection in Connecticut was made in 1822 by Horatio Fenn, a Yale medical student who collected plants in the New Haven area. His collections are also bound into volumes and kept in the herbarium.

Overall, the Yale University collection is particularly rich in bryophytes, grasses, and ferns—Daniel Eaton's primary interest reflected in around 15,000 holdings of North American ferns. Other important historical collections include plants collected in Scotland in 1808 by Sir William Hooker and by his son J. D. Hooker during his travels in India in 1848, and those collected by J. D. Dana during the Wilkes Expedition of 1838–1842. Additional holdings were collected by Frank Tweedy and A. E. Verrill, and William Henry Brewer, who collected throughout California in the years after the Gold Rush, and by the Harriman Alaska Expedition of 1899.

Eaton was succeeded in 1895 by his student Alexander William Evans, a medical student turned botanist whose main interests were mosses, liverworts and, later in life, lichens. A dedicated taxonomist and avid field botanist, his early studies added more than 20 species to the then-known liverwort flora of Connecticut. In 1947 John Reeder shifted the emphasis of the collections from lower to higher plants, and his work in the world grasses together with his invaluable contribution to the growth of the Herbarium, brought the number of grass collections to about 25,000. With his departure in 1968, the Herbarium administration was entrusted to the PM.

The Yale University Herbarium is visited by many scientists from around the world and provides an invaluable infrastructure for research on plant phylogeny, ecology, and biogeography. Michael Donoghue's lab is currently working on several plant groups including members of the Dipsacales, Cactaceae, and Polygonaceae. The primary aim of this research is to infer phylogenetic relationships in order to understand the evolutionary history and biogeography of these flowering plants.

Nico Cellinese's work focuses on the family Melastomataceae, a large pantropical group of about 4500 species. She is particularly interested in the evolution of the Sonerileae (in the palaeotropics) and Bertolonieae (in the neotropics). She is currently writing monographs on genera as a contribution to *Flora Malesiana*, a major floristic treatment of all species occurring in SE Asia. Additional research on the island of Crete is planned to start this spring with the study of the phylogeography and ecophysiology of the families Campanulaceae, Dipsacaceae and Valerianaceae.

For more information on the Yale University Herbarium, please contact Dr. Nico Cellinese by phone at (203) 432-3537; by Fax at (203) 432-7907; or by e-mail at nico.cellinese @yale.edu). Or, you may visit the website at http://www.peabody.yale.edu/collections/bot/

7th grader asks us to remember past lessons about biodiversity in winning Peabody science award

"The Effect of the Larvacide Methoprene on the Development of Mosquito Larvae and Other Aquatic Organisms" may sound like the subject of a Ph.D. dissertation, but it is the title of seventh-grader Justin Tourongeau's entry at the 2003 Connecticut Science Fair in March. Focusing on the unforeseen and often harmful effects of human intervention in natural ecosystems, Justin's project won the Peabody Museum's second-annual Biodiversity and Human Health Award. Justin is a student at Brooklyn Middle School, Brooklyn, Connecticut. His research explored how man impacts wetlands, and how human activities in turn can cause serious problems for other organisms and for ourselves.

The Connecticut Science Fair, now in its 55th year, encourages 7th to 12th grade students to pursue interests in science and engineering. Each year more than 13,000 Connecticut students create science projects for more than 120 school science fairs that lead to this statewide event. Finalists can go on to national competitions. For its second year the Peabody Museum has offered a special award to recognize a creative middle school project that explores the link between biodiversity and human health.

One impressive aspect of Justin's experiment was his call to remember past lessons about biodiversity. By discussing what happened with DDT, he recognized that our current attempts to control the mosquito could mirror a previous environmental disaster, bringing several non-mosquito species close to extinction. In addition to a $50 cash award, Justin received a free Peabody family membership and a book related to his research interests.

PEABODY MUSEUM

The Burgess Shale: Evolution's Big Bang EXHIBITION O

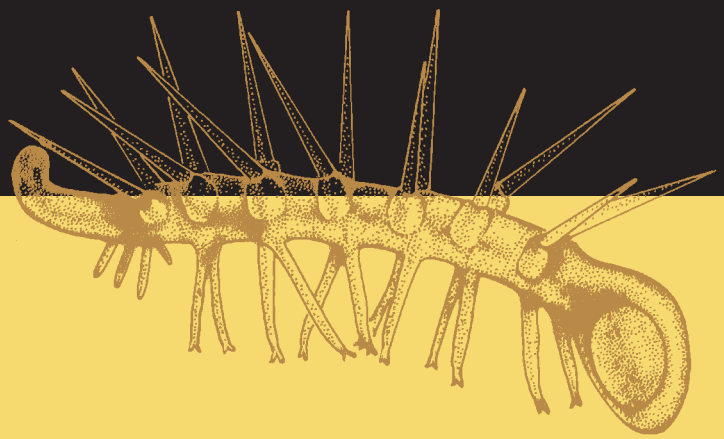
There were four continents instead of seven, and there were no plants or animals on the barren, desolate land. However, the plex ecological community was flourishing. Suddenly, an enormous mudslide swept through, smothering everything in its pat dition for 530 million years. Successive mudslides added layer upon layer of sediment and ancient creatures to create what is alive today, and offer an unparalleled glimpse into a strange, ancient world.

In the late summer and fall of 2003, the Yale Peabody Museum will explore this world when it hosts the Smithsonian Institutio exciting public programs will captivate the imagination of visitors young and old as they view the fossils and try to picture the November 23. A members opening will be held on August 29.

Over the millions of years since its formation, tectonic forces have thrust the Burgess Shale two miles into the air to become 60 years. In the 1970s, however, the Burgess Shale fossils were "rediscovered," and their tremendous significance recognized ing authorities on the Burgess Shale, Derek Briggs is a professor at Yale and the curator of the Peabody's exhibition. He is al curator of the Smithsonian's Burgess Shale traveling exhibition.

The Burgess Shale is extraordinary in that it preserves not only organisms with hard skeletons but also soft body tissues and years ago when, in a relatively short time, a vast diversity of organisms exploded all at once onto the evolutionary scene. Thi forms with no known descendents. There was *Wiwaxia*, for instance, which has been likened to an armored slug with two rows matic *Anomalocaris* was over a meter long and the largest and most formidable predator of its time. Even a very early ancesto finest preserved specimens from the Cambrian period, and, in recognition of its importance, UNESCO designated the Burges

Enhancing the exhibition will be spectacular material from the Peabody's own Burgess Shale collections that has never before b life forms from Namibia, Newfoundland. The exhibition will also include specimens on loan from other U.S. museums. Deta who have studied these fossils to engage the audience in an exciting and ever-changing adventure.



Hallucigenia, fossils of which come with spikes on one side, worm-like appendages on the other, and no clearly identifiable head, has been a subject of controversy ever since it was discovered. How can you come to grips with an animal when you can't tell which side is up, and which end is the front?

With five eyes and a front-end "nozzle," *Opabinia* stands out in a crowd Burgess Shale. It swam with the help of its 15 pairs of paddle-shaped fl pull worms from their burrows. The angle of its fins shows that it lived also swim after prey.

FFERS UNPARALLELED GLIMPSE INTO STRANGE, ANCIENT WORLD AUGUST 30—NOVEMBER 23, 2003

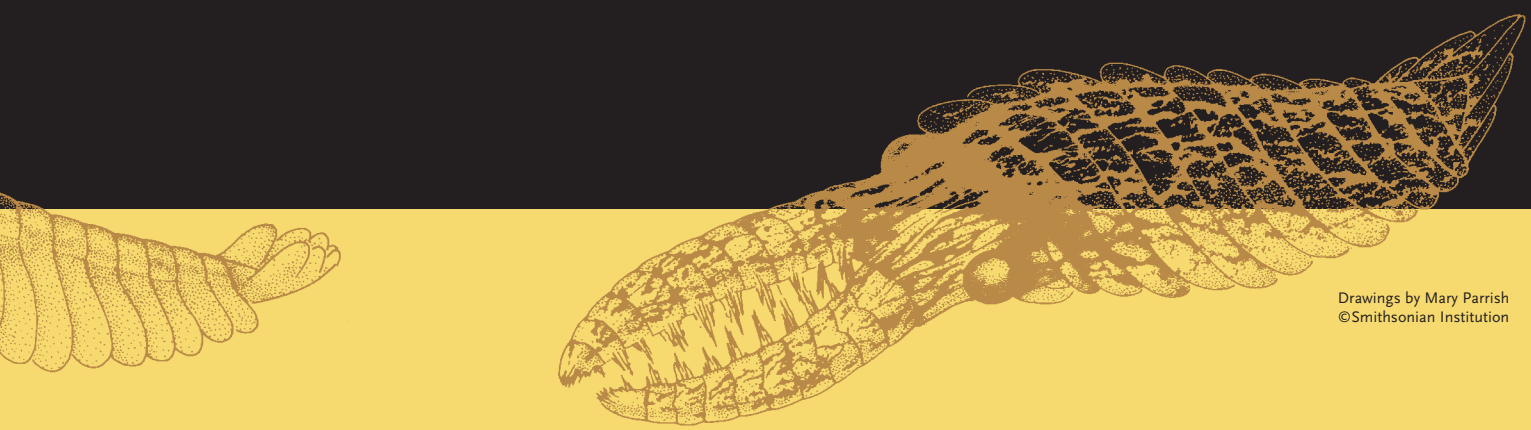
seas were teeming with life and, in an underwater mud bank off the coast of Canada (then just south of the equator), a com-
h and carrying the unfortunate animals and plants to their final resting places, where they would lay in an almost pristine con-
now, trapped in time and space, the fossil layers of the Burgess Shale. The life forms in the Burgess Shale are unlike anything

on's exhibition on the Burgess Shale together with a display of specimens from its own world-class collections. Innovative and
world that these creatures knew. *Burgess Shale: Evolution's Big Bang* opens to the public on August 30 and continues through

e part of the Canadian Rockies. Discovered in 1909 by Charles D. Walcott, interest in the Burgess Shale was minimal for over
d, by Dr. Harry Whittington and two of his graduate students, Simon Conway Morris and Derek Briggs. Now one of the lead-
so co-author of the book *The Fossils of the Burgess Shale* with Frederick J. Collier of Harvard University and Douglas H. Erwin,

l even some internal organs. It is a rare snapshot of life during an exciting time in earth history, a period roughly 540 million
s "Cambrian Explosion," saw the first appearances of familiar prehistoric animals such as trilobites, as well as many bizarre
of spikes along its back. The colorfully-named *Hallucigenia* has long-clawed walking tentacles and spiky armor, while the enig-
or of the vertebrates, and therefore of ourselves, made its home in this lost world. The Burgess Shale fossils are some of the
ss Shale as a World Heritage Site in 1981.

been exhibited, including Cambrian fossils from Pennsylvania, Utah and Nevada, and examples of rare, enigmatic Precambrian
ailed descriptions and illustrations of the extraordinary creatures will combine with tales and methods of the paleontologists



Drawings by Mary Parrish
©Smithsonian Institution

d, even among the strange inhabitants of the
aps, and it may have used its flexible "trunk" to
in the soft sediment of the sea bed, but it could

"The shark of the Cambrian," *Anomalocaris*, at up to 6 feet, was the largest and fiercest animal in the Cambrian seas and the most efficient predator of its day. This carnivore swam in the open sea, probably undulating through the water like a manta ray. It used its claw-like feeding appendages to seize prey and carry it to a mouth that is unique in the animal kingdom. Lined with teeth on four sides, the jaws did not close completely, but probably worked like a nutcracker to break shells.

Top, left: View of new storage facility in the ESC to house dry preserved specimens. A similar room will store the fluid collections.

Top, right: Specimens laid out for seminar demonstration.

Bottom: Professor Leo Buss teaching a seminar in the Division of Invertebrate Zoology workroom. EEB graduate student Matthew Nicotra discussing corals as Leo Buss and other students listen. Professor Buss has held several seminars in the new workroom of the Division of Invertebrate Zoology.

Peabody Museum Invertebrate Zoology Collections Easily Accessible

The Division of Invertebrate Zoology, with an estimated two and one half to three million specimens, is one of the largest collections of the Peabody Museum of Natural History (PM). The collection has grown as the result of more than 150 years of specimen based research by Yale faculty, students, and their occasional participation in government-sponsored surveys. Thousands of new species have been described from these collections, and new material recently obtained is yielding many more. Furthermore, Curator Leo Buss has been steadily developing a molecular component of the collection as he and Ecology & Evolutionary Biology graduate students investigate evolutionary problems of various invertebrates.

In February of 2002, the PM Division of Invertebrate Zoology began its long anticipated move to new facilities in the Class of 1954 Environmental Science Center (ESC). Presently, most of the dry preserved invertebrates such as corals, starfish and shelled mollusks have been transferred from temporary storage in the basement of Kline Geology Laboratory. However, the process of moving the fluid preserved specimens will take many years because an entire physical upgrade and reorganization has been undertaken concurrently.

One of the many goals of moving Invertebrate Zoology to the ESC was to increase its ability to interact with students and faculty, particularly in the Department of Ecology and Evolutionary Biology (EEB). For many years the collection and workspace was cramped and isolated, and the ability to provide specimens for classes taught in Osborn Memorial Laboratory was very limited. Now, with an easily accessible workspace and the collections immediately nearby, interaction with students and faculty of several departments can flourish. In addition to providing specimens for traditional laboratory demonstrations, seminars have been taught right in the workspace, utilizing outstanding specimens culled from the collection. A key benefit is that now virtually the entire collection is available for teaching and demonstration purposes, as material no longer has to be carried back and forth to another building. In this regard, students now will fully benefit from this outstanding Yale resource.

A Gala celebrating the opening of *Machu Picchu: Unveiling the Mystery of the Incas* featured a guest list of 700.

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1. Exhibition curators Lucy Salazar and Richard Burger with daughter Sasha and a llama "greeter." Photo: John Columbus.

2. Kris Moss; Dr. Lawrence Moss, Surgeon-in-Chief, Yale-New Haven Children's Hospital; Gay G. Steinbach; Susan Persing; and Dr. John Persing, Professor and Chief, Section of Yale Plastic Surgery. Photo: Peter Gherlone.

3. Ben Sandweiss, gala committee member Letha Sandweiss, Yale Development Officer Christin Sandweiss, and Terry Holcombe, former VP for Development at Yale. Photo: John Columbus.

4. Connie Royster, Development Officer, Yale School of Forestry & Environmental Studies, and Eloise Goddard, great-granddaughter of Hiram Bingham III. Photo: Peter Gherlone.

5. Thomas White, Linda Hayrapetian, Candace Brown, and Marc Ramirez, M.D. Photo: John Columbus.

6. Drika Hubbell (second from left), great-granddaughter of Hiram Bingham III, and (left to right) Bingham granddaughters Marian Bingham, Clarissa Bingham Cochrane and Anne Bingham Pearson, M.D. Photo: John Columbus.

7. Michael Donoghue, Peabody Museum Director; Robert Dewar, Professor of Anthropology, UConn; Charles Pagnam, VP for Development at Yale; Alison Richard, Vice-Chancellor of Cambridge University; and Jack Meyers, Special Assistant to the Provost for the Arts and Humanities at Yale. Photo: Peter Gherlone.

8. Louis Bullock, Jacob Bullock, exhibition donor Richard Groenendyke, and Randy Miller. Photo: John Columbus.

9. Melanie Brigockas, Public Relations Manager and Special Events Coordinator, Peabody Museum; David Bingham, M.D., grandson of Hiram Bingham III, discoverer of Machu Picchu, and Annie Bingham. Photo: Jeannie Pappas.

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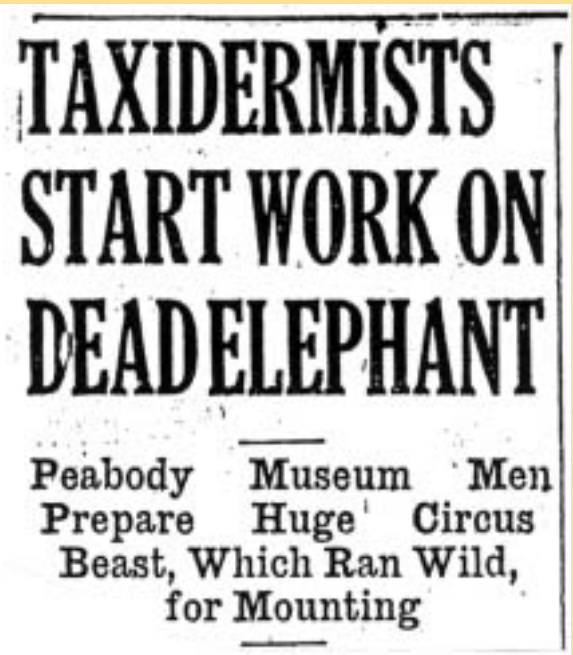

TAXIDERMISTS START WORK ON DEAD ELEPHANT

Peabody Museum Men Prepare Huge Circus Beast, Which Ran Wild, for Mounting

YPM Archives

Ryo's skeleton on display in the Mammal Hall c. 1940

Elephant Tales From the Peabody Archives

Every specimen in the collections of the Peabody Museum of Natural History (PM) has a story to tell about how it was found, collected, caught, or dug up. Sometimes the stories even get into the newspapers. Old clippings and photographs in the Museum's archives relate the circumstances by which two Ringling Bros. and Barnum & Bailey elephants came to the Museum, joining the 20-odd other exotic circus animals donated by P. T. Barnum and his successors in the 19th and 20th centuries.

The first of these is Ryo (REE'-yo), a four-ton Indian elephant who was 37 years old when the circus came to Hamden in June 1928. Normally well behaved, Ryo had begun to show bad temper and cause trouble among the other elephants, and at the circus's previous engagement in New London had injured two keepers.

Hamden brought disaster. As the elephants paraded in single file, each holding the tail of the animal in front, Ryo suddenly put the tail he was holding into his mouth and bit off the end of it. The screams of the poor wounded elephant started a stampede of the six other elephants. All were quickly caught except Ryo, who, as reported in the New Haven Register, "continued charging down Dixwell Avenue, in a fury, with crowds scattering to right and to left."

Ryo was finally subdued and led back to the circus grounds wrapped in chains attached to two heavy trucks. After the excitement had died down, and while the crowds were inside the menagerie tent watching the show, the great bull elephant was shot dead by Captain Albert F. Laudensack, a world-famous sharpshooter from the Winchester Repeating Arms Company, with a big game hunting rifle and special .405 caliber bullets. Ryo's carcass was brought to the rear of the Museum in a moving truck, where his trainer of 20 years took a last, sad look.

Restrained by police, crowds of fascinated people watched as seven Museum preparators worked all night skinning the animal and packing up various organs in barrels to be sent to the Yale Medical School. Firefighters helped to keep the area clear. The bones were put aside to be cleaned and later laid out on the roof to dry. For lack of space, at first only the skull could be put on exhibit at the Peabody. It wasn't long before a local dentist spotted an impacted molar in Ryo's lower jaw, the probable cause of what turned out to be a fatal toothache.

The second elephant, Bess, on the other hand, died of old age in her sleep in Poughkeepsie, New York, where the circus was performing in July 1930. She was Ringling's first elephant and a great pet, about 50 years old when she was captured in India and 93 when she died. Her body was shipped from Poughkeepsie to New Haven—straight to the Farnham pig farm in Westville (now Southern Connecticut State University's main parking lot). Before the Museum staff began work on their second elephant in two years, a snapshot was taken of her that—not surprisingly—won a prize in a local newspaper contest.

**Additional information was provided by the late Ralph Morrill, who participated in the dissections of both elephants, and Ruth Morrill, who donated material from Mr. Morrill's personal files.*

Peabody Museum Information

- **Open 10 am to 5 pm Monday through Saturday; noon to 5 pm on Sunday**
- **Admission is $5 (adults); $3 (children 3-15) and senior citizens 65+; free to Museum members, volunteers, and Yale University I.D. holders.**
- **Highlight tours are held every Saturday and Sunday at noon and 1 pm.**
- **Parking for visitors is available for a fee (weekdays) at the south end of Yale Lot 22. Parking in designated Yale lots is free on weekends.**
- **The Museum is wheelchair accessible. A ramp and a handicapped parking space are adjacent to the Museum on Sachem Street.**
- **InfoTape at (203) 432-5050**
- **www.peabody.yale.edu**

International Collaborative Research Projects Between the Peabody Museum of Natural History and the Natural History Museum of Crete

Thanks to a generous grant from the Stavros S. Niarchos Foundation ($1.46 million), the Peabody Museum of Natural History (PM) and the Natural History Museum of Crete will pursue several collaborative initiatives over the next three years. One of these involves support for museum researchers. Six research projects that help teach students about the natural history and biodiversity of the Mediterranean chaparral and temperate deciduous forest have recently been awarded to PM scientists through this collaboration. The projects, which include a combination of summer workshops in both Crete and New Haven and an intensive period of data collection and analysis, have a dual objective: the training of undergraduate and graduate students in ecology and biodiversity and the nurturing of cultural exchanges among people with common objectives.Opportunities for procuring museum specimens also exist through several of these projects. The Cretean specimens will greatly enrich our Peabody Museum collections that currently have limited representation from the Mediterranean region.

This summer Yale students and faculty will visit the Natural History Museum of Crete at the University of Crete and participate in seminars and field trips that focus on the island's geologic history and biodiversity. Students and faculty will use this summer program to meet with their collaborating scientist and conduct their specific research. Next summer, students and colleagues from Crete will visit the Peabody Museum and our local field stations for an introduction to the geologic history and biodiversity of the Connecticut temperate deciduous forest and associated salt marsh. During the Yale summer program, students will also participate in a workshop on the use of satellite imagery for geological, ecological, and systematic research.

For more information about the collaboration between the Yale Peabody Museum and the Natural History Museum of Crete, please visit our website at: www.peabody.yale.edu/exhibits/nhmcy.pm/html

Jay Ague, curator of mineralogy, will concentrate on the geologic processes of mountain building on Crete.

Nico Cellinese, collections manager of botany, will examine the phylogeography and ecophysiology of several plant families in the Cretean area.

Ann Yoder, associate curator of vertebrate zoology, will examine the phylogenetic relationships among the several Mediterranean species of *Crocidura*.

Adalgissa Caccone, senior research scientist for the YIBS-Molecular Systematics and Conservation Genetics laboratory and PM curatorial affiliate, will conduct a molecular analysis of the origin and colonization of deer on Crete.

Theodora Pinou, Niarchos program coordinator and PM curatorial affiliate, will examine the life history and population structure of the only fresh water turtle on Crete.

Kristof Zyskowski (not available for photo), collections manager of vertebrate zoology, will examine parallel patterns of migration for Cretan and North American birds.

Peabody is Home to Oldest T-Rex Fossil

Matt Garrett

Buried for 125 years in a drawer of miscellaneous fossil teeth, a tooth at the Peabody has risen to stardom.

Buried for 125 years in a drawer of miscellaneous fossil teeth, a tooth at the Peabody has risen to stardom. It was recently recognized by paleontologists Kenneth Carpenter and D. Bruce Young, as the "first known specimen of what can now be identified as Tyrannosaurus rex." Visitors to the Peabody will find the banana-shaped tooth on display in the Great Hall. It is approximately 3.5 inches long by 1.5 inches wide.

Discovered in 1874 by former schoolteacher Arthur Lakes, near Denver, Colorado, the tooth was sent to Yale's professor of paleontology, O. C. Marsh. While it was known at that time to be the tooth of a large carnivorous dinosaur, Marsh did not recognize it as belonging to a new type of animal. The tooth was first reported by paleontologist G. L. Cannon in 1906, as "probably" belonging to "a large species of theropodous dinosaur" and Museum records show a tentative identification of the tooth as Tyrannosaurus since at least 1964. However, this was an informal, unpublished identification. Carpenter and Young, publishing their findings in the November issue of Rocky Mountain Geology, provided the first formal recognition and naming of the animal from which the Peabody tooth originated. The discovery pushes back the first fossil find of T-Rex by 28 years.

Carpenter, curator of paleontology at the Museum of Nature and Science in Denver, first saw the tooth on a trip to the Peabody to research what the Museum had from the Denver basin. "I saw this tooth, made a note of it, and thought nothing of it," he said. Then, doing research into the field notes of collectors, he saw a drawing of the tooth. "I thought to myself, 'Wait a minute...I've seen this.'" He then realized the tooth was from a T-Rex.

"It's clear," Carpenter said. "Tyrannosaurus-Rex has teeth like bananas. Most of the others have teeth like thin blades." The Peabody's Lyndon Murray, collections manager in the Department of Vertebrate Paleontology, concurred. He describes T-Rex teeth, which can be as long as six inches, as pretty uniform in shape. Mammals, on the other hand, have sharp teeth in front for tearing and flat teeth in back for chewing. According to Murray, "It's one of the things that makes mammals and reptiles different."

JEWELS FROM THE RAINFOREST

Poison Dart Frogs

"Are those frogs real? I thought they were plastic!" We hear it all the time from visitors. Yes, they are real, and now on display in the Discovery Room at the Peabody Museum of Natural History (PM). Four species of dart frogs are currently displayed in a mini-habitat that mimics a rainforest environment complete with orchids, bromeliads and other tropical plants. A timed misting system provides the needed humidity.

All the frogs were captive bred at the National Aquarium in Baltimore. Frogs and toads are disappearing around the world in record numbers. Scientists are still trying to piece together exactly why. The PM frogs are from the National Aquarium's captive breeding program for threatened species.

Species represented include the blue poison frog Dendrobates azureus, a rare species found only in Suriname; the dyeing poison frog Dendrobates tinctorius, one of the largest species, found in Guyana, Suriname, French Guiana and Brazil; the golden poison frog Phyllobates bicolor from Colombia, the second most toxic frog worldwide; and the green and black poison frog Dendrobates auratus from Panama, Nicaragua and Costa Rica.

Poison dart frogs are diurnal. Their bright colors are easily seen in daylight, a warning to would-be predators that the frogs taste bad. Some animals know by instinct not to eat any brightly colored creature. Others learn by experience that eating brightly colored animals such as dart frogs will make them sick.

Where does the name "poison dart frog" come from? Two species of these frogs are used by Choco Indians of western Colombia to poison their blowpipe darts. The Indians shoot these darts at animals they use for food, such as reptiles, birds and mammals.

In the wild, some dart frog species are among the deadliest animals on earth. Their skin is toxic because of the ants and other insects they eat. These insects eat plants that contain poisonous alkaloids. The skin toxins from a wild golden poison frog can cause convulsions, paralysis and death if they enter the blood stream. The PM frogs, whose diets consist of lab-raised fruit flies and crickets, are not poisonous.

One of the arguments for rainforest preservation is that rainforests are vast storehouses of potentially beneficial compounds found in flora and fauna. Researchers from Abbott Labs in Chicago have developed ABT-594, a new painkiller. The compound is named "epibatidine" in honor of a frog: an extract from the skin of the phantasmal poison frog Epipedrobates tricolor can block pain 200 times more effectively than morphine, and without addiction and other serious side effects.

The Peabody is grateful to Fleet Bank for providing the funding that made the exhibit possible.

George Grall, © National Aquarium in Baltimore

KARL TUREKIAN NAMED STERLING PROFESSOR OF GEOLOGY & GEOPHYSICS

Turekian's groundbreaking work in geochemistry has been recognized with numerous honors, including the Goldschmidt Medal of the Geochemical Society, the Maurice Ewing Medal of the American Geophysical Union and the Wollaston Medal of The Geological Society of London.

Karl K. Turekian, former Benjamin Silliman Professor of Geology & Geophysics, has been named the Sterling Professor of Geology and Geophysics. The Sterling Professorship is the highest honor bestowed on Yale faculty.

Professor Turekian was appointed as Yale's first geochemist in 1956. He is a specialist in marine and atmospheric chemistry, as well as in planetary evolution, and currently is the Director of the Yale Institute for Biospheric Studies (YIBS), the YIBS Center for the Study of Global Change, and curator of meteorites and planetary science at the Peabody Museum of Natural History.

The Yale scientist is interested in the application of natural radioactive and radiogenic isotopes to the study of Earth, particularly the impacts of global change over time. Using radioactive, radiogenic isotope measurements in Earth materials, Turekian has explored such subjects as the circulation of Long Island Sound, acid rain, sediment accumulation rates, the cosmic dust flux to Earth, and the composition of the continental crust, among others. Also, studies in his laboratory have been aimed at determining the growth rates of marine organisms and the retardation of nuclides in groundwaters.

Turekian is the author of *Oceans, Man and the Ocean* (with Yale geologist B.J. Skinner), *Chemistry of the Earth, Oceanography* (with C. Drake, J. Imbrie and J. Knauss) and *Global Environmental Change*, and has edited *Late Cenozoic Ages* and co-edited *Encyclopedia of Ocean Sciences.* He served on the editorial board of the publication *Handbook of Geochemistry*.

A graduate of Wheaton College in Illinois, he earned his M.A. and Ph.D. degrees from Columbia University. As a research associate at Columbia's Lamont-Doherty Earth Observatory, he laid the foundation for the use of Sr isotopic ratios in uncovering Earth's environmental history. He joined the Yale faculty as an assistant professor in 1956 and was named a full professor in 1965. He has since held two endowed posts: the Henry Barnard Davis Professorship, to which he was appointed in 1972, and the Benjamin Silliman Professorship, to which he was named in 1985.

The geochemist has also held a number of administrative posts at the University. He chaired the Department of Geology and Geophysics 1982-1988 and chaired the Studies in the Environment Program 1992-1993. Earlier in his career he served as president of the Yale chapter of Sigma Xi and directed the Kline Geology Laboratory.

He has been director of the Center for the Study of Global Change since 1989 and director of the Yale Institute for Biospheric Studies since 1999.

Turekian's groundbreaking work in geochemistry has been recognized with numerous honors, including the Goldschmidt Medal of the Geochemical Society, the Maurice Ewing Medal of the American Geophysical Union and the Wollaston Medal of The Geological Society of London. He is a member of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences, the Geological Society of America, the Meteoritical Society, the American Geophysical Union and the American Association for the Advancement of Science. He has served as editor of numerous professional journals and shared his scientific expertise as a member of many National Research Council committees and several international committees concerned with the health of the Earth.


Lee


Yoder


Turner


Skelly


Schmidt

XUHUI LEE
Granted Tenure

Xuhui Lee, Associate Professor of Forest Meteorology and Micrometeorology at the Yale School of Forestry & Environmental Studies (F&ES), has been granted tenure. Lee joined F&ES in 1994 as an assistant professor. In 1999 he became an associate professor and received an award for excellence in teaching. He holds a Ph.D. in soil science from the University of British Columbia and Master's and Bachelor's degrees in meteorology from the Nanjing Institute of Meteorology in Nanjing, China. He is a member of the American Meteorological Society, the American Geophysical Union, the Canadian Meteorological and Oceanographic Society and the Society of Agrometeorology of Japan.

ANNE YODER
Gets Biodiversity Leadership Award for Her Work in Madagascar

Anne Yoder, Associate Professor in the Department of Ecology & Evolutionary Biology, has received a Josephine Bay Paul and C. Michael Paul Foundation, Incorporated Leadership Award for her efforts in promoting conservation biology in Madagascar.

The awards are designed to reward and promote understanding and protection of biodiversity, the biological diversity of life at all levels, from genes to species to entire ecosystems.

Winners receive $180,000 over three years. Although the awards carry no obligation on the part of the recipients, Yoder and the other five winners this year have indicated that they will use the money to continue their work to save biodiversity.

Yoder studies Madagascar as an evolutionary laboratory for generating vertebrate diversity, with special attention to the island's lemur populations and their close relatives on the nearby African continent. Madagascar is a prime site for the study of lemurs, which are small animals with opposable thumbs and prehensile tails.

One of Yoder's major efforts has been to establish a conservation biology training program for faculty and students in the Malagasy Republic. This project brings promising researchers to Yoder's Laboratory in the United States for hands-on training in conservation techniques. Several of these students have returned to Madagascar and hold leadership positions in the nation's scientific community.

PAUL TURNER
Cited For Research on Virus Evolution

Paul Turner, Yale Scientist and Assistant Professor in Ecology & Evolutionary Biology, was named one of the top 10 emerging scholars of color by *Black Issues in Higher Education Magazine*.

Turner, who is featured on the cover of the magazine's January 2nd issue, has a strong interest in the importance of virus evolution for global epidemics, such as HIV/AIDS, and has focused his research on the exchange of genetic information between viruses that cause infectious disease.

"I am truly honored by this recognition, and I hope that my research will have an impact on society and also influence more students to consider scientific research as a career option," says Turner.

Currently, Turner's laboratory uses microorganisms (RNA viruses, DNA viruses and bacteria) as model systems to address hypotheses in ecological and evolutionary biology, especially questions regarding the evolution of genetic exchange (sex), virus ecology and evolution, host-parasite interactions and the evolution of infectious disease. His research projects include *Sex and its Consequences in Virus Evolution, Game Theory and Virus Interactions, Evolutionary Genetics of Host Radiation in Viruses,* and *Evolution of Plasmid Transmission.*

Turner received a B.A. in biological sciences from the University of Rochester and a Ph.D. in zoology from Michigan State University.

SKELLY NAMED, SCHMITZ REAPPOINTED,
To Editorial Board of Prestigious Ecology Journals

Oswald Schmitz, Professor of Population and Community Ecology, and David Skelly, Associate Professor of Ecology, both at the Yale School of Forestry & Environmental Studies (F&ES), have been appointed to the editorial board of the journals *Ecology* and *Ecological Monographs*, which are published by the Ecological Society of America. This is Skelly's first appointment to the Board, while Schmitz will be serving his second, three-year term.

Ecology and *Ecological Monographs* are the premier journals within their discipline. "This is solid recognition of the strength of ecology at our school and at Yale," said F&ES Dean James Gustave Speth.

The appointments of Schmitz and Skelly build on a long tradition of service by F&ES faculty to the Ecological Society of America. Professors Emeriti Herb Bormann and the late Rick Miller each served as society president during the 1970s.

New Faculty


KORENAGA


BRIGGS

JUN KORENAGA JOINS GEOLOGY & GEOPHYSICS FACULTY

Jun Korenaga joined the faculty in January 2003 as Assistant Professor in the Department of Geology and Geophysics. He received his Ph.D. from Massachusetts Institute of Technology and Woods Hole Oceanographic Institution in 2000. After a postdoctoral fellowship at MIT, he also conducted research at University of California, Berkeley, where he was a Miller Fellow.

He is an observational as well as theoretical geophysicist, with research interests in terrestrial magmatism and mantle convection, the thermal and chemical evolution of the Earth, geophysical inverse theory, and computational mineral physics. For the past several years, he has been working mainly on the genesis of igneous crust and corresponding mantle processes, both by developing geophysical inverse methods to derive robust observational constraints and by building a fundamental knowledge system for the physics and chemistry of melt generation and migration. He has a strong interest in advancing frontiers by developing new methodology, often involving large-scale computational implementation.

His fieldwork covers the world's ocean basins. As a marine geophysicist, he has participated in a number of research cruises in the Pacific and the Atlantic over the past ten years, ranging from Easter Island to the Greenland margin. He is currently interested in studying the origin of large igneous provinces such as the Ontong-Java Plateau, by combining the marine seismology of deep crustal structure with the petrology and geochemistry of surface lava. Large igneous provinces are the largest expression of magmatism on the Earth, whose origins are still poorly understood. Because magmatism is essentially the melting of convecting mantle, resolving the origins of large igneous provinces will considerably improve our understanding of the thermal, chemical, and dynamic states of the Earth's mantle in space and time.

On the theoretical side, he has focused and will continue to focus on modeling regional-scale transient mantle processes with the global perspective. Regional-scale convection models play the essential role in establishing the relation between deep mantle phenomena and surface geology. Such models are necessarily complex, and he has been employing basic physics approach to understand the complicated reality in a systematic manner, primarily by deriving various scaling laws in geological fluid mechanics.

DEREK BRIGGS JOINS GEOLOGY & GEOPHYSICS FACULTY

Derek Briggs joined the Department of Geology and Geophysics at Yale in January of 2003 as a Professor of Palaeontology. He received his bachelor's degree from Trinity College, Dublin (1972), and his Ph.D. from the University of Cambridge (1976), where he worked on the extraordinary fossils of the Cambrian Burgess Shale of British Columbia (see Stephen J. Gould's ***Wonderful Life***, Norton 1989). Following a period as a postdoctoral fellow in Cambridge, Briggs spent 8 years at the Geology Department of Goldsmiths' College, University of London. He moved to the University of Bristol in 1985 and was appointed Professor of Palaeontology in 1994, and was Head of the Department of Earth Sciences from 1997 to 2001. He was elected a Fellow of the Royal Society in 1999. He was awarded the Lyell Medal of the Geological Society of London and the Premio Capo d'Orlando (Italian prize for palaeontology) in 2000. In 2001 he was awarded the Royal Dublin Society/Irish Times Boyle Medal. He is currently President of the Palaeontological Association.

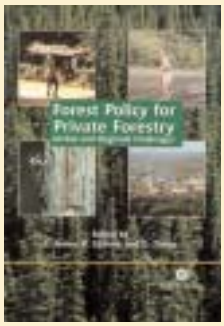
Briggs' research is on the preservation and evolutionary significance of exceptionally preserved fossil biotas. This involves a range of approaches from experimental work on the factors controlling decay and fossilization, through studies of early diagenetic mineralization and organic preservation, to fieldwork on a range of extraordinary fossil occurrences. *Palaeobiology II*, his new synthesis of palaeobiology (edited with P.R. Crowther), was published by Blackwell Science in 2001.

PUBLICATIONS

Geology and Health: Closing the Gap

This book, edited by H. Catherine W. Skinner, lecturer in Geology & Geophysics at Yale and jointly in the Department of Orthopedics and Rehabilitation, Yale Medical School, and Antony R. Berger of Victoria, British Columbia, Canada, was published in March 2003 by Oxford University Press, New York. An integrated collection of papers on the linkages from rocks, water and soils to human and animal health, it demonstrates how health and well-being can benefit through coordinated scientific and medical research. International examples on the health effects of atmospheric dust, coal, arsenic, fluorine, lead, mercury, and water-borne chemicals are documented and explored. They illustrate some of the many ways in which natural materials and processes can harm health, and how human-induced changes may have contributed unintentionally to disease and debilitation.

The Introduction and comments throughout the book by the editors highlight some of the progress toward integrating geoscientific and medical research in the interests of improved public health in many countries. Effective solutions to avoid natural hazards to health requires appreciation—especially by decision-makers—of the full scope of human interactions with the total environment. For example, when shallow tube wells were drilled in Bangladesh to provide non-contaminated groundwater, arsenic in the minerals in the aquifer was mobilized, creating an unforeseen, 'silent' hazard to health. What would have been a fine solution, created a serious public health crisis that now affects millions of people. To avoid further problems, the hydrological and chemical characteristics of any aquifers could be investigated and integrated, preventing recurrence of such a shocking travesty. Oversight by appropriate and responsible parties, especially government officials, must understand the need for integrated efforts. *Geology and Health* stresses the importance of cooperation between the earth, life and health sciences, as the most practical approach to better public health worldwide.



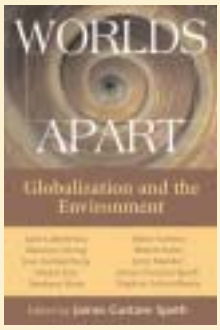
Forest Policy for Private Forestry: Global and Regional Challenges

Increasing concerns at the global, national and regional levels about the role of private forestry in enhancing forest sustainability are converging to provide new opportunities for refocusing forest policy debates, asserts *Forest Policy for Private Forestry: Global and Regional Challenges.*

"The book is important because it focuses on the environmental, economic and social aspects of forest sustainability, and the innovative approaches emerging to address these issues," said co-editor Benjamin Cashore, Assistant Professor of Sustainable Forestry Management and Chair of the Forest Certification Program at the School of Forestry & Environmental Studies (F&ES).

Recently published by CABI Publishing, *Forest Policy for Private Forestry* addresses key issues shaping the future of private forestry in four parts: the emergence of a new paradigm for public involvement in private forestry, the challenges of sustainability, forest certification programs, and experiences of countries from the Americas, Europe, Asia and Oceania.

In addition to Cashore, the editors of the 307-page book are Larry Teeter, director of Auburn University's Forest Policy Center, and Daowei Zhang, also at Auburn. To order a copy, call 212-481-7018 or visit www.cabi-publishing.org.

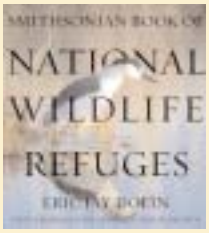


Worlds Apart: Globalization and the Environment

Worlds Apart: Globalization and the Environment presents a cohesive set of essays by leading thinkers on the subject of globalization, offering a thoughtful overview of the major environmental issues related to globalization. Framed by F&ES Dean James Gustave Speth's introduction and conclusion, essays include Jane Lubchenco's discussion of the scientific indicators of global environmental change, Robert Kates' examination of the prospect that our growing global interconnectedness could lead a transition to a more sustainable world and Vandana Shiva's impassioned plea for a new "living democracy" that counters the degrading and dehumanizing tendencies of the global economy.

Other contributors include Maurice Strong on the Rio Earth Summit and the future course of environmentalism, José Goldemberg on energy, Jerry Mander on the inherent destructiveness of the global economic system, Stephan Schmidheiny on the forestry industry and Daniel Esty and Maria Ivanova on global environmental governance.

Edited by Dean Speth, who founded the Natural Resources Defense Council and the World Resources Institute, the 192-page book, published by Island Press, brings together the most respected thinkers and actors on the world stage to offer a compelling set of perspectives and a solid introduction to the social and environmental dimensions of globalization. To order a copy, visit www.islandpress.org.



Smithsonian Book of National Wildlife Refuges

From the cypress swamps of Okefenokee to the marshes of San Francisco Bay and pristine remoteness of the Alaskan National Wildlife Refuge preserve, America's most treasured natural habitats have been protected as National Wildlife Refuges for 100 years. Initiated in 1903 when Theodore Roosevelt signed a proclamation that preserved Florida's Pelican Island as the first of 538 National Wildlife Refuges, they now occupy 95 million acres of the American landscape.

In his *Smithsonian Book of National Wildlife Refuges,* Yale School of Forestry & Environmental Studies graduate Eric Jay Dolin, M.E.M. '88, draws on the rich history of the refuges to reveal an interconnected story of people and nature. Dolin explains how the fledgling conservation movement found in Teddy Roosevelt a champion who initiated one of the greatest conservation movements the world has ever seen. The book, published in March to coincide with the 100th anniversary of the National Wildlife Refuge System, is accompanied by photographs by John and Karen Hollingsworth who as a team have photographed refuges for a variety of periodicals including *National Geographic* and *Field and Stream*.

The book is published by Smithsonian Institution Press. To order a copy, call 800-782-4612 or visit www.sipress.si.edu.

IN MEMORIAM

PROFESSOR OF HISTORY, ROBIN WINKS

Robin W. Winks, the Randolph W. Townsend Jr. Professor of History, died on April 7, 2003 in New Haven. Professor Winks, a noted scholar in a wide range of subjects including British imperial history, Canadian-American relations, comparative American history, conservation history and the theory and development of espionage, chaired the Department of History at Yale 1996-1999 and was master of Berkeley College 1977-1981.

Jon Butler, current chair of the History Department noted that Professor Winks was well-known for his unbounded energy, care for teaching, his aspirations for both Yale and History, and a scholarship incomparable in its range and depth.

Born in Indiana on December 5, 1930, he graduated magna cum laude and Phi Beta Kappa from the University of Colorado in 1952. As a Fulbright Scholar in New Zealand, he earned an M.A. in Maori studies from Victoria University. Returning to the University of Colorado, he earned a second M.A. in ethnography and went on to obtain his Ph.D. from the Johns Hopkins University in 1957 with a dissertation on Canadian and American relations.

Professor Winks was an enthusiastic supporter of, and adviser to the National Park Service, and a regular detective novel reviewer for the Boston Globe and The New Republic. He joined the Yale faculty in 1959 and is credited with enhancing the study of Canada at Yale and was instrumental in establishing environmental studies at the University.

Paul Kennedy, the J. Richardson Dilworth Professor of History, noted, "Robin was a man whose interests went far beyond the normal– the 'normal' of any distinguished scholar, I mean. He was one of the greatest scholars of British imperial history. He was a stunning scholar of the history of the U.S. intelligence community. He and former Yale historian Bill Cronon virtually invented environmental studies here at Yale."

Gustav Ranis, the Henry R. Luce Director of the Yale Center for International and Area Studies, noted, "Robin was deeply committed to enhancing Yale students' understanding of the world around us. In his wonderfully articulate, cultured voice, he was equally able to evoke precise images of empires past and conflicts present. One of his passions was Canadian Studies at Yale, of which he served for many years as chair. He was instrumental in the Canadian government's establishment of a visiting professorship at Yale and was forever active in this particular vineyard."

Professor Winks loved the outdoors and devoted much of his career to the study and protection of the world's natural resources. This interest led to his being the first person to visit every single one of the hundreds of units of the National Park System. He served as chair of the National Park System Advisory Board, and in 1988 won the Department of the Interior's Conservationist of the Year Award. In 1999, the National Parks Conservation Association awarded him its first gold medal for contributions to public education on behalf of the nation's national parks and proceeded to establish the prize as an annual honor known as the Robin W. Winks Award.

"I think Robin saw the historical importance of the national parks concept more clearly than almost anyone," said James (Gus) Speth, Dean of the School of Forestry & Environmental Studies. "His attachment to them was intellectual and also deeply passionate."

Professor Winks held visiting lectureships and conducted research at universities around the nation and the world, including in Canada, Great Britain, New Zealand, South Africa, Nigeria, Sierra Leone and the Middle East. He was the Vyvyan Harmsworth Visiting Professor of American History at Oxford University in 1999-2000 and the George Eastman Professor at Oxford 1992–1993.

Professor Winks is survived by his wife of 51 years, Avril (Flockton) Winks, a resident of Northford, Conn.; his daughter, Honor Winks of Alpharetta, Georgia; his son, Eliot Myles Winks of Pittsburgh, Pennsylvania; and two grandchildren, Avery Paul and Tessa Paul.

SOIL EXPERT GARTH VOIGT DIES; HELPED ESTABLISH ENVIRONMENTAL STUDIES AT YALE

Garth K. Voigt, the Margaret K. Musser Professor Emeritus of Forest Soils at the Yale School of Forestry & Environmental Studies (F&ES) died on Sept. 28, 2002 at Bozeman, Montana, where he lived since retiring from F&ES in 1989. Professor Voigt contributed to the important studies of nutrient cycling and developing the concept of soil as a biotic entity in which the living components were fully as important as the mineral constituents, and did extensive work on the effects of acid rain. He and also played a key role in the establishment of environmental studies at Yale in the 1970s.

Born in Wisconsin in 1923, Professor Voigt served in the Air Force in Europe during World War II. He received a B.S. in 1948 at the University of Wisconsin, and his doctorate in forest soil science in 1953 and then joined the University of Wisconsin faculty. He came to Yale in 1955, carrying on instruction and research in forest soils for the next 33 years and was named the first incumbent of the Musser chair in 1967. He was director of admissions and of graduate studies at F&ES from 1971 to1975, and served as acting dean of the School in 1970, 1975 to 1976 and in 1987.

His professional affiliations included membership in the American Association for the Advancement of Science. Many alumni recall him as a wise, pleasant mentor as well as a student of nature. Professor Voigt so loved fishing and the Northern Rockies that he retired there to concentrate on these pursuits. He is survived by Jane Wurster, his wife of 57 years; three children, Timothy Voigt, Valerie Olson and Jeffrey Voigt; and by five grandchildren. There was a memorial service at Bozeman on January 16, 2003, which would have been his 80th birthday.

Yale University Sponsors Summer Field Course in Mexico

For the past two years, students at Yale have had the opportunity to travel to the Mexican Jalisco Coast and gain an appreciation of endangered tropical habitats. During their visit, students spend ten days visiting diverse habitats like tropical deciduous, semi-deciduous, manzanillera forest, mangrove swamps, grassy wetlands (carrizal), and xerophilous scrub. Students then spend their remaining time applying what they have learned to a small independent field project. Many students choose to contribute to the ongoing grassroots Sea-turtle Conservation project developed in this region by Alejandro Peña de Niz and Theodora Pinou, while others use this time to develop their personal interests in the tropics. For a summary of student projects please visit the course website at http://pantheon.yale.edu/~tp36/fieldbiology.htm.

The Environmental Studies Program has been a strong supporter of this course, awarding a total of $30,000.00 in Fellowship monies over the past two years to help cover partial costs of this field experience to nine deserving undergraduate students. Many of the students participating in this program have gone on to study Exotic Medicine, Veterinary Science, Tropical Biology in Central America, Education in Latin America, Conservation Law and Policy, Botany and Zoology.

One of the highlights of this program is the strong bond that develops between the students and the local community. Students are first introduced to the Brigone family, who kindly hosts their four-week visit. This family is known best in the area for developing Palapa style residences and for their commitment to responsible sustainable development. Students also visit a ranch, The Hacienda Cuixmala, which is operated by the family of Mercedes Gargollo, in order to learn all about sustainable farming in this region. Here students learn how to milk cows, make cheese, and enjoy a breakfast filled with homemade breads, jams, fruits and yogurt. Another highlight of the trip is documenting sea turtle nests and participating in the release of baby sea turtles. This conservation program is in collaboration with efforts spearheaded by the University of Guadalajara through local biologists like Alejandro Peña de Niz and Paco Ramirez. Students are also introduced to long term "mark and recapture" studies for local crocodile populations. All crocodiles worldwide are recognized as endangered. Therefore, understanding survival patterns is critical for their continued existence.

Much time is spent with the family of Biologist Alejandro Peña de Niz whose members are natives of this area and devoted to preserving its beauty. During the first week Alejandro's wife Dulce helps students with their Spanish skills through structured cooking and dance lessons. During the day Alejandro shows students how to listen for threatened ground-nesting birds like the Tinamou, and how to cast mammal tracks for their later examination. In the evening he concentrates on showing them nesting sea turtles and foraging crocodiles. Students are then given opportunities to use these techniques to develop their own mini field project. By the third week students have gained enough information so they can safely spot, catch and identify the native wildlife. Another wonderful feature of this course is that students are able to utilize the resources available at the IBUNAM Estacion de Biologia at Chamela. Thanks to the generosity of the field station's Director and Entomologist, Dr. Ricardo Ayala, students have access to a laboratory, library, and specimens. Dr. Theodora Pinou works closely with Dr. Ayala and looks forward to strengthening their mutual interests in understanding the biodiversity of this region.

Top: Student Taylor Larson amazed by the height of the trees in the tropical forest.

Bottom: Student Laura Smolowe holds sea turtle hatchlings.

STUDENT NEWS


1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3


4

Through the efforts of this course and the acquisition of appropriate permits and loans students are able to procure specimens and bring them back to the Peabody Museum of Natural History where they can continue their independent study on these specimens. Projects such as these have contributed to the development of a photo gallery documentation of turtle epibionts. Invertebrate Collections Manager Eric Lazo-Wasem, in partnership with Theodora Pinou, has played an important role in training undergraduate students in invertebrate systematics and specimen curation, and in developing the photo gallery at www.yale.edu/inverts/imagegall/turtlepix.html.

Two student based research papers on sea turtle nesting and turtle epibionts are currently under review. Theodora Pinou and Eric Lazo-Wasem together with Alejandro Peña de Niz and several UNAM scientists look forward to expanding this work to include future student exchanges and International based research collaborations.

For more information on this program please contact Dr. Theodora Pinou at 432-5028 or visit her website at http://pantheon.yale.edu/~tp36/

1 Alejandro Peña teaches new students to listen for the Tinamou.
2 Watching sea turtle hatchlings acclimate to water.
3 Snake Hunting in Mexico.
4 Lunch with Dr. Ricardo Ayala, Director of the Chamela Field Station.

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