

CASCADE

UO COLLEGE OF ARTS AND SCIENCES

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UNIVERSITY
OF OREGON

SPRING 2010

GUARDIANS OF LANGUAGE

Students race to preserve local languages
before they disappear forever



Of the 49 departments and programs within CAS, more than ten are primarily international in scope, and dozens more have an international component.



Photo: Jack Liu

You have probably noticed that each issue of *Cascade* features articles with an international angle. Recent issues have showcased faculty specializing in health in Africa, women's work in China, politics in Pakistan and the practices of Islam, to name but a few. As you browse this issue, you will find a similar global reach.

This is not the result of a deliberate plan to highlight a few unique international programs in the college. Rather, it is evidence of how thoroughly globalized the College of Arts and Sciences has become. CAS goes both deep and wide in terms of conducting original research on a global scale and does a phenomenal job extending that expertise by teaching students in the classroom.

Of the 49 departments and programs within CAS, more than ten are primarily international in scope, including our International Studies Department (formerly a program) that is home to more than 150 majors. From the newest (African Studies and Latin American Studies) to the oldest and best-established (Romance Languages, East Asian Languages and Literatures), these departments together account for more than 1,000 undergraduates majoring in internationally focused disciplines. And many thousands of additional UO students take classes in these departments during any given term.

Dozens of additional CAS majors also have a strong international component — like anthropology, comparative literature, linguistics and the new cinema studies major — and these of course touch even more students. In fact, global awareness and literacy are part of a primary strand that pulls through almost every discipline in CAS. Even in the sciences, cross-cultural awareness and communications skills are increasingly important as UO researchers

and science students take part in international projects and initiatives. Furthering our international goals, about one in five CAS faculty hail from countries outside the U.S.

At a time when some universities are scaling back language instruction in response to economic constraints, our commitment to language study is stronger than ever. CAS now offers 20 languages that students can study for their language requirement — a list that encompasses the expected (French, Spanish) and the perhaps unexpected (Anglo Saxon, Swahili). We have one of the largest undergraduate programs in German and one of the oldest Japanese language programs in the nation. One of our newest offerings — Arabic — will soon be housed in the Department of Religious Studies. We believe proficiency in a second or even a third language is not a luxury in today's global environment — it's increasingly part of the total package of preparedness for life in the 21st century.

Two of the "big ideas" approved by UO as part of its academic planning process focus on internationalizing both research and teaching: "Global Oregon" and "The Americas in a Globalizing World." These interdisciplinary efforts, instigated by CAS faculty and supported by CAS leadership, are geared toward making research and general education at UO even more international than they are now. These efforts will be supported by the many vibrant research institutes and centers on campus that were specifically established to bring together CAS faculty to explore international, multicultural issues in depth. We're very intentional about promoting a rich interdisciplinary environment and offering a unique opportunity in the state of Oregon, for faculty and students alike.

Scott Coltrane is the Tykeson Dean of Arts and Sciences.

CASCADE

UO COLLEGE OF ARTS AND SCIENCES

Cascade is the biannual alumni magazine for the UO College of Arts and Sciences.

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Where Were You When Mt. St. Helens Blew?

Q:

It's been 30 years since Mt. St. Helens erupted — what's been the long-term impact for

both volcano research and for the cultural memory of the Northwest?

A:

My research has taken me to places all over the world, from New Zealand to

Antarctica, but Mt. St. Helens is a volcano I keep coming back to because I know it so intimately. Whenever we have a new idea or a new technique, Mt. St. Helens is a convenient place to test it out because the eruption made this volcano such a familiar and well-documented system.

But it wasn't until I began to teach at the UO, several years after the eruption, that I realized how meaningful it was to Northwesterners. I was surprised that any time I mentioned to someone that I was a volcanologist, they'd immediately mention Mt. St. Helens and have a story about where they were and what they were doing when it erupted. It became clear to me that it was one of those events that tied the region together with a common memory, the same way my generation feels about the Kennedy assassination or when Neil Armstrong walked on the moon.

Oral Traditions and Traumatic Events

In the last five or six years, I've become more interested in how ancient cultures have woven volcanoes and eruptions into their oral traditions and cultural histories. People back then weren't as mobile or as insulated from the landscape as we are today, and they clearly had stronger memories of environmental disasters. The Klamath,

for example, still have stories about eruptions that are very stylized but very specific about the sequence of events, which seem to make sense to us studying the evidence thousands of years later.

The tribes around Mt. Rainier, a mountain notorious for mudslides, had stories about the peaks being inhabited by giants that would throw rocks at people who trespassed on their land. So they stayed away from the mountains, and if you think about it, that's a great method of land use planning.

I think there are similarities between those native oral traditions and what Mt. St. Helens has inspired in our own culture, everything from paintings to country ballads (see page 28). It's part of how we deal with the trauma of these events.

But it's still something that we're struggling with in modern times. We have problems dealing with and preparing for natural disasters because we're lacking long-term cultural memory of traumatic events, whether they are floods, landslides or hurricanes. But the 1980 eruption of Mt. St. Helens has the potential to occupy a large space in our cultural memory.

Mt. St. Helens already occupies a very large space in terms of scientific knowledge. We know so much about it that it's now a place we go to test new ideas and methods. In that way, it serves the same role as a model organism does for biologists.

Monumental Scientific Importance

Progress in the field of volcanology has always been inextricably tied to historic, cataclysmic eruptions. The Mt. St. Helens eruption was monumentally important because it was the first time an explosive eruption took place in a country with the means and the manpower to fully

document and record it as it was happening. This was effectively the dawn of modern quantitative monitoring of explosive volcanoes. Previously, most of our techniques had been developed in Hawaii where the volcanoes have large lava flows that ooze slowly over long periods of time.

The signature event of the Mt. St. Helens eruption was the collapse of the north flank of the volcano (what's called a debris avalanche) and then the lateral blast from the north. We knew about this type of eruption but thought it was pretty uncommon. But when we saw how the debris avalanche resulted in this very distinctive hummocky landscape, it was as if light bulbs went off in all of our heads because it looked familiar. Personally, I had seen similar deposits while doing my graduate work in New Zealand, and you can see



Ten miles from Mt. St. Helens, ash from the eruption buried photographer Reid Blackburn's car. Photos courtesy U.S. Geological Survey.

the same sort of terrain off Interstate 5 just west of Mount Shasta. Around the world, we were all saying, "Oh, that's what those weird deposits are."

Previous to that, we had a narrow vision of how volcanoes evolved, either by blowing their top off or by gradually growing through consistent, slow lava flows. But we've since realized the wholesale collapse of one side is an important part of a volcano's history. It's a different kind of hazard and different kind of process, and we have to be conscious of that because its impact is so instantaneous.

Faculty expert: Kathy Cashman is a volcanologist and head of the UO Department of Geological Sciences.

Did Not See That Coming

The eruption was also very sobering because there was no indication on the morning of May 18, 1980, that it was coming. Previously the most common way to predict activity was seismic monitoring, and this volcano was very quiet seismically before the eruption.

The fact that the peak was docile before such an explosive event was a stark reminder of just how unpredictable volcanoes can be. Even today, as much as we can measure with GPS and satellite imagery, there's still a lot going on beneath the crust that we can't observe. Volcanoes thus remain incredibly temperamental and tempestuous creatures, even to us who know them best.

We have developed some useful tools, however. The depth to which we were able to study the eruption and its aftermath led to a number of pioneering techniques in monitoring and prediction, and it created a new framework of questions for us to explore and try to answer. The people who worked at Mt. St. Helens developed prediction models that were highly successful in helping to control later 1980s volcano crises in Japan and the Philippines.

Like many of my colleagues, the eruption really changed the course of my career. I've worked on projects around the world, but I've continued working on topics related to Mt. St. Helens. Because of what it's meant to my field, I'm just always going to be drawn back there. ■

MARKING THE ANNIVERSARY

Kathy Cashman will deliver a talk commemorating the 30th anniversary of the Mt. St. Helens eruption.

Where: Knight Law Center, Room 175

When: Tuesday, May 4, 7 p.m. Free and open to the public. For details, visit natural-history.uoregon.edu.

Got your own tale to tell? Where were you when Mt. St. Helens blew? Share your story online (see page 28).



Guardians



Top: Graduate students Roger Jacob (left), Joana Jansen and Greg Sutterliect are dedicated to preserving Sahaptin, the native language of the Yakama tribe. Photo: Jack Liu

Below: At the age of 88, Yakama elder Virginia Beavert is pursuing a doctorate in linguistics and is a treasured mentor to NILI students. She is one of 20 remaining fluent speakers of Sahaptin. Photo: Sara Gettys/Yakima Herald-Republic

Background text: From "A Sketch of Northern Sahaptin Grammar" by Melville Jacobs (University of Washington, 1931).

of Language

By Marc Dadigan

Students at the Northwest Indian Language Institute race to preserve local languages before they disappear forever

Greg Sutterlict grew up in Lacey, Wash., on the other side of the mountains from his tribe's reservation, but the barrier between his immediate family and their Yakama traditions was as much emotional as it was physical.

In boarding school, like many of his peers, Sutterlict's father had been taught that the old ways — whether it was singing, attending pow-wows or spending time in the sweat lodge — were evil. His father also never learned the Yakama's tribal language, Sahaptin, and Sutterlict himself picked up only a few words here and there.

Sutterlict's great-grandfather spoke the language, but it wasn't until later in life that he explained why he never passed it on to the younger generations.

"He said, 'You know, they really tortured us at the boarding schools for speaking the language, and that's why I never wanted you to learn. Now I wish I would have taught you, but it's too late,'" recalled Sutterlict, who was a teenager at the time.

But it wasn't too late for Sutterlict. Today, he's among a dedicated group of UO students racing against the clock to preserve and revitalize tribal languages before they — and the culture that is embedded within them — disappear forever.

A Window Into The Old Ways

These restoration efforts are centralized at the UO's Northwest Indian Language Institute (NILI), which provides linguistic and instructional training for teachers of regional tribal languages and helps to develop curricula for language instruction at local schools. Formed in 1997 to answer tribal requests for teacher training in language instruction, NILI also consults with several tribes that are developing

their own language restoration programs. Significantly, NILI also collaborates with the Oregon Department of Education to strengthen policies relative to Native American education.

While Congress ostensibly made a national commitment to language preservation with the passage of the 1990 Native American Languages Act, funding has been limited, says Janne Underriner, director of NILI.

Consider the English word
antidisestablishmentarianism.

"Try unpacking that word, and then
imagine having to do that for every word — that's
a little bit what it's like to learn Sahaptin."

Greg Sutterlict



This makes programs like NILI exceedingly rare. "UO is one of a handful of universities that has such a program," said Underriner, who credits NILI's continuation to financial support from CAS, as well as the UO graduate school, the Office of Institutional Equity and Diversity and the Office of the Vice President for Research and Graduate Studies.

Graduate students affiliated with NILI are working on a multitude of invaluable tasks — from creating classroom materials to teaching undergraduate courses and developing grammars and written tools for these traditionally oral native languages.

But most of all, they come to learn. Immersing themselves in their language,

they say, is like opening a window to the old ways, to the culture, traditions and philosophies that the forces of assimilation have tried to shroud and hide from them.

"Language is the foundation of culture," said Roger Jacob, a graduate student who studies Sahaptin with Sutterlict. "The less of the language you have, the more your culture becomes like the dominant culture. That was the point of boarding schools."

The Boarding School Effect

Traditionally, native languages were passed down not in a formal classroom setting but in the home by parents and grandparents. However, this transmission of language was strangled by the Indian boarding schools, beginning in the 19th century.

The founder of the first school, Lt. Henry Pratt, believed the only way Native Americans could survive in modern times was by complete assimilation into white culture. "Kill the Indian, Save the Man" was his motto as the schools systemically wrenched children from their families, cut their hair, stripped them of their tribal dress and insisted on their adoption of both Christianity and English. Students were



Sheryl Steinruck (left) of the Smith River Rancheria tribe, and Marnie Atkins of the Wiyot tribe, came from northern California to study languages that are largely without fluent elders.

regularly beaten or severely punished for speaking their tribal language.

Largely due to the boarding school effect, researchers in the late 1990s estimated that close to 85 percent of native languages were “moribund” or unlikely to persist. The Northwest once boasted a rich diversity of native tongues (Oregon was once home to more than 30) but now many tribes have precious few elders, if any at all, who are fluent.

The most optimistic of estimates peg the number of living Sahaptin speakers at about 125. And some other languages, such as Klamath, have no remaining elders or other speakers who learned the language as their first language.

In 2001 the Oregon legislature passed a bill providing an endorsement for native language teachers and declaring that teaching American Indian children their traditional language is an essential part of their education. This is where NILI intersects with public policy by building the foundation for native language programs at schools across the Northwest.

But even as more tribes gain a sense of urgency about preserving their language, the challenges they face become increasingly daunting. Those from tribes with fluent elders have to work to preserve their knowledge before those elders pass away. Others who have no living fluent speakers have to resurrect their language from grammars, recordings and other artifacts.

Whatever the status of their language, their trek is largely uphill.

The Gift of an Elder

The Sahaptin program at NILI is blessed to have on campus one of 20 remaining fluent speakers (out of 125 speakers total). The 88-year-old Virginia Beavert, a Yakama elder, returned to school in her 80s to earn her doctorate in linguistics. She’s also spearheading the efforts to preserve Sahaptin by mentoring graduate students like Sutterlict and Jacob, teaching undergraduate classes and supervising the creation of a Sahaptin grammar.

Born in a bear cave in Oregon’s blue mountains, when her parents were caught

in a storm, Beavert grew up learning Klikitat, Yakama and Umatilla — all dialects of Sahaptin — from various family members. Beavert has said she was first encouraged to study linguistics in the 1970s by her stepfather, who at the time was working on a Sahaptin dictionary. But she had already been to college and served in the Army and wasn’t interested in returning to school — not yet. However, she eventually was spurred to resume her studies as she noticed the language starting to disappear.

The same was true for her student, Roger Jacob. Unlike Sutterlict, Jacob grew up on the Yakama reservation and members of his family spoke the language, but even then no one chose to teach him. In the late 1990s, he became motivated to learn as he noticed that communities where he used to hear the language spoken regularly were now predominantly English speaking.

“I thought, wow, this language is disappearing,” he said. “We spend a lot of energy protecting the spotted owl and the steelhead, but we need to think of Sahaptin in the same way: an endangered resource.”

Once the last fluent speaker of a language is gone, the task becomes that much more difficult for language learners. This is why Beavert is such a treasured resource to her students. Without her, they might be able to listen to recordings or study written materials (an approach taken by other NILI students), but those methods will never capture the magic of conversation, which requires a unique kind of intangible fluency.

“Virginia not only has an understanding of linguistics but she’s also a wonderful teacher,” said Jacob. “She’s our text, she’s our library.”

“I’ll never be as fluent as Virginia — every day she says something that throws me for a loop,” he added. “This is a lifetime endeavor.”

Packed With Meaning

Sahaptin, like other native languages, has a structure that’s extremely different from English. Called a polysynthetic language, it relies on suffixes, prefixes and different morphemes to add meaning that would be expressed in English with whole, discrete words. It’s normal for a single word in Sahaptin to translate into a full sentence in English.

Sutterlicht offers for comparison the English word *antidisestablishmentarianism*, the second longest word in the English language, saddled with prefixes and suffixes.



“There’s something really compelling about these languages in which a single word can express so many thoughts.”

Joana Jansen

“Try unpacking that word, and then imagine having to do that for every word,” Sutterlicht said. “That’s a little bit what it’s like to learn Sahaptin.”

To help produce classroom materials for the instruction of Sahaptin, Beavert is working with doctoral student Joana Jansen to create a grammar.

“As a linguist, there’s something really compelling about these languages in which a single word can express so many thoughts,” Jansen said.

Using a Sahaptin alphabet created in the 1970s, Jansen works methodically with transcriptions and texts to build a database from which she can identify patterns that will become grammar rules. The next step is to distill what she discovers into an organized ladder of classroom materials.

In teaching English, “you can’t go into a Head Start class or even a high school class and just start listing all the different verb tenses,” she said. No matter what

the language, “there has to be a sequence that helps the students build on what they’ve learned.”

Distilling Sahaptin or other native tongues into a digestible form is not the only difficulty. Often there are concepts and philosophies threaded into these languages that aren’t present in English. While this is a challenge for NILI’s students, it is also something quite alluring, unlocking part of their culture that had previously been a mystery to them.

“Take the word for salmon,” said Jacob. “There’s the regular word for salmon, and there’s a different name for when you’re paying respect to the fish and eating it.”

“If we lose the ability to express that, we won’t be Yakama any more. Salmon will just be a fish we see at Safeway.”

Apprentices Without a Master

Other students at NILI don’t have the luxury of a resident master like Beavert, but they are working diligently nonetheless to revive their tribal languages. Marnie Atkins, of the Wiyot tribe, and Sheryl Steinruck of the Smith River Rancheria tribe, came from northern California to study languages that are largely without fluent elders.

The Wiyot language hasn’t had a fluent speaker since the 1950s, but don’t tell Atkins it’s extinct. She cringes at the word and prefers to say it’s dormant, waiting to be woken from its slumber. Her painstaking task is to resurrect Wiyot using old written grammars and recordings, something she says is made easier by the linguistic training she’s received at NILI.

As a child, she would notice other Native

“There’s the regular word for salmon, and there’s a different name for when you’re paying respect to the fish and eating it. If we lose the ability to express that, we won’t be Yakama any more. Salmon will just be a fish we see at Safeway.”

Roger Jacob



American students spouting phrases of their tribal languages on the playground, and would wonder what Wiyot sounded like. She later became the tribe's first official language preservation officer and started attending conferences, which inspired her to get more formal training.

"I came here to get the tools I need," she said. "We need to rely on ourselves when it comes to saving our languages. We're the only ones who'll be in it for the long-term."

Both Atkins and Steinruck are part of a master's program in language specialization teaching. Steinruck was constantly told by her parents that it was her duty to "learn and teach, learn and teach" the traditional culture, and she had originally intended to be a teacher before life, children and myriad other careers sidetracked her.

Despite some trepidation because she hadn't been in school since the 1970s, she decided to get formal training to become a better teacher of her tribal language, Tolowa. She considers herself a lower level intermediate speaker, but she's working to improve her skills with the help of a dictionary and also support from members of the Siletz tribe, whose language is very similar.

While organized, tribal-based revitalization efforts for Tolowa have been underway since 1968, few truly fluent speakers remain. Steinruck believes taking a different approach will be key.

"We've tried for years to use writing and reading, and it hasn't worked," she said. "I want to focus more on speaking and listening. That's how we're going to get more of us to really learn it."

"We need to rely on ourselves
when it comes to saving our languages.
We're the only ones who'll
be in it for the long-term."
Marnie Atkins



"I want to teach them how to catch a
fish, how to can it and how to
cook it; I want to build a dance
house and teach them how to
dance – all while using the language."
Sheryl Steinruck

She hopes to eventually build a curriculum that fits all types of language learners that can be blended with a holistic program in the traditional ways.

"I want to teach them how to catch a fish, how to can it and how to cook it," she said. "I want to build a dance house and teach them how to dance, all while using the language. The language needs to be in our cultural realm and out of the political realm."

Subtle Forms of Assimilation

Present day learners and language preservers also struggle with questions that arise from trying to adapt the language to modern times. Will the process of producing a written translation from a traditionally oral language sap it of some of its potency?

Would that in fact be a subtle form of assimilation? There are varying opinions among different tribes about this, but no matter what their point of view, their options can be limited because their languages are so close to extinction.

Another complexity is creating words for modernities that didn't exist in the late 19th century when the languages were widely

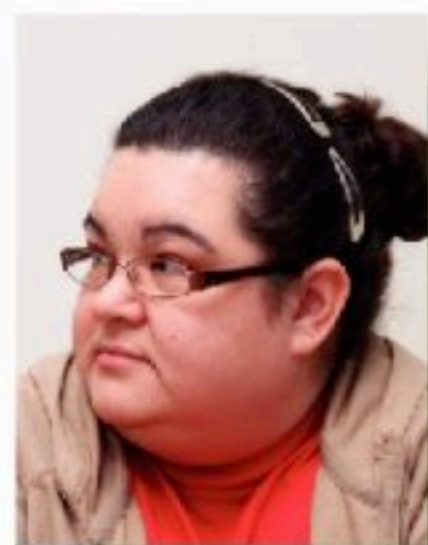
spoken. To refer to something like a video game, the English word might be used. In other instances, a word from the native language is adopted. The word for cell phone in Sahaptin, for example, refers to people speaking across great distance and through the air. But does that word then continue to contain both the original and modern meanings? Or does the modern meaning win out?

"What's more likely — that we'll be yelling at each other across a field or that we'll be talking on cell phones?" Sutterliet asked. "I can see people forgetting what the original meaning was."

While it might be impossible to fully resuscitate some of these languages, there is hope that, as more and more young Indian students are drawn to learning their native languages, the boarding school stigma that infected Sutterliet's father is finally starting to fade. In support of the larger movement toward language preservation, NILI will be hosting the 17th Annual Stabilizing Indigenous Languages Symposium this summer, bringing together native community members, linguists and activists from around the country to encourage collaboration on preserving endangered languages.

"When we're done here, we'll go back to the reservation and share what we've learned," Jacob said. "But I hope someone will replace us here; NILI has a great model and I hope it can continue to help Indians and non-Indians alike save these languages." ■

For more information visit
uoregon.edu/~nwili



Deer Hides and Databases

Digitizing ancient languages for the modern age

By Anne Conaway

Compared with our sleek new laptops and touch-screen PDAs, writing on deer hides with hand-ground pigments is almost unimaginable. Yet this is precisely how ancient civilizations like the Aztecs and Mayas documented their lives, replete with sovereign genealogies and stories of interethnic battles.

While many of these “documents” have endured over time, they are delicate artifacts, and their fragile state — along with a number of cultural factors — means that many of the Mesoamerican languages represented in these artifacts could soon disappear.

“Sadly, the use of indigenous languages is declining very rapidly for a number of reasons, largely because many people leave their communities to go to the big cities to look for jobs,” said Stephanie Wood, director of the UO Wired Humanities Projects. “And in the large cities Spanish is being spoken.”

Add that to the large migration of indigenous speakers to countries like the U.S., and the decline only becomes more rapid.

Enter the Wired Humanities Projects. The WHP is a pioneering, online consortium of international scholars networking together, all with the goal of better understanding, preserving and reinvigorating written and pictorial languages in danger of being lost — even to their native speakers.

Modern technologies like the web have helped offset this decline by providing real-time spaces where scholars can communicate and conduct research much more efficiently than in decades past — decades dominated by occasionally meeting at conferences and waiting for scholarly journal articles to be published.

The WHP is such a real-time space, dedicated to the past, present and future of these languages and cultures.

One of the WHP’s primary research endeavors is the Mapas Project. The word “mapa” was loosely used to mean Mesoamerican pictorials created during

the early post-Columbian period, after the Spanish arrived. Mesoamerica is generally understood as the geographical area reaching from central Mexico down to the middle of Central America.

Rewriting the History of Colonization

While most mapas depict landscapes, many scholars believe they were not used solely for cartographic purposes. Rather, they also represented a system of writing, and part of their significance is that the stories they tell can be quite different from those told by Spanish-language sources. In fact, the pictorials have the potential to recreate the historical record.

There are only a handful of these treasures from the pre-Columbian period, but researchers have found hundreds of pictorial manuscripts from the colonial 16th -18th centuries. They suspect the number of manuscripts could rise into the thousands, making it the largest collection of pictorial documentation in the native Americas.

Many of these pictorial manuscripts feature the struggles common to colonization — competition for scarce resources such as land and water, resistance to the clergy’s desire for religious reformation and the deleterious effects of increasing European demand for labor, goods and taxation.

The Mapas Project is a means to preserve these histories through modern technological tools. As a digital repository for Mesoamerican pictorials, it provides access for researchers across the humanities and social sciences who wish to unpack the mysteries of these manuscripts.

For instance, scholars funded by the UO Center for the Study of Women in Society (CSWS) have collaborated with Wood to take a closer look at women’s status and roles in Mesoamerica. While male-authored textual manuscripts sometimes overlook women, pictorial manuscripts frequently include depictions of women. Having access to the latter helps researchers analyze,





among other things, the roles of indigenous women before and after colonization.

Other researchers have used the pictorials to explore topics such as territorial disputes, uprisings over diminishing resources and changing land use and agricultural practices, such as grafting European fruits onto native fruit trees.

Digitizing the Decayed

So how does the WHP rescue such manuscripts — many lying on dirt floors in abandoned, insect- and rodent-inhabited dwellings for hundreds of years — and bring them back to a new digitized life?

Through partnerships. The WHP works with Mexican and European research institutes and archives as well as private collectors and public repositories in the U.S., like the Library of Congress. These partnerships allow the WHP to first gain access to the manuscripts and then receive permission to eventually republish them digitally online for free, a necessity for scholars on shoestring budgets.

From there, WHP staff digitally photograph the manuscripts, enhance them in programs such as Photoshop, atomize them into their fine details and then feed them into the Distance Research Environment (DRE) database, a core technological innovation at WHP. WHP founder Judith Musick was integral in the creation of the DRE.

Using this real-time, interactive environment, scholars can work together in exploring the meaning of manuscripts or offer completely new interpretations.

According to Wood, the study of endangered indigenous languages and manuscripts increased dramatically in the 1970s and has been growing ever since. With the introduction of the WHP and other consortia of this sort, researcher productivity has skyrocketed.

Indigenous Dictionaries

Another unique WHP undertaking involves creating indigenous Mesoamerican language dictionaries.

The dictionaries not only help researchers decipher ancient manuscripts but also

supply indigenous speakers with a means to better understand and utilize their native languages. As with English-language resources such as Merriam Webster or Reference.com, the dictionaries serve the same core purpose — conserving and invigorating a culture’s verbal expressions.

The Nahuatl Dictionary developed by the WHP is based upon a language of the Uto-Aztecan family, with speakers of this language family ranging geographically from Guatemala to the U.S. West. The dictionary takes the form of a searchable, online database with interfaces in Nahuatl, Spanish and English.

Its online orientation allows scholars the world over to utilize the dictionaries in their research. And, as the first-ever Nahuatl-to-Nahuatl dictionary, it also serves the needs of indigenous speakers by allowing them to look up the definition of a Nahuatl word, as well as usage examples, in the native language — just as we look to dictionaries in English for an English word’s definition and usage.

Additionally, the WHP publishes a limited number of PDF copies for distribution to indigenous speakers, particularly to children who are in school. Doing so helps cultivate usage of the language at the written level. In Nahuatl, one might say, *Huan queuhquinon quinpalehuiz macehualmeh ma quitequihuican achiyoc tlahcuiloliztli tlen nahuatl* — the precise translation of which is: “In that way, it will help (indigenous) people use Nahuatl writing more.”

The WHP also is working on a Mixtec Dictionary. The Mixtecs lived in the hilly regions of northwestern Oaxaca, Mexico, during the pre-Columbian period. Afterward, they moved into nearby valleys. In written form, Mixtec is a combination of words and pictures; it is currently the spoken language of thousands.

Dictionaries in Mayan, P’urhépecha (spoken primarily in the highlands of Michoacán, Mexico), and Zapotec (spoken primarily in Mexico’s southwestern-central highlands region) are also in the pipeline.

The Zapotecs are just one group of

Mesoamericans that have begun migrating to the U.S. in large numbers, making it particularly important for such dictionaries to be available to Zapotec individuals in the U.S. as well as in their native region.

“The Hispanic population in the U.S. is huge,” said Wood. “Understanding their roots and heritage is important to them. It’s also important that schoolteachers in the U.S. have this information to properly teach their students.” The dictionaries help fill these needs.

Teacher Prep

Schoolteachers, like researchers or anyone else with an interest, will be able to access the dictionaries online, for free. They will also be able to download and print PDF files as references when working with students who speak indigenous languages like Zapotec.

WHP faculty have also created online collections of material (called Digital Teaching Units — also a brainchild of Judith Musick), so that teachers may supplement their course material with image galleries that can be mined for electronic slide presentations or clips from films that can be useful for sparking class discussions. Teachers can also utilize musical pieces in both audio format and visual scans of sheet music. Some of the topics include “Women in Mesoamerica” and “The Virgin of Guadalupe: From Criolla to Guerrillera.”

Teachers are also supported by another WHP endeavor — the Historical Geography project, which digitizes maps for the study of the “Age of Exploration” in the Americas. Scholars working on this project have taken a unique interest in Mesoamerican maps, collaborating with those engaged in the ongoing development of the Mapas Project.

In all, thousands of scholars and students are utilizing WHP resources — discovering the richness and heritage of ancient languages and cultures, investigating new interpretations of the past and preserving ways of life and meaning embedded in those languages. ■



From the War Zone to Fargo

Culture trumps race as refugees integrate into a Midwestern town

By Marc Dadigan

At a certain glass factory in Fargo, North Dakota, more than half the workers are Sudanese, Bosnians, Cambodians and other refugees from around the world. They work and earn their wages side-by-side, learning each other's languages, sharing their culture and forming a living embodiment of the melting pot.

For UO anthropology doctoral student Jen Erickson, scenes like this are utterly fascinating, especially since they didn't exist in Fargo up until 15 to 20 years ago when streams of Bosnian refugees and later Sudanese started settling there to escape strife in their war-torn homelands. Whereas refugees had long been settling in so-called "gateway cities" such as New York, Los Angeles or Minneapolis, Erickson says more small towns have become refugee destinations since the early 90s.

"In bigger cities they can kind of fade away into the background, but when a Sudanese walks down the street in Fargo, people notice. That's why I wanted to do my work in a smaller town," she said. "The impact of these refugees is so much bigger."

Gripping Tales of Survival

A native of small-town Minnesota herself, Erickson spent the 2006-2007 academic year immersing herself among two completely disparate groups of refugees in Fargo: the Bosnians, many of whom were Roma, and the Sudanese, including several of the Lost Boys who've gained fame around the world for their gripping tales of survival. Her research focused on how the two populations navigated the strange cultural terrain of their new home and how Fargo, a town that had almost always been predominantly white and Christian, tried to absorb them.

"I found that culture trumped race," she said. "The Bosnians are a more insular people and less engaged with the community. In contrast, the Sudanese place a high value on education, and they're extremely open about their stories and grateful to be in Fargo. They fit better with the local people's idea of good citizenship."

Her dissertation, which she's currently drafting, is a voluminous comparative study, exploring not only how two distinct cultures acclimated differently but also how they were aided by private and public service agencies.

A Worthy Citizen

At the heart of the study is the question of what it means to be a worthy citizen and how that dovetails with assimilation and issues of cultural repression.

The example Erickson uses to demonstrate this complicated cultural tango is that of a tireless volunteer she knew in Fargo. Dedicated and caring, she was on a personal crusade to help the Lost Boys become economically self-sufficient, a pillar of the American (and Fargo) sense of good citizenship.

She would help them at their homes and take them places, Erickson said, but whenever she would see them she would insist that they speak only English.

"Her heart was in the right place, and the Lost Boys would have been in trouble without volunteers like her," Erickson said. "But, you know, telling them to speak English in their own house, insisting on this sense of having to assimilate as quickly as possible, that's a form of



Joseph Makeer, a Sudanese Lost Boy, came to Fargo in 2003 as a refugee. He has since set down roots in the area, started a family and earned a degree from North Dakota State University.

Photo by Deb Dawson, whose film "African Soul, American Heart" documents how Makeer survived against all odds and dreams of helping the orphaned children in his village in South Sudan.

cultural disrespect."

Erickson made the nearly heretical decision to do her anthropological work in her own backyard rather than travel overseas like many of her colleagues.

"Part of the reason I chose to work in Fargo is because I want to challenge that paradigm of anthropologists traveling to do fieldwork," she said. "With globalization and immigration, the people that anthropologists traditionally worked with aren't living in small, faraway isolated enclaves; they're living among us. They are us."

To collect data about the interactions among refugees and social services in Fargo, Erickson conducted more than 60 interviews, about 80 hours total, with Sudanese, Bosnian and Bosnian Roma refugees as well as volunteers, workers at the resettlement agency and at the county welfare office.

About 95 percent of the local social workers were white, Christian women whereas many of the resettlement workers



were former refugees. In general, Erickson says, the type of citizenship that was being promulgated by the workers was based on economic self-sufficiency, religious piety and giving back to the community.

And They're Nice

It was far easier for the Sudanese to earn local acceptance because many of them are Christian. Several already spoke English before arriving and, though they arrived with fewer marketable skills than Bosnians, they've shown a dedicated work ethic and passion for education.

"And they're nice, and that means a lot in the Midwest," Erickson said with a laugh. That doesn't mean the Sudanese don't also struggle. While some forge birth certificates so they can earn a high school diploma, many are unable to get access to college for financial and academic reasons, an unending source of frustration for them. And there are tensions within the community because the Lost Boys are very open about sharing their tragic stories of survival with local groups, which means they often get more attention and care than other Sudanese. This causes some bitterness and resentment.

"But overall they're so grateful to be here, and they love it because it's safe and quiet and there's a sense of security," Erickson said. "At the same time, they don't like to talk about certain issues like racism. To them, the racism they deal with here isn't a problem because it can't compare to what they faced in Sudan."

Any issue they face here in America can

be downplayed by simply saying it was much worse in Sudan, she says.

The non-Roma Bosnians are the most successful of the refugees, Erickson says, in large part because they came from an industrialized country and had more marketable skills upon their arrival. But they're not as inviting and eager to intermingle as the Sudanese.

The Roma, however, have traditionally placed the highest importance on marriage and family as a way to sustain their culture, and thus many of their children marry young and drop out of high school. Historically, they're also often distrustful of government agencies, such as schools, which can decrease their access to vital rights and social services.

"If you're a refugee who's not overtly grateful, you're seen as a less worthy citizen, you have less clout, less respect and less access to services in general," Erickson said. "The welfare workers are kind of at their wit's end with the Roma."

Activist Anthropologist

Erickson considers herself an activist anthropologist, which means she strives to design her research to be helpful to the people she's studying. Yet with so many moving parts in her Fargo project, it would be almost impossible to please everyone no matter what conclusions or recommendations she makes.

At the very least, it's her hope that she can serve as a cultural translator, someone who can help to untangle the cultural web of America's increasingly diverse and exotic small towns.

"It is like translating a language," she said. "You can't just do it word for word, using a dictionary. There's an art to it, being able to explain the particular traits of a culture so other people can understand."

This was a mission that began for Erickson, surprisingly enough, with a rejection letter from the Peace Corps, which wasn't willing to insure her because of diabetes. Determined to live abroad and learn a language, she eventually found a non-governmental organization that sent her to

Bosnia to work with women who had been victims of violence during the war. She later got a job working with Bosnians at a refugee resettlement agency in Sioux Falls, South Dakota in 2001, around the same time the Lost Boys first began arriving.

"The more I learned about the Sudanese, the more I was appalled about how little I knew about what was happening there," she said. "So part of my work is always trying to raise awareness."

With her background as a case manager and her contacts in Sioux Falls, she figured it would be easy to start her research as a graduate student. But people in Sioux Falls doubted her ability to be objective because of her ties to the community, so she relocated the project to nearby Fargo — but then she was somewhat shocked by the suspiciousness she encountered from the refugees.

"I was a bit naïve about that. They tend to think that you're like a spy," she said. "They'd always be asking, 'Why are you writing that down?'"

Yet, like any skilled practitioner of immersion, she earned their trust by hanging out, attending church services and gatherings, offering baked goods and good humor, she says.

"A lot of it was just time, letting them get used to seeing my face around," she said. "I'd hang out at the Bosnian grocery store a lot. I'd go to weddings and Sunday service with the Sudanese. I'd bake or cook for them. But mostly I just kept hanging around."

Erickson makes her acceptance sound like a simple inevitability of time, but it's clear she has a unique talent for traversing the multicultural landscape. And this puts her in a position to weave a raw and real retelling of the refugee story in America.

"Part of the reason people love the Lost Boys' stories is because it's the classic American dream: The happy ending of the U.S. rescuing these refugees from a hard life, and look at how great we are and how they all lived happily ever after.

"But the reality is more complicated than that." ■

A CENSOR *by* ANY OTHER NAME

By Marc Dadigan

A RUSSIAN JOURNALIST STUDIES SUBTLE MEDIA SUPPRESSION IN HER HOMETLAND

Elena Rodina calls it her “chocolate Putin” story.

Before coming to Oregon, the second-year master’s student in International Studies was a writer for the Russian *Esquire*, working at the summit of her country’s journalism world and covering everything from the ubiquity of surveillance cameras in Moscow to the aftermath of the 2005 Beslan school massacre.

But for one of her more lighthearted assignments, she wrote about a chocolate factory, renowned for making life-sized chocolate sculptures of celebrities and public figures. It should have been a fun, innocuous feature, but when Rodina wrote that the factory once considered making a chocolate Putin, the manager was furious and accused her of fabrication.

“She was afraid of saying something

about Putin or that people would think it was offensive to be eating or licking a Putin, so she denied it,” Rodina said. “It was absurd to think the government would care. But this is how some people are.”

She says the story is emblematic of a uniquely Russian form of self-censorship that affects not only journalists’ sources but also journalists themselves. A victim of it herself, she says media suppression in Russia is far more subtle and intangible than many tend to believe — a difficult-to-define mixture of Soviet-era paranoia, government interference and growing ambivalence towards journalism as a craft, something she started to feel herself.

“I was at a weekly magazine that was like the Russian *Time*, and we had an editor who had friends in the government and would take out any verb or adjective that

was critical,” she said. “He’d make everything neutral. I had a co-worker who kept a running list of his absurd editing choices as a joke.”

Needing a break from journalism and having friends who attended UO, Rodina decided to enroll in graduate school as a means to study this censorship dynamic from a distance. It’s her hope she’ll be able to produce a more accurate and less melodramatic view of it than is often depicted in the mainstream media.

Many outsiders have an inaccurate impression of press freedom in Russia, she says, as media reports tend to focus on the small minority of journalists who are murdered or imprisoned for their work.

“They think we all live in cages and are about to be killed,” she said. “And some people think America is completely free. In both ways, it’s a very ignorant attitude.”

Thus far Rodina has conducted in-depth interviews with 15 former colleagues and is planning to get more input by posting online surveys to a website for regional editors, who, she says, often suffer more harassment from their local governments than national reporters ever face from Moscow.

Esquire, in fact, publishes many stories critical of the government, and there are a number of Russian journalists who are doing the sort of dogged investigative work on which the American press prides itself, she says. This points to potentially bigger problems than government-friendly editors bowdlerizing oppositional content — namely, a pervasive chilling effect among reporters and a reading public that is exhausted by negative stories.

“The government tolerates a lot of the negative press because it doesn’t affect the masses, so it gives the appearance of a democracy,” she says. “But the people are tired of the stories about corruption and they don’t care. As a journalist, it’s hard to feel inspired to write when it’s like this.” ■



Elena Rodina hopes to produce a more accurate and less melodramatic view of the Russian censorship dynamic. Photo: Julia Lisnyak

The Humanist Touch

Ecocriticism reveals humanity's conflicted attitudes toward the natural world

What's the common thread uniting literary works as disparate as *Walden*, *The Grapes of Wrath* and *Moby Dick*?

When viewed through the lens of ecocriticism, each of these works reveals telling visions of our environment, for better or worse.

Ecocriticism, in a nutshell, is the study of how literature both reflects and shapes our environment. Scholars look at a range

of genres — from more traditional literary works like novels, poetry and autobiographies to song, art, theater and film — to examine depictions of the physical world, including underlying assumptions and values.

“The literary often celebrates and denigrates nature at the same time,” said graduate student Tristan Siple. “It reveals our society's conflicted and contradictory attitudes about the natural world and its relationship to growing environmental concerns.”

Siple, a doctoral student in the UO's ecocriticism program, integrates literary study with environmental and socioeconomic history to understand how novels like Upton Sinclair's *The Jungle* can reveal the ecologically destructive aspects of industrial capitalism.

As Siple's approach demonstrates, even though ecocriticism is a branch of study in the English department, students and scholars often draw from the social sciences and the natural sciences to fully inform their research and analysis.

And vice versa. There are a number of doctoral students in the UO's Environmental Studies Program, for instance, who have

selected the English department as their outside focal department because of its strong emphasis on ecocriticism.

This gives them an opportunity to reach beyond the more expected and established scientific and social science approaches to explore what the humanities have to offer in this field — namely, insight into the values, motivations and perceptions driving human behavior as it relates to the environment.

Similar ties exist between the ecocriticism program and the UO's environmental law program, the Institute for Sustainable Environment and the landscape architecture program.

Among the topics researchers have explored through literature are the depletion of the ozone, destruction of tropical rainforests, effects of world population growth, animal rights and, increasingly, global climate change.

Not surprisingly, given the UO's reputation for all things green, the birth of ecocriticism as a systematic area of literary study can be traced to the University of Oregon, specifically to a 1989 address given by Glen Love, now an emeritus professor of English, at the Western Literature



Photo: Richard Stevenson

Molly Westling: “*Ecocritics stress the dynamic relationships among all creatures and forces on the planet.*”

Social Justice and Catastrophe

More than two months have passed since the devastating Haitian earthquake, yet thousands still roam the streets, homeless, hungry, in search of medical treatment. And now the besieged survivors of Chile's massive quake are experiencing new dimensions of human misery.

It is just such natural disasters — and our moral obligations to those affected by them — that Naomi Zack discusses in her recently published book, *Ethics for Disaster* (Rowman & Littlefield, 2009).

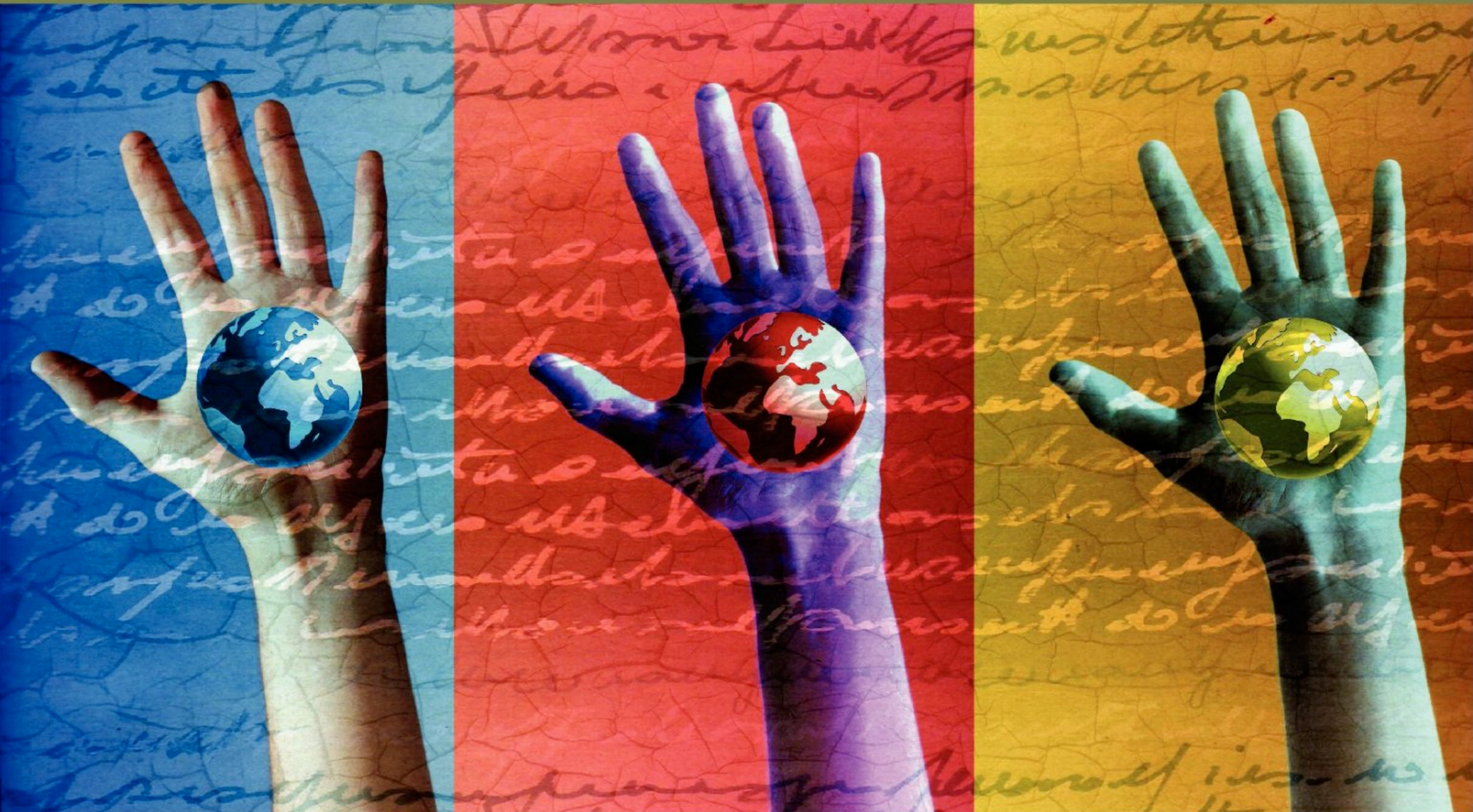
Zack, a UO professor of philosophy, argues that the current “save the greatest

number” approach to disaster relief is inadequate without proper disaster preparation. Without coordination among governments, citizens and relief organizations to prepare *before* disaster strikes, Zack contends, the number of casualties inevitably will be higher than they would be otherwise.

But more to the point, and just as inevitably, disadvantaged groups such as the poor, nonwhite and elderly will suffer most without principled foresight and preparation. During Hurricane Katrina, for instance, many impoverished families

could not flee New Orleans because they did not have transportation.

Because of such inequalities, both within the U.S. and internationally, Zack asserts it is imperative that discussions concerning disaster preparedness and relief include ethical considerations, such as the fair distribution of scarce resources and the fundamental tenet that all human life is equally valuable. In other words, disaster preparedness should embody the principles of social justice. — AC



Association conference in Reno.

He called for literary scholars already engaging in environmentally oriented work to come together and formalize their efforts in a more collaborative, comprehensive critique.

“People became very excited by this,” said Molly Westling, who attended his speech and also was instrumental in the development of ecocritical theory.

Westling, a professor of English and environmental studies, noted that graduate students across the country soon began to stream into the Department of English for the opportunity to work with Love.

Over time, the UO’s doctoral program in ecocriticism has become one of the top two or three in the nation, she said.

Ecocritics hope their scholarship, teaching and activism will help stimulate people

to think responsibly about their environmental impact. Because “they stress the dynamic relationships among all creatures and forces on the planet,” said Westling, ecocritics can inform a more complete understanding of how humans behave, decide and ultimately place value on their physical environment. — AC

Ethics for Disaster



Naomi Zack

EVIL TWINS

Skimming the course catalog, we see that this year students have had the chance to delve into our collective fascination with evil, whether real or imaginary, through a pair of humanities courses examining the heinous and the harrowing.

EALL 410/510: Asian Horror: Now this is a bold claim to make: “Asian Horror deserves recognition as a movement that may be as significant to global cinema as the French New Wave was in the late 1950s and early 60s.” That’s the possibility explored in this course, which proceeds from the fact that, since the late 1990s, there has been a renaissance of the Asian horror genre. This course asks students to think critically about how the styles, conventions and techniques associated with Asian horror have converged to become an international cinematic movement.

REL 353: Dark Self East & West: How did Buddha conceive of evil and, most particularly, the dark side of our inner lives? How are sin within Christianity, karmic evil and delusion in Buddhism, entanglement in Daoism and the concept of suffering in psychology both similar and different? This class (taught by Mark Unno — see next page) integrates films, such as *The Color Purple* and *Jacob’s Ladder*, with seminal texts examining these topics, giving a religious and philosophical context for examining a number of contemporary and contentious issues, such as racism, gender discrimination and war.

Thinking in Pictures

A crowd of 1,200 students and scholars of psychology, religious studies and ethics — plus teachers, parents, and others from the community — welcomed the extraordinary author Temple Grandin to campus in February. Grandin gave a public talk on her experiences with autism and the emotional life of animals.

Grandin is a professor of animal sciences at Colorado State University and the subject of a recent HBO film, “Temple Grandin.” Her sensitivities and perceptions as a person with autism have informed her deep understanding of animal suffering, particularly livestock.

Grandin was invited to campus by Mark Unno, associate professor of religious studies, in conjunction with his winter-term course: “The Bull in the China Shop: The Oxen at the Intersection of Nature, Society, and Religion.” Unno’s course examined three East Asian views of how humans, animals, society and nature are related — specifically, the slaughter and consumption of oxen as described in key passages in the texts of Mencius the Confucian, Zhuangzi the Daoist and Shinran the Pure Land Buddhist. His

students also studied Grandin’s writings.

Unno recalls reading Grandin’s book, *Thinking in Pictures*, about 15 years ago and being struck by the ways in which she grappled with the relationship between animals, society and religion. His impression was that “she was really trying to find God or the Ultimate,” he said.

In *Thinking in Pictures*, Grandin asserts that one must get away from language in order to understand animals. By cultivating her ability to think in pictures, she has developed an

acute sense of animal emotions, especially the fear, disorientation, and panic they often experience in handling facilities — a sensibility she has transformed into a set of ethical guidelines and humane technologies for the care and slaughter of livestock.

Unno holds the 2009-10 Coleman-Guitteau Professorship at the UO Oregon Humanities Center. This fellowship provided funding for Grandin’s visit. — LR

Religious studies professor Mark Unno (left) invited Temple Grandin (right) to campus. Besides her public talk, Grandin also visited Unno’s class, where students spent last term exploring how key figures in three East Asian religions looked at the consumption of meat and the slaughter of animals.

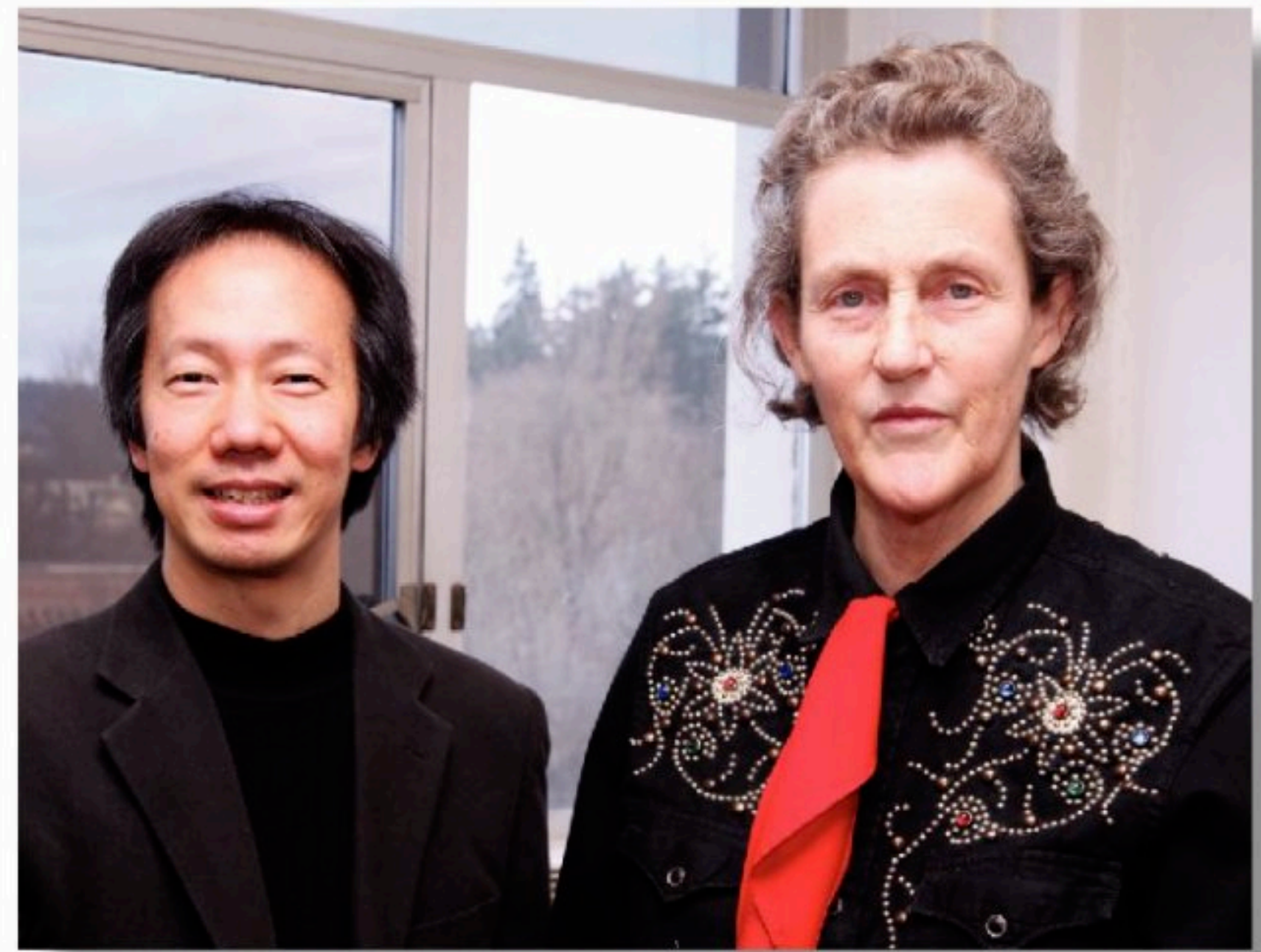
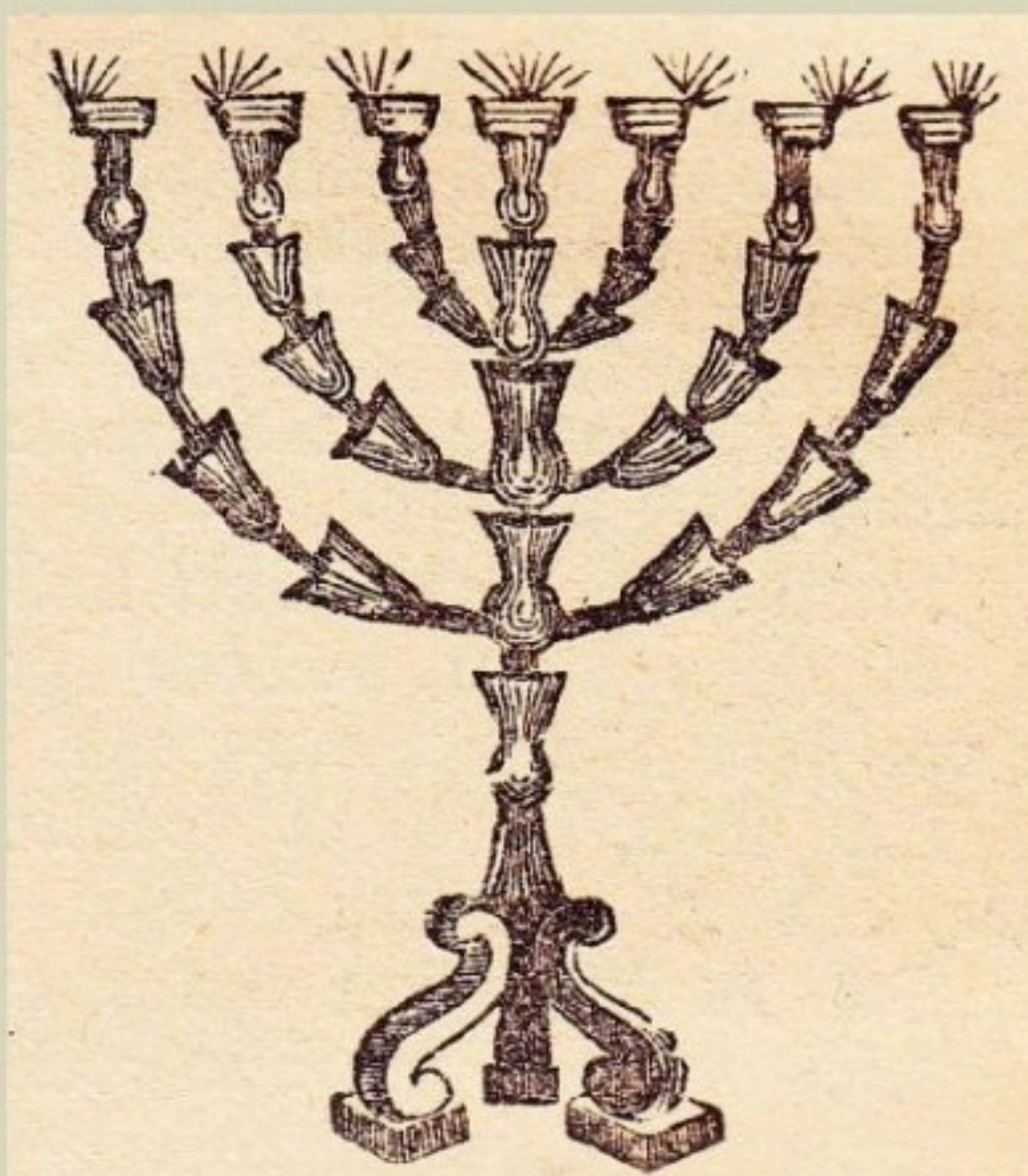


Photo: Jack Liu

10-YEAR ANNIVERSARY OF JUDAIC STUDIES



Leading scholars in the field of Judaic studies will gather in Eugene May 23 to celebrate the ten-year anniversary of The Harold Schnitzer Family Program in Judaic Studies at the UO.

In a one-day series of lectures and panel discussions — free and open to the public — scholars from the UO and across the country will discuss the creation of the UO program, the past and present experiences of Jews in the Pacific Northwest and artistic expression in European Jewish ghettos, among other topics.

The celebration will culminate at the Robinson Theatre with an evening presentation, “Herod the Great as Tyrant and Builder: Archaeological Perspectives.”

The UO’s program in Judaic studies offers both a bachelor of arts degree and a minor. Students learn about the history, religion and civilization of the Jewish people. They also have the opportunity to take two years of classes in Hebrew language and literature.

The event is made possible by contributions from Dr. and Mrs. Ken Singer, Ms. Roberta Singer and the Harold and Arlene Schnitzer CARE Foundation of Portland. — AC

Top Ten Hit

UO's creative writing program has made the Top Ten — namely, the top ten creative writing MFA programs in the nation, out of a total of 50 ranked by *Poets and Writers* magazine.

The magazine's 2010 survey based its selections on numerous factors that indicate program quality. The survey gave individual rankings to both poetry programs (UO ranked #15) and fiction programs (#12), as well as other criteria such as selectivity (#7), post-graduate placement (#5) and total funding (#27). Additional factors included the size of the program, duration, cost of living, teaching load and curriculum focus.

When all the criteria were rated and combined, UO's program placed #10 overall, occupying a top-ten list along with illustrious competitors such as University of Iowa, University of Michigan, Cornell and Brown. — LR



*Just one of many alumni success stories from the UO creative writing program: poet Brian Turner (MFA, '96) was recently featured in a front-page New York Times article showcasing literary writers who have produced first-person works about their war experience. Turner's poetry collection, *Here, Bullet* (Alice James, 2005) was inspired by his experiences as an infantry leader in Iraq (pictured above in Mosul; photo by Tom Bosch).*

Literary Critics Take On the Trash

Trash talk. Trashy TV. Trash as art. These are just a few of the topics that will be featured in the upcoming issue of *Nomad*, the undergraduate student-written journal published as a special project of the UO Comparative Literature Program (COLT).

"We chose trash as this year's theme because it's widely interpretable," said Max Rayneard, editor of *Nomad* and a COLT graduate student. "We wanted students to have license to write about all kinds of subject matter, ranging from economic class to environmentalism, pulp literature, trashy movies and the cult of celebrity."

One of the unique aspects of *Nomad* involves the pairing of undergraduate students with graduate student mentors, who assist students in defining, researching and finalizing essays for publication.

In fact, the *Nomad* mentorship program is the only one of its kind on the West

Coast. With the guidance of their mentors, undergraduates choose a topic and begin the writing process, while at the same time exploring the year's theme via a series of lectures and films presented by faculty and graduate students.

This year's series began last fall with a discussion of the MTV series *Jackass* as an example of trashy television. Other topics include discussions on the "trashy" origins of Superwoman, the nature of the "thing" — in this case the Coca-Cola bottle — in the film *The Gods Must Be Crazy* and the environmentalist and consumerist politics of *Sesame Street*. "Apparently, cookies are now a 'sometimes food,'" said Rayneard, in reference to the Cookie Monster, who in earlier years reveled in greed and sugary delectables but now snacks on fruit instead.

Since 2001, eight editions of *Nomad* have been published, allowing dozens of students



the chance to get first-hand experience in professional publication and also in presenting their essays at an annual conference organized by COLT and *Nomad*.

The unveiling of the "Trash" edition will be October 2010 and copies may then be obtained through the UO Bookstore; meanwhile limited copies of the current "Undead" edition of *Nomad* are available through COLT. — AC

Urban Paradise

The Exquisite Chinese Export

It's a space for reflection, where raindrops fall on the broad, shiny leaves of banana trees, where the scent of osmanthus blossoms finds you — sitting in a shaded nook you happened upon unexpectedly. It's the classical Chinese garden.

"Chinese scholars' gardens have traditionally been created as a small paradise within the busy activities of the city," said Ina Asim, UO professor of history. Asim is involved in the renewal of research on Chinese gardens and the creation of such gardens within the U.S. and abroad.

Asim is creating a website that will utilize video, text and photography to trace the development of the gardens within China, as well as their later export to countries around the world. The collected materials will be designed for use in classrooms, for research and for personal exploration.

The popularity of urban garden ref-

uges began during China's Song Dynasty (960-1279) and peaked during the Ming Dynasty (1368-1644). Strongly influenced by Daoist and Confucian ideas about the importance of meditation and reflection, the gardens were thoughtfully designed spaces where an elite and well-educated group of scholar-officials could find balance between their civil service responsibilities and their home lives.

Part of this design required that the gardens' architecture complement the natural environment. If a stream ran through the original space, it not only must be retained but its symbolism also should be incorporated into the overall design. "You add. You don't take away," said Asim. Asim became intrigued by the Chinese garden while working with the Social Science Instructional Laboratory (SSIL) to digitally restore a 17th century



silk handscroll, "Colorful Lanterns at Shangyuan." The painting features crowds of people at an antiquities market during the Lantern Festival in Nanjing, the secondary capital of the Ming Dynasty.

Asim worked closely with Garron Hale, assistant director of SSIL, to digitally wash away the centuries of grime that had



NEW CONFUCIUS INSTITUTE

The UO has many layers of educational ties with China: scholarly research, study abroad, scientific exchange, faculty recruitment and more. Now the relationship deepens with the founding of the UO Confucius Institute.

The UO Confucius Institute joins a network of more than 50 Confucius Institutes at U.S. universities — and nearly 300 worldwide — that have been established since 2004.

Headed by modern Chinese history professor Bryna Goodman, the UO Confucius Institute will center around four themes: Chinese culture across borders, Chinese futures/global futures, Chinese culture on a world stage and China and global sustainability.

The Institute will officially open in fall 2010, and meanwhile will support events for scholars and the community in advance of the official inauguration.

The UO Confucius Institute will be co-sponsoring two upcoming events in Portland.

Infinite Worlds

"Infinite Worlds: The Cultural Biography of Chinese Classical Gardens," **April 9 – 10** at the UO in Portland, is a workshop that will bring together scholars from around the world to present research on Chinese gardens. The workshop is organized by Ina Asim, a professor in late imperial Chinese history (see article above). Visit caps.uoregon.edu for more information.

Postcards from James Fallows

James Fallows, author and *Atlantic Monthly* national correspondent, will give a lecture, "Postcards from Tomorrow Square: Reports from China," **April 21 at the UO in Portland**. Fallows will discuss China's explosive growth and the ramifications for America and the rest of the world. For the past five years, Fallows has lived in Shanghai, tracking China's economic boom and analyzing the cultural life of the Chinese metropolis. ■



Bill Harbaugh in a previous meet-up with the Dalai Lama in 2008.

DALAI LAMA TO ASK BILL HARBAUGH: WHERE'S THE LOVE (IN ECONOMICS)?

UO economist Bill Harbaugh is interested in how pleasure can be derived from being charitable. This makes his work of interest to no less than the Dalai Lama.

Unlike some religious leaders, the Dalai Lama sees religion and science as complementary forces that can help us understand our increasingly complicated world. Next month, His Holiness will be presiding over a roundtable discussion entitled *Compassion in Economics*, where Harbaugh will be a featured participant. The panel will take place at the 20th annual Mind and Life Conference, April 9 -11 in Zurich.

The topic of the conference is the role of altruism and compassion in economic systems, a conscious break from the usual emphasis on competition in economics.

Harbaugh's current research, much of which is jointly conducted with UO psychologist Ulrich Mayr, is a mix of neuroscience and economics. Harbaugh has found that the notion of charitable giving activates pleasure centers in the brain — but at different levels for different people. The source of these differences is something he's still investigating, but the measurements help predict whether people will actually donate or not.

There are some interesting outliers in his research, such as subjects who show no pleasure at the idea of giving but still donate anyway.

"In some ways, you might say that's altruism in its truest form, altruism with no self benefit," he says. "This is especially interesting to the philosophers and the Buddhists: What matters more — your actions or your intent?" — MD

Love, Marriage and the Law

A young, sharp-dressed white man crosses a busy street on the way to dinner, arm-in-arm with his African-American wife. Today, some may look, while others won't even notice.

Forty years ago, this couple would have attracted a lot of attention — perhaps even from the police. They could have been arrested, even imprisoned, simply for being married.

"Marriage discrimination is the longest-lasting form of legal discrimination in U.S. history, longer even than slavery," said Peggy Pascoe, Beekman Professor of Northwest and Pacific History and Professor of Ethnic Studies. Pascoe is the author of the much-acclaimed book, *What Comes Naturally: Miscegenation Law and the Making of Race in America* (Oxford University Press, 2008).

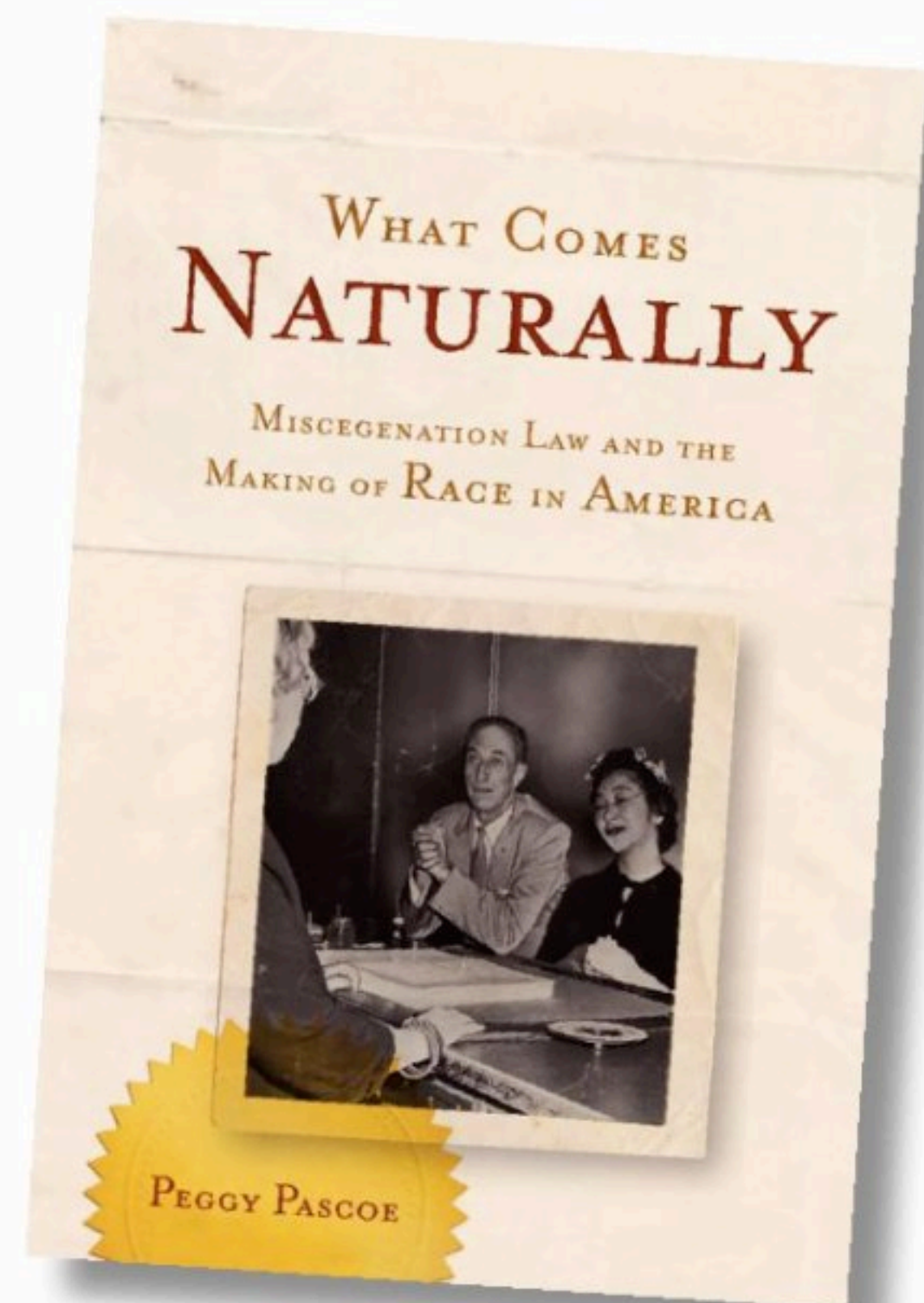
What Comes Naturally concentrates on how both federal and state miscegenation laws — those that prevented interracial marriage — were sustained for centuries with two common justifications: interracial marriage was unnatural and it was against God's will. Such pervasive beliefs were integral to both legally institutionalizing the prohibition of such marriages and enforcing criminal penalties.

In 1967, the Supreme Court unanimously decided in *Loving v. Virginia* that racially based legal proscriptions on marriage were unconstitutional. At issue was an interracial



Mildred and Richard Perry Loving were plaintiffs in the landmark U.S. Supreme Court case that struck down all state anti-miscegenation laws.

Photo: Bettmann/Corbis via the New York Times



couple's arrest upon moving to Virginia after having been legally married in Washington, D.C. By deciding in their favor, the Supreme Court put an end to miscegenation laws, both federally and at the state level.

Following *Loving*, Pascoe said, people rushed to say they were colorblind and that racism was over. Yet over time, society has not dropped its biases. In some parts of the country, a significant percentage of older Americans still oppose interracial marriage. And racism continues to thrive in the form of discrimination in our schools, prisons, criminal court dockets and housing markets.

Pascoe's book was an impassioned project 18 years in the making. It has received four notable awards in the past year. The Organization of American Historians presented her with the Ellis W. Hawley Prize and Lawrence W. Levine Award. The American Historical Association presented Pascoe with the John H. Dunning Prize and Joan Kelly Memorial Prize.

"I'm thrilled to have this kind of recognition from other historians," she said. Yet there is still much work to be done to achieve marriage equality. Case in point: The still-emotionally charged issue of same-sex marriage in the U.S. Nonetheless, Pascoe hopes that with time, our country will become less divided about what constitutes a marriage and, ultimately, a family. — AC

settled over the silk painting and obscured the scroll's original brilliance. She is currently working with the Wired Humanities Projects (see page 9) on the restoration of another scroll featuring a scholar-official's poetic gathering.

These scrolls and other documents from the Ming Dynasty reveal the importance of the gardens to the scholar-official's life and how paintings such as "The Gathering at the Orchid Pavilion" greatly influenced the way Chinese gardens were designed. The gardens were often reflections of landscape features and architectural elements depicted in paintings.

Beginning in the 1980s, the Chinese garden was exported to countries around the world, with several cities in the U.S. creating gardens for public use. Portland created its Lan Su Chinese Garden in 2000, blending its natural environment



When designing a Chinese garden, "You add, You don't take away," says Ina Asim, who recently visited the Qing Hui Yuan — Garden of Pure Splendor — in Guangzhou, China (pictured above, detail shown in inset; photos by Kay Bork).

with indigenous Chinese plants and other elements, such as rocks and water, that are essential to the traditional design.

"These aren't just botanical gardens,"

said Asim. "They are the confluence of Chinese concepts of nature and culture in a small space, combining a maximum of visual and other sensations." — AC

Dads Do Dishes

We've all seen the "doofus" dad on TV. From Ozzy Osbourne to Homer Simpson, these dads are depicted as incapable of completing even the most mundane household and child-rearing tasks.

But such depictions are far from new,

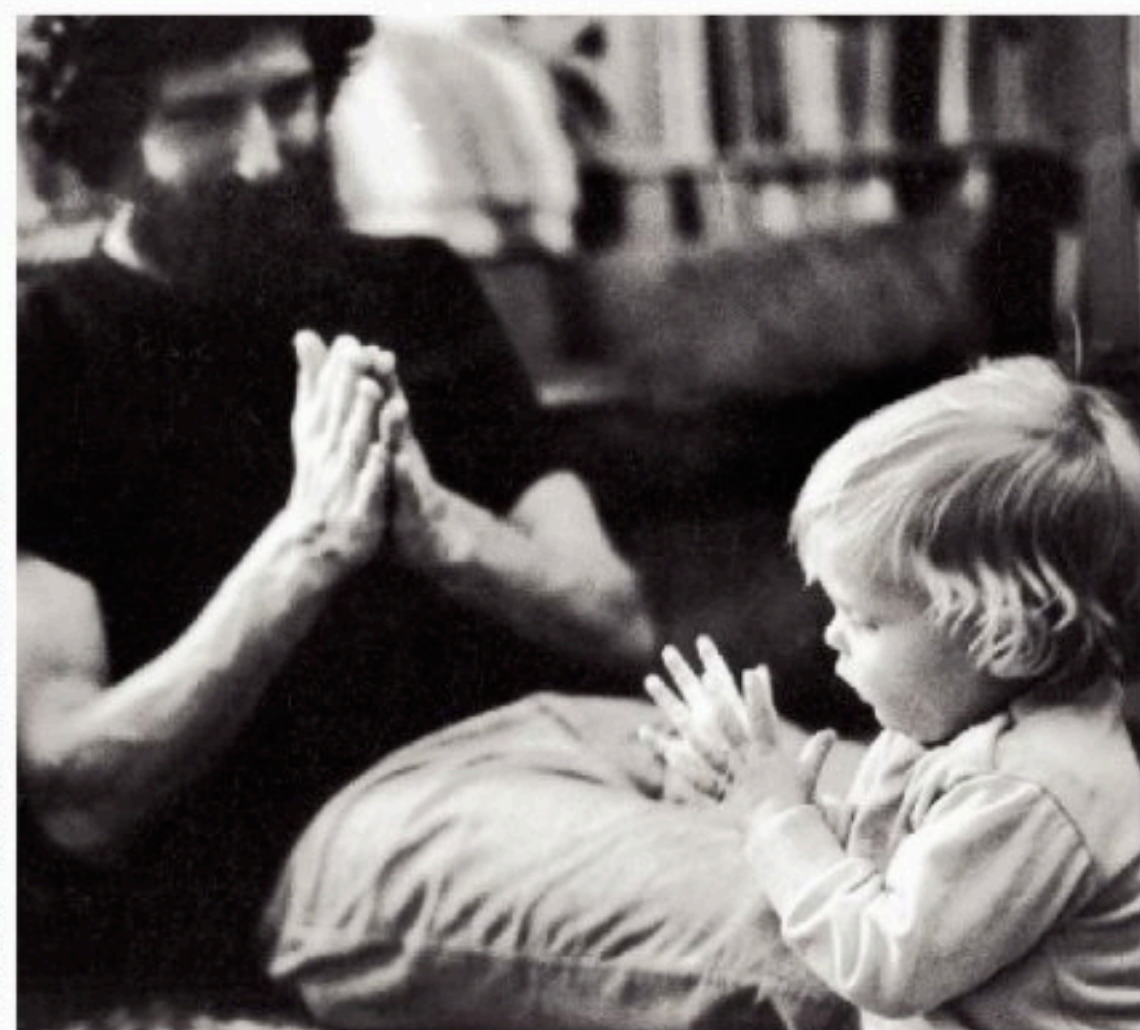


Photo: Linda Muehlhauser

Portrait of the Dean as a young dad — Scott Coltrane with his son in 1980.

said sociologist Scott Coltrane, Dean of the UO College of Arts and Sciences — remember Archie Bunker from "All in the Family"?

Nor are these portrayals entirely accurate, said Coltrane, who recently gave a campus talk entitled "Men's Family Work: What's Changing and What's Not," sponsored by the Center for the Study of Women in Society.

"Men's contributions to the household doubled from 15 percent to over 30 percent from 1965-2003," said Coltrane, who has studied these issues for 25 years. And the time men spent on childcare tripled during the same time frame.

But this doesn't mean women are doing less work than in the past. Mothers are actually spending more time with their children than in past decades and are doing more soccer-mom-type activities, so they continue to do twice as much work as

fathers, even though they have entered the workforce in large numbers.

Nonetheless, the number of fathers who are active in completing household chores has indeed increased, said Coltrane. They're washing more dishes and clothes, cooking and cleaning the house.

And the time that fathers spend in quality childrearing has a significantly positive impact on child outcomes, such as achievement in school and in their own roles as mothers and fathers in the future. "Fatherhood is good for all of us," said Coltrane.

Thus while the "doofus" dad likely will continue to be a master narrative on TV, it isn't a true reflection of the roles that fathers increasingly are playing within their families, said Coltrane. However, these inept TV fathers are spending time with their families, which does in a sense track with real-life trends. — AC

The Sea That Used to Be

The seeds of Jon Erlandson's big theory were first planted in his childhood, while diving, swimming and sailing off the coasts of California and Hawaii.

Now a UO anthropologist who directs the Museum of Natural and Cultural History, he says that connection to the sea led him to question one of his field's common assumptions: That, until fairly recently, humanity was a race of incorrigible landlubbers.

"It just didn't sound right to me," Erlandson said. "The coast offers the resources of the sea and also the resources of the land. Some of these peoples had large populations with complex cultures. How could they support all those people without using the abundance of the sea?"

Erlandson's research, recently highlighted in *Science* and the *New York Times*, has found evidence of early hunter-gatherers taking to the sea and harvesting its bounty earlier than once believed. Conventional wisdom suggested that true fishing societies didn't exist until 6,000 to 8,000 years ago, around the time of the spread of agriculture. On California's Channel Islands, Erlandson has found evidence that pushes that date back to at least 12,000 years ago, though he believes the sea has been in our blood for far longer.

Recent research has identified 160,000-

year-old shell middens in South Africa, according to Erlandson, and "the colonization of Australia happened at least 50,000 years ago, requiring sea crossings of nearly 100 kilometers. You don't head out to sea toward a bare horizon without a sense of adventure and faith that land is out there."

With his former student, Torben Rick (now at the Smithsonian Institution), Erlandson used Channel Island shell middens to meticulously reconstruct fossil records that show the impact of early peoples on the coastal environments.

Middens are ancient piles of discarded shells, bones and other detritus that provide hints as to what resources were being extracted thousands of years ago. And because most of the world's middens are less than 6,000 years old, it was thought that was the timeframe during which seafaring cultures first developed. But Erlandson argues that older evidence is often submerged beneath the ocean due to melting glaciers, rising seas and shifting coastlines.

Not only does his work rewrite the history of human subsistence, but it could also prove vital in modern efforts to restore marine ecosystems in oceans that have suffered from massive overfishing. With a better understanding of when humans first started impacting the oceans, scientists can improve their estimates of what fish populations looked like in pristine waters.

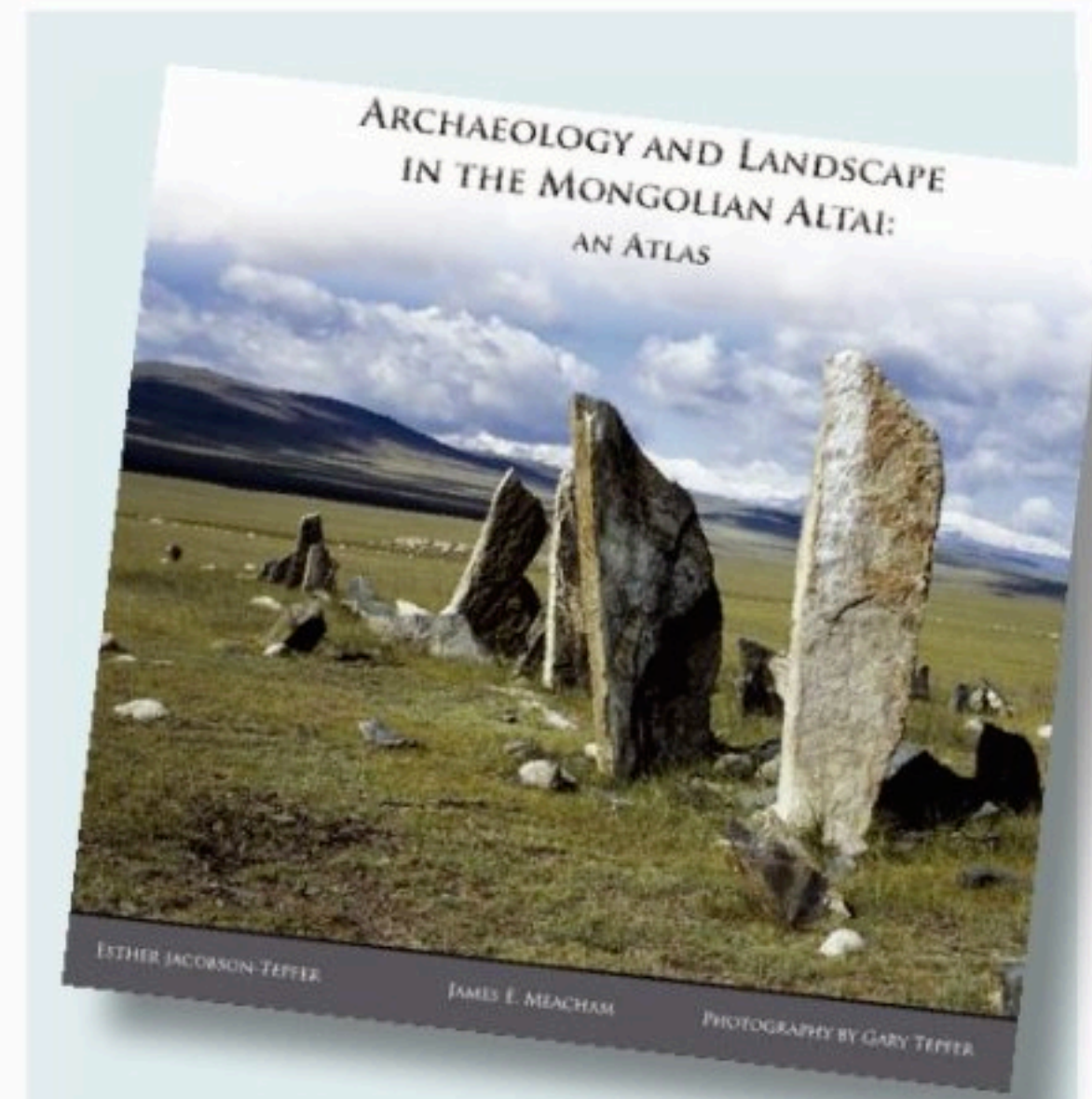
"It means we can't just go back 100 years to understand how abundant salmon or whales were. We might have to go back 10,000 years," Erlandson said. Though his work shows that hunter-gatherers, often imagined to have lived in harmony with nature, were disrupting ecosystems, Erlandson says modern humans can learn many lessons from them about sustainability.

"They were restricted to near-shore fishing, so they weren't ravaging the open oceans like we have in the last 200 years," he said. "They rarely drove species to extinction. They adjusted their diets and habits to sustain themselves. For the sake of our oceans, hopefully we can do the same." — MD



Photo: Jon Erlandson

UO students Tracy Garcia (left) and Casey Billings map a test trench at an 11,600 year old Paleocoastal shell midden on San Miguel Island.



VISIONS OF MONGOLIA

Soaring mountains, windswept tundra and haunting stone monuments highlight thousands of photographs from the Altai Mountains of Mongolia gathered during a UO project spanning nearly 20 years of research. Art history professor Esther Jacobson-Tepfer and her husband, photographer Gary Tepfer, documented surface archaeology, especially rock art sites, while geography professor Jim Meacham spent three seasons with their team, assisting with analysis, the production of maps and the presentation of their research to a broader audience. Together they have produced a spectacular 224-page book, *Archaeology and Landscape in the Mongolian Altai: An Atlas* (ESRI Press, 2009). There is also an online Mongolian Altai inventory collection, where visitors can view images and explore the region with interactive maps, at mongolianaltai.uoregon.edu.

— MD



Kazakh man and his grandson

Photo: Gary Tepfer

The Plastic Fantastic Brain

Dispelling Myths About Brain Development

Early in the DVD, narrator and UO neuroscientist Helen Neville explains that the human brain has the consistency of room-temperature butter. Cut to an index finger nonchalantly pushing down on a moist bar of butter, and a salient and admittedly cringe-worthy point has been made.

“The brain is the most important thing in the universe, and people don’t know it’s exceedingly fragile,” said Neville. “It’s amazing what people don’t know about the brain.”

Many probably don’t know that the brain is constantly evolving, forming new connections and adapting to input from our experiences until we reach the age of 25. Probing the mysteries of just how this happens is a prime directive for Neville and colleagues like psychologist Phil Fisher, both of whom are affiliated with the UO’s new Center for Healthy Brain Development.

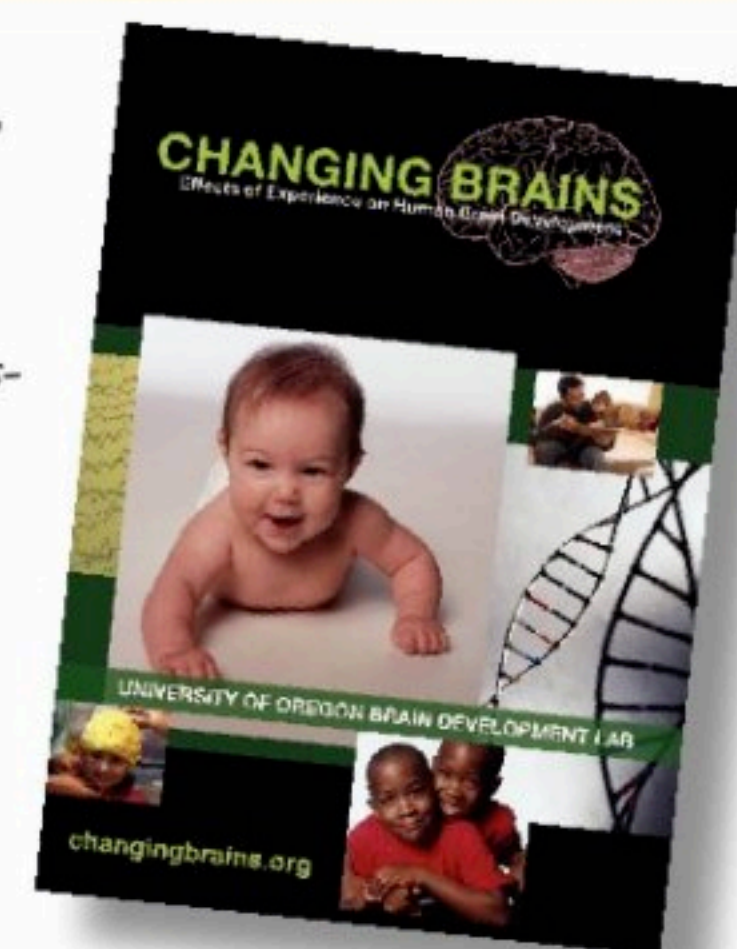
“There’s this prevailing myth that the brain is genetically determined, like the liver or something,” Neville said. “But just about every aspect of brain function is shaped by and depends on experience.”

Neville and Fisher are determined to dispel some of these myths and help the general public become better informed about their brains. Toward this end, Neville led the production of *Changing Brains: Effects of Experience on Human Development*, a 75-minute film that explains the interaction of our brains and experience, all in a digestible language for non-scientists. It can be viewed online at changingbrains.org where it can also be purchased on a sliding scale, an effort to make it accessible to low-income parents to better help them get their kids ready for school.

One section of the DVD focuses on how kids develop the ability to pay attention, something that sheds light on some misconceptions about attention deficit hyperactivity disorder (ADHD).

This is a topic of special interest to Fisher, who is particularly intrigued by external stressors. He believes that the foster children he studies might sometimes be inaccurately diagnosed with ADHD and other disorders or unfairly labeled as problem kids because of how their brains have adapted to their troubled lives.

The “*Changing Brains*” video can be viewed at changingbrains.org, and can also be purchased on the website, on a sliding scale.



“If the student is in a class, and he’s not paying attention to the teacher, the teacher will assume he doesn’t care or he’s a bad kid,” said Fisher. “But the truth is that their brain hasn’t developed to absorb this feedback.”

That’s because, when exposed to constant “toxic stress,” children’s brains evolve differently to help them cope. Their brains can develop to dull their ability to sense what’s going around them, particularly when there are traumatic events. Fisher has also discovered that these children have low levels of the hormone that manages stress levels, another coping mechanism. If they’re immersed in a world of stress, it would be too draining to be constantly on guard; it’s more efficient to be inured to the stress.

Yet this makes it difficult for foster children and other kids from turbulent backgrounds to properly acclimate when they do land in a positive, stable environment. The low levels of stress hormones, for instance, lead to high rates of impulsivity.

“These kids still tend to act like they’re not okay, even when their circumstances improved,” he said. “But we’ve found that with the right kind of consistent treatment and proper stability, they can start plugging back into the world again.”

He and other neuroscientists refer to this ability of the brain to adapt and re-adapt — in the same way stroke victims can learn to talk again — as plasticity.

The brain, as fragile as it is, is far more resilient and adaptable than many have imagined. All the more reason more education is needed.

“There’s a huge missing link between teachers and parents who are hungry for this information and the researchers who have it,” Fisher said. “It’s important that we reach people.” — MD

Helen Neville — shown here with a young subject from her brain research lab — says that nearly every aspect of brain function is shaped by experience. Photo: Michael McDermott



Sunshine Stealer

UO physicist Frank Vignola has some surprising news for the sun-deprived denizens of Oregon and its dour winters. About two-thirds of the Northwest gets as much solar radiation as Florida. Even Astoria, considered by many the grayest and cloudiest city in the state, gets as much sun power as Germany.

The Southwest is the region of the U.S. with the most bountiful supply of solar power, but Eugene is no slouch either; it's right on the national average, Vignola says.

Since 1977, Vignola has spearheaded efforts at the UO's Solar Radiation Monitoring Lab (SRML) to collect data at various solar stations throughout the Northwest to help paint a more reliable picture of the potential of solar power.

"Really you're talking about small differences among these places we're monitoring," he said. "But because solar power is so expensive, these extra percentage points become vitally important."

Transmission costs, the cost of buying land and the cost of manufacturing solar cells all add up, making solar production a very expensive proposition. Thus one of Vignola's aims is to provide entrepreneurs the data they need to bankroll major solar endeavors. Investors want solid scientific evidence that projects will be able to produce as much power as anticipated. The more longitudinal and accurate the data, the more likely a convincing case can be made for a given solar power project.

Because SRML has been measuring solar radiation for more than three decades, Vignola hopes this will put Oregon in prime position to be a hub of future solar energy production and innovation. Other states that are currently leading efforts, like California, have not collected nearly as much information as Vignola's team, and this, he says, will probably end up hurting them.

"It's tough in California. Investors and banks will make you jump through hoops to get funding for a project," he said. "If your production estimates aren't backed up with hard data, the banks will



Physicist Frank Vignola, pictured here on the roof of Onyx Hall, hopes his decades of data collection will put Oregon in prime position to be a hub of future solar energy innovation.

play it safe and fund you based on the lowest estimates."

Interestingly, Vignola's data also shows that Oregon's solar radiation has increased by 10 to 15 percent in the last three decades, which could be linked to global warming. A UO graduate did her dissertation studying this phenomenon and is currently investigating climate change at Battelle, an international science and technology enterprise.

The SRML monitoring labs, which dot the landscape from Oregon to Idaho, are also interesting bellwethers for global pollution. About half a percent of the increase in solar radiation over the past 30 years is related to cleaner air, as airborne detritus from volcanic eruptions and pollution have been reduced. Yet sometimes pollution from halfway across the world

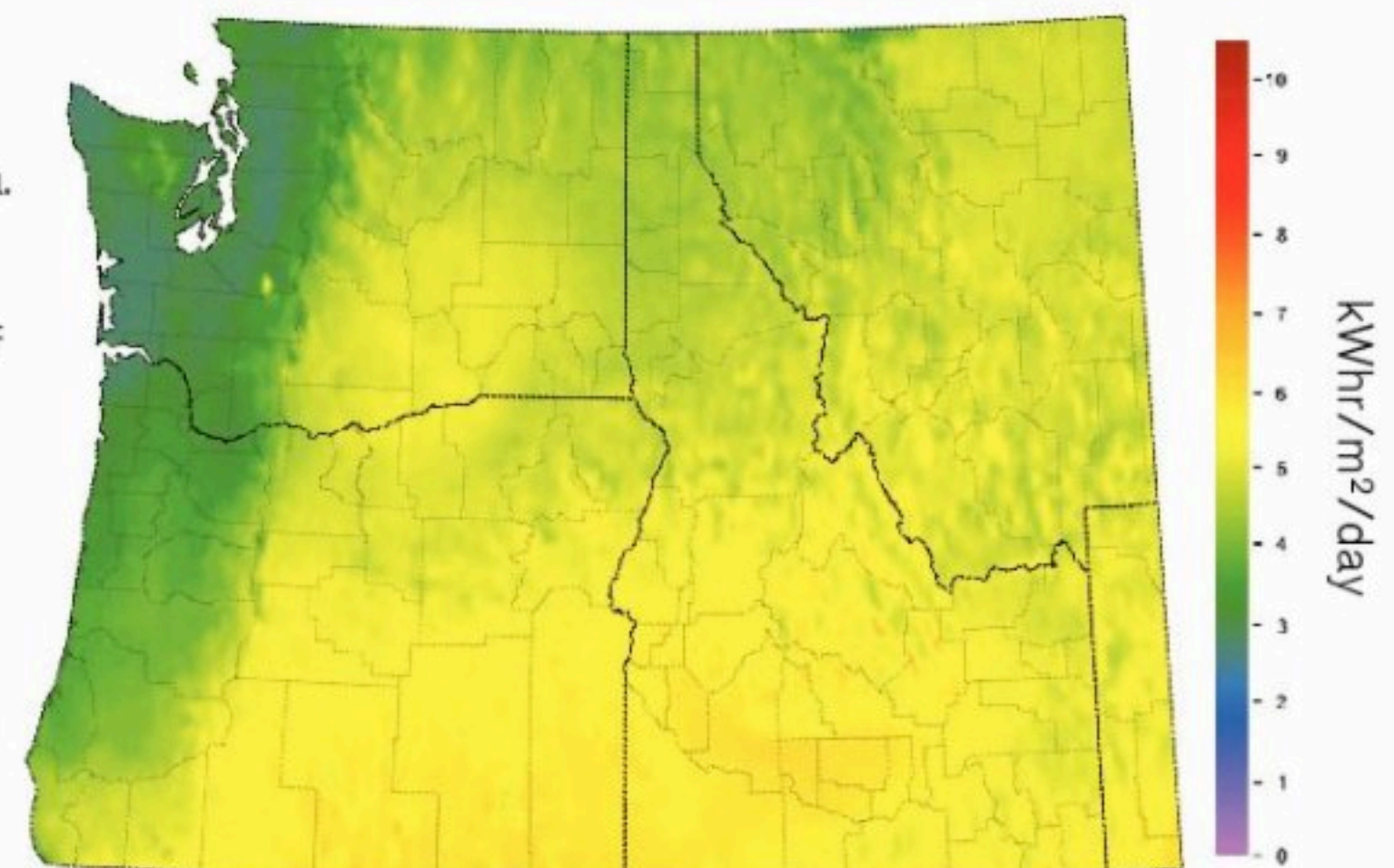
affects Oregon's sunlight, such as a recent dust storm in China's Gobi Desert that wafted its way across the Pacific.

Although solar electricity is a minor contributor to the region's energy mix today, Vignola says he's encouraged that we are heading in the right direction with the growing emphasis on renewable energy, especially here in Oregon. In February, 2010, Gov. Ted Kulongoski announced that a new advisory group will be consulting with public and private agencies on ways to create jobs and economic opportunities through the development of renewable energy and green technology.

"I read sci-fi growing up, and they always were using solar cells in the future, so I always figured it would be popular in the real world," Vignola said. "And now it's starting to take off." — MD

SRML's research indicates that about two-thirds of the Northwest gets as much solar radiation as Florida. This map shows direct normal solar radiation in Oregon on an annual basis. Scale indicates kilowatt hours of solar radiation incident on one square meter per day. Hourly values were modeled from satellite measurements then averaged from 1998 to 2002.

Produced by SRML and Atmospheric Sciences Research Center, University of Albany.



Rewriting the Gender Code

Sexism isn't rampant in computer science, says Kiki Davis, but it's there — simmering beneath the surface, bubbling up with small, insensitive comments and unfair assumptions.

In class, says Davis, a first-year graduate student in Computer and Information Science (CIS), men are quick to assume the women need help or are likely incompetent. For many women, these little things add up.

"As a woman, you sometimes feel pressure to be the best, to prove you belong," she said.

Concerned that other women might struggle in such a male-oriented universe, Davis is injecting new life into the Women in Computer Science (WICS) group, which was originally founded in 1984 to provide support for fellow women in the department.

WICS's first event of this school year, a "Movies and Munchies" night, was held last November and since then there have been good turnouts of both men and

women at monthly movie events. There are plans to start a forum that will allow women in the department to meet and support each other. To help inspire WICS members, Davis is also bringing in successful female professionals to speak to the group, she says.

As the UO CIS department celebrates its 40th anniversary, the issue of gender diversity is a growing concern, especially at a time when some information technology companies are emphasizing collaborative workplaces where the communication skills women often possess are highly valued. At UO, women account for only 12 of the CIS department's 57 graduate students and three of the 17 tenure track faculty members.

Davis believes the problem begins at an early age. Many young girls may know vaguely that there are women in chemistry, physics and computer science, but they never see them; they exist only as myths or legends or characters from a movie.

"So many girls grow up with this mental



Computer Science grad student Kiki Davis: "I want girls to see this is a possibility for them."

block in their mind, and they can't imagine what's possible for them," she said.

Thus, Davis says she'd like WICS members to teach girls in local schools how to write basic computer programs and give them a chance to see living, breathing female computer scientists.

"I want the girls to be able to write their own program," Davis said. "And I want them to see that we exist — that this is a possibility for them." — MD



Insane for Membranes

Evolution, like necessity, is a prolific mother of invention. And some inventors, in their turn, take their cue from evolution.

Velcro, for instance, was devised by a Swiss engineer after he observed under a microscope the interlocking hooks of the burrs that had gotten caught in his dog's fur, a way in which the plant adapted to spread its seeds. A skyscraper in Zimbabwe that's completely self-cooling and -heating

has a ventilation system based on those of tower-building ants.

It's a phenomenon known as biomimicry, and UO biophysicist Raghu Parthasarathy is a true believer.

"What we're trying to do is dig into nature's toolbox," he said. "Evolution has been conducting experiments for 3.5 billion years, and that's a lot of time for trial-and-error."

For the past 18 months, Parthasarathy and his colleagues have been interested in mimicking one of nature's most elusive tricks: self-assembly, the process by which biological structures are programmed to recreate themselves if torn asunder. Imagine the liquid metal globules in Terminator 2 regenerating into the evil T-1000 android or the way a school of fish seems to magi-

Physicist Raghu Parthasarathy: "What we're trying to do is dig into nature's toolbox. Evolution has been conducting experiments for 3.5 billion years, and that's a lot of time for trial-and-error."

Triple Play



Brau



DeRose



Tyler

Three CAS scientists were recently selected as Fellows of the prestigious American Association for the Advancement of Science (AAAS): Jim Brau, Victoria DeRose and David Tyler. AAAS Fellows are chosen by their peers for their scientifically or socially distinguished efforts to advance science or its applications.

■ Brau, the UO's Knight Professor of Natural Science, was selected for his “distinguished contributions to the field of elementary particle physics, particularly for developing and applying new technologies to facilitate precision tests of the Standard Model.”

■ DeRose, professor of chemistry, was chosen for her “significant achievements in developing spectroscopic methods towards understanding the metallochemistry of RNA, and for service to the interdisciplinary scientific community.”

■ Tyler, who recently was named the first recipient of the UO's Charles J. and M. Monteith Jacobs Professorship in

Chemistry, was picked for his “distinguished contributions to the fields of inorganic, organometallic, and polymer chemistry, particularly for our understanding of radical reactions and of polymer degradation.”

The tradition of AAAS Fellows began in 1874. AAAS is the world's largest general scientific society, and publisher of the journal, *Science*, as well as *Science Translational Medicine* and *Science Signaling*. AAAS includes some 262 affiliated societies and academies of science, serving 10 million individuals.

With the inclusion of these three scientists, there are now 29 current and emeritus CAS faculty who are AAAS Fellows:

- C. Melvin Aikens, Anthropology
- Andrew Bajer, Biology
- Patrick Bartlein, Geography
- Jim Brau, Physics
- Richard Castenholz, Biology
- Scott Coltrane, Sociology

- Bernd Crasemann, Physics
- Victoria DeRose, Chemistry
- Chris Doe, Biology
- Russell Donnelly, Physics
- Don Dumond, Anthropology
- Jennifer Freyd, Psychology
- Douglas Hintzman, Psychology
- Stephen Kevan, Physics
- Daniel Kimble, Psychology
- Charles Kimmel, Biology
- Richard Littman, Psychology
- Alexander McBirney, Geology
- John Moseley, Physics
- Michael Posner, Psychology
- John Postlethwait, Biology
- Greg Retallack, Geology
- Geraldine Richmond, Chemistry
- Eric Selker, Biology
- Paul Slovic, Psychology
- Davison Soper, Physics
- George Sprague, Biology
- David Tyler, Chemistry
- James Weston, Biology ■

cally organize itself, and you get the idea.

Specifically, Parthasarathy is fascinated by the potential of cell membranes, the thin outer skins that surround all a cell contains. Made of a two-molecule thick layer of lipids, membranes are masters of self-assembly: lipid molecules, if left in a beaker of water, will reconstitute themselves into a membrane without any nudging. This is because of the complicated interplay of their chemical makeup, electrical charge

and shape — the interactions at the center of Parthasarathy's research.

Parthasarathy believes if he can harness the properties that make this self-assembly possible, he can use membranes as a sort of biological Scotch Tape to create new and useful microscopic materials that would otherwise be too unstable.

In his experiments, he manipulates membranes to self-assemble together with miniscule glass particles. His lab has been collecting extensive data on how different membrane properties generate controllable attractions and repulsions among the glass particles. He hopes that these measurements will reveal pathways by which membrane-controlled interactions can create a filigreed lattice of glass particles, so fine that it will be able to manipulate beams of light.

Such a technology could be used in

next-generation computer chips to move computations and operations literally at the speed of light.

However, he's still a ways away from creating such a complex structure. Currently, he's collecting data on the combination of two glass particles and a membrane. Once he moves on to three — a necessary step in achieving his long-term vision — it's possible either that the new system will behave as a simple extension of the two-particle system or that the additional particle could introduce new and unforeseen properties into the mix.

“If that happens, some people might be disappointed because it means we're much farther away from producing something functional,” Parthasarathy said. “But I would be excited. To me, that means there's a big mystery to be solved, and that's why I became a scientist.” — MD

Imagine the liquid metal globules in Terminator 2 regenerating into the evil T-1000 android, and you get the idea.

It's In Their DNA

The UO Institute of Molecular Biology (IMB) was founded in 1959, at the end of an eventful decade that brought us Crick and Watson's discovery of DNA's double helix and a veritable revolution in biology.

The IMB is a research community of 23 UO biologists, chemists and physicists who probe biological questions on a microscopic playing field of molecules. Their findings — and those of scientists associated and affiliated with the IMB — often have a direct impact on pharmaceutical and biomaterial applications.

To mark the IMB's 50th anniversary, a host of former students and postdoctoral fellows came back to campus last fall for a special symposium. We share here a brief snapshot of the careers of several of those illustrious scientists.

Preventing Cell Hijacking

Douglass Forbes, PhD, Biology, 1978

Any invading army would want to control its target's lines of communication. Harmful diseases, from the flu to leukemia, are no different when laying siege upon healthy cells. The key for these malevolent bugs is interrupting the flow of transmissions in the nuclear pores — protein-laden gateways in our cells that carry messages back and forth between the nucleus and the cytoplasm.

Without these operating channels, the DNA in the nucleus can't tell the other parts of the cells what work to do or how to fight off the bad guys.

Understanding the genetic defects of the nuclear pores that can cause these takeovers is at the heart of the research by Douglass Forbes, professor of biology at University of California, San Diego.

Soon after leaving the UO in 1979, she and her fellow alumnus and husband, the late John Newport, discovered that they could assemble a nucleus in a test tube. This gave them the ability to eliminate important proteins during the construction of the nucleus and see how it affected the cell.

Using this method, she has helped to discover many of the proteins in the nuclear pores, how they interact and how they're affected when invasive viruses are able to completely block off the nucleus's signals.

"It's basically as if the entire Internet went through the same gateway, and some-

one shut it down," she said. "The cell gets hijacked." As with all forms of hijacking, predicting and preventing likely hijacker behavior is the key.

Yeast Common Denominator

Marc Meneghini, PhD, Biology, 2000

Marc Meneghini's interests concern one of biology's most fundamental problems: how cells differentiate — in other words, how they become the type of cell they are destined to become.

In his groundbreaking experiments, Meneghini has focused on one particular model organism, baker's yeast, which has previously contributed greatly to science's understanding of cell differentiation. However, it has long been conventional wisdom that yeast possess limited relevance to understanding how human cells develop into new and various types of cells.

But Meneghini's lab at the University of Toronto has discovered that yeast utilize the same key molecular mechanisms to accomplish differentiation as mammalian cells, particularly stem cells. This means that the cellular activity of yeast, once thought to be about as complex as a rotary phone, is actually extremely relevant to understanding how human cells develop and specialize. This work could prove profoundly useful, as malfunctions in cell division and cell differentiation lead to tumors and cancer.

One of his lab's more significant findings

has been related to what's called apoptosis, or the programmed death of cells. Apoptosis can be regarded as another way in which cells differentiate. In fact, it often functions to kill off damaged cells before they proliferate excessively, basically serving as a built-in cancer guard. Meneghini has discovered that yeast execute a robust form of apoptosis, again utilizing the same mechanisms as mammals.

"With the tools we have to manipulate the yeast cell, we're only limited by our imaginations," he said. "It's a good harbinger for what we might be able to do."

Reanimator

Mark Roth, BS, Biology, 1979

Described in *Esquire* as a real-life "mad scientist," Mark Roth has proven to be a maverick in the world of microbiology, making waves with his groundbreaking work in suspended animation. A 2007 recipient of a MacArthur "genius" grant, Roth has shown that toxic chemicals such as carbon monoxide can put small animals into suspended animation (extended states of low oxygen usage) from which they can be revived without any serious side effects.



Bad Bugs and Best Practices

Molly Schmid, Postdoctoral Fellow

Like a preposterously huge spring snake in a can, the spindly DNA inside bacteria is actually thousands of times larger than the cells themselves, which begs the question: How does the DNA fold itself up without getting all tangled?

While doing postdoctoral work at UO in the 1980s, Molly Schmid studied how these gargantuan DNA molecules organized themselves within tiny microbes. While she didn't know it at the time, what she learned would lead to groundbreaking advances in how the pharmaceutical industry discovers antibiotics.

Now a professor studying biotech entrepreneurship at Keck Graduate Institute in Claremont, Ca., Schmid had previously joined a start-up called Microcide Pharmaceuticals in the late 1990s. Once there, using the foundation of microbial DNA knowledge she gained at the UO, she focused on creating new methods for the discovery of antibiotics for what physicians call "bad bugs," diseases such as pneumonia, strep throat and E. coli that are extremely resistant to existing medicines.

The lab did this by isolating genes within the microbes that are the targets for new antibiotics, finding that only 10 percent of genes were valuable for this line of study. They did this by creating bacterial mutants that would die at certain temperatures, and through various experiments they were able to identify which genes were keeping the bacteria alive.

"We need new antibiotics and these new genomic techniques can find new leads," she said. "Many of the techniques from Microcide are now widely adapted by pharmaceutical companies."

Unfortunately, Microcide eventually folded because of financial problems, a not uncommon fate for biotech companies. It's now Schmid's mission as a researcher at KGI to study and evaluate best practices that could help stabilize the field and make companies like her former employer more sustainable.

"I'm looking for ways to make the process of drug discovery cheaper, more efficient and less risky," she said.

Help for the Alcohol Challenged

Raymond White, BS, General Science, 1965

While all humans are about 99.9 percent genetically identical, Raymond White, a professor of neurology at the University of California, San Francisco, has made a name for himself by focusing on the nearly infinitesimal amount of disparity.

Considered a pioneer in the mapping of the human genome, he has worked to isolate gene "variants" that are at the root of heredity-related diseases such as cancer and neurological disorders. Using advanced DNA technology, he was able to detect and develop genetic markers — chromosomal segments that, while not causing a particular disease, exist in concert with those that do. He and his laboratory played important roles in identifying the genes associated with familial polyposis, a form of colon cancer, and neurofibromatosis, a severe skin disease.

In 2002, he was named the director of the Ernest Gallo Clinic and Research Center at UCSF where he has been studying how the confluence of genetics and environment relate to alcoholism and alcohol abuse. The center is working to identify genes related to alcoholism through sequencing of "candidate" genes and genome-wide scans in several populations, including "alcohol-challenged" subjects from San Diego (UCSD and San Diego State freshmen) as well as individuals with alcohol dependence from the Central Valley of Costa Rica, a population that's had little infusion of genes from immigrants or outsiders.

It's hoped that the results of this research will not only help create medications to treat some forms of alcoholism but also to help tailor addiction therapies to the specific needs of a patient.

— Profiles by Marc Dadigan

Recently, for example, he has used hydrogen sulfide to reduce the core temperature of mice to 10 degrees Celsius without physically harming them.

It's believed these breakthroughs could bring new treatments for cancers, strokes and any sort of maladies related to a lack of oxygen. It could also help develop technology that would improve the survival rate of soldiers injured on the battlefield.

In 2005, Roth founded a Seattle biotech company, which later became Icaria Holding, now a leader in the development of therapeutic gases for critical-care treatments. A major supporter of his work, the Defense Advanced Research Projects Agency, or DARPA, gave him the 2007 Award for Significant Technical Achievement.

Roth is an affiliate professor of biochemistry at the University of Washington and he has published articles in publications such as *Science* and *Proceedings of the National Academy of Sciences*.

He also appears in Ripley's Believe It Or Not.

BUT WAIT, THERE'S MORE — ONLINE

Visit the Cascade website — cascade.uoregon.edu — for online extras that add a new dimension to stories in this issue.

SING ALONG WITH A MT. ST. HELENS BALLAD from English professor Dianne Dugaw's small collection. Her parents lived 30 miles from the volcano, and her father, a physician, treated many of those injured on the day of the eruption. The volcano, she says, was a pervasive presence in the lives of local people, and the eruption turned Mt. St. Helens from an awe-inspiring figure into a malevolent one. This post-eruption trauma was rendered into song by local musicians, like Mossyrock's Jeanie Bigbee, whose "Mighty Mount Saint Helens" sees the mountain as an avenger for man's crimes against nature. Listen to them on our website, cascade.uoregon.edu (read the story, page 2).

WHAT'S YOUR MT. ST. HELENS STORY? Where were you? What are your indelible memories of May 18, 1980? Add your own story at cascade.uoregon.edu (read the story, page 2).



LEARN MORE ABOUT ROGER JACOB'S ONCE-IN-A-LIFETIME OPPORTUNITY to study his tribal language, Sahaptin, with Yakama elder Virginia Beavert. Watch a video interview with Jacob and also listen to an audio interview with Beavert. You can also view an illustrated Sahaptin story — all at cascade.uoregon.edu (read our cover story, page 4).

WATCH A NARRATED SLIDESHOW OF THE ADVENTURES OF RUSSIAN JOURNALIST ELENA RODINA, including her encounter with Chechnyan soldiers and her reporting from Cuba. Rodina is now a graduate student in international studies (visit cascade.uoregon.edu and read the story, page 13).



WATCH THE FEB. 9 CAMPUS TALK BY TEMPLE GRANDIN, perhaps the world's best known and most accomplished person with autism. Also available online: an interview with Grandin on UO Today. You'll find links at cascade.uoregon.edu (read the story, page 16).

JOIN UO NEUROSCIENTISTS AS THEY PEER INTO ACTOR ALAN ALDA'S BRAIN on the PBS series "The Human Spark." Featured on the PBS program are psychology professors Helen Neville and Scott Frey. Neville's new 12-part *Changing Brains* video, which dispels myths about childhood brain development, may also be viewed online. Learn more at cascade.uoregon.edu (read the story about *Changing Brains*, page 22).



READ MORE ABOUT MARK ROTH'S RESEARCH INTO "HIBERNATION ON DEMAND" — also known as suspended animation. Read the *Esquire* article and watch Roth's talk at the latest TED Conference, where he explains how reducing demand for oxygen may help trauma victims. Visit cascade.uoregon.edu; see story, page 27.

BECOME A FAN OF THE UO COLLEGE OF ARTS AND SCIENCES. You can find us on Facebook.com (search for "University of Oregon College of Arts and Sciences"), where we will be posting up-to-date news and information.



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DEGREE PROGRAMS

Anthropology
 Asian Studies
 Biochemistry
 Biology
 Chemistry
 Chinese
 Cinema Studies
 Classical Civilization
 Classics
 Comparative Literature
 Computer and Information Science
 Creative Writing
 Economics
 English
 Environmental Science
 Environmental Studies
 Ethnic Studies
 Folklore
 French
 General Science
 Geography
 Geological Sciences
 German
 Greek
 History
 Humanities
 Human Physiology
 International Studies
 Italian
 Japanese
 Judaic Studies
 Latin
 Latin American Studies
 Linguistics
 Marine Biology
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 Mathematics and Computer Science
 Medieval Studies
 Philosophy
 Physics
 Political Science
 Psychology
 Religious Studies
 Romance Languages
 Russian and East European Studies
 Sociology
 Spanish
 Theatre Arts
 Women's and Gender Studies

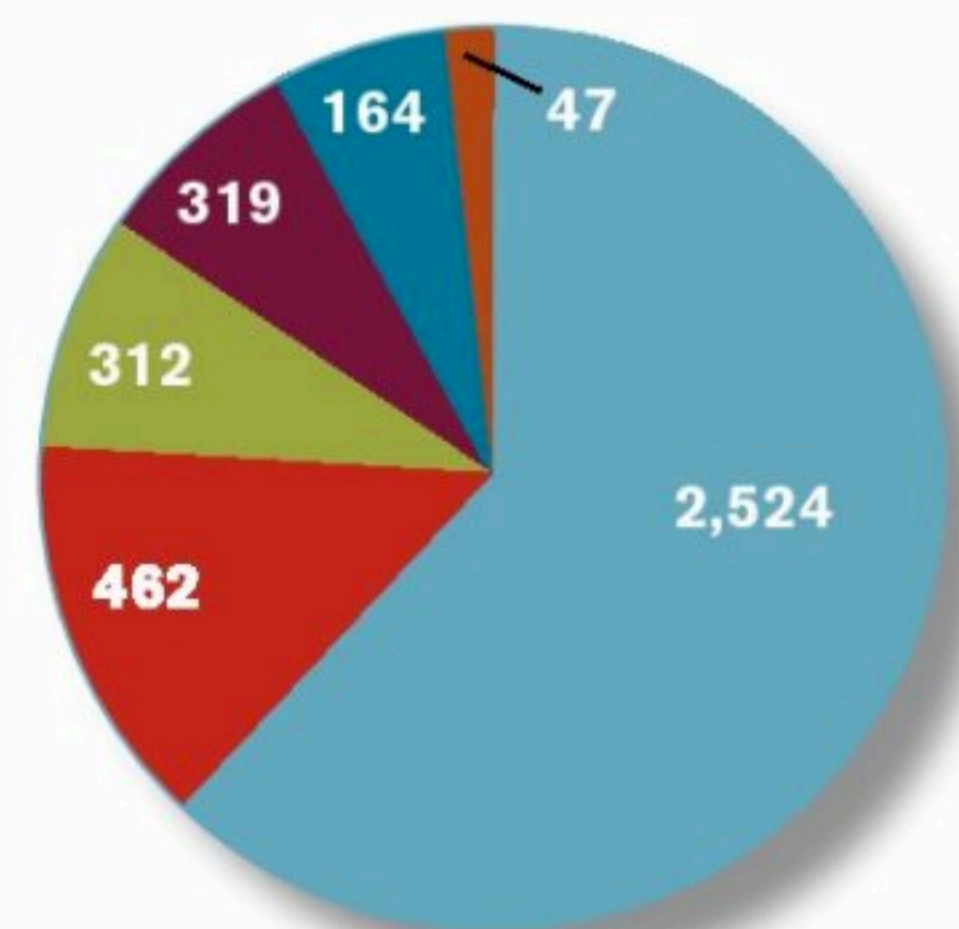
College of Arts & Sciences — *Did You Know?*

The College of Arts and Sciences is the academic heart of the University of Oregon. It provides a nucleus of liberal arts studies through degree programs in Humanities, Social Sciences and Natural Sciences.

NUMBER OF UNDERGRADUATE STUDENTS	10,913
NUMBER OF GRADUATE STUDENTS	1,174
UNDERGRADUATE DEGREES AWARDED IN 2009	2,524
GRADUATE DEGREES AWARDED IN 2009	116
PERCENT OF UO UNDERGRADUATE DEGREES AWARDED BY CAS	66%
PERCENT OF UO PH.D. DEGREES AWARDED BY CAS	67%
NUMBER OF LIVING ALUMNI	89,980
NUMBER OF FACULTY	526
NUMBER OF ACADEMIC DEPARTMENTS AND INTERDISCIPLINARY PROGRAMS	40
NUMBER OF DEGREE PROGRAMS	49

NUMBER OF UNDERGRADUATE DEGREES (2009):

■ COLLEGE OF ARTS AND SCIENCES	2,524
■ LUNDQUIST COLLEGE OF BUSINESS	462
■ SCHOOL OF JOURNALISM AND COMMUNICATION	312
■ SCHOOL OF ARCHITECTURE AND ALLIED ARTS	319
■ COLLEGE OF EDUCATION	164
■ SCHOOL OF MUSIC AND DANCE	47



TEN MOST POPULAR MAJORS IN THE COLLEGE OF ARTS AND SCIENCES

1. PSYCHOLOGY
2. POLITICAL SCIENCE
3. ENGLISH
4. HUMAN PHYSIOLOGY
5. BIOLOGY
6. SOCIOLOGY
7. ECONOMICS
8. HISTORY
9. ENVIRONMENTAL STUDIES
10. SPANISH

FACULTY HONORS AND AWARDS (CURRENT AND EMERITUS FACULTY)

- 32** GUGGENHEIM FELLOWS
- 29** FELLOWS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
- 15** NATIONAL SCIENCE FOUNDATION CAREER AWARDS
- 8** AMERICAN ACADEMY OF ARTS AND SCIENCES MEMBERS
- 5** NATIONAL ACADEMY OF SCIENCES MEMBERS
- 1** MACARTHUR FELLOW
- 1** NATIONAL MEDAL OF SCIENCE



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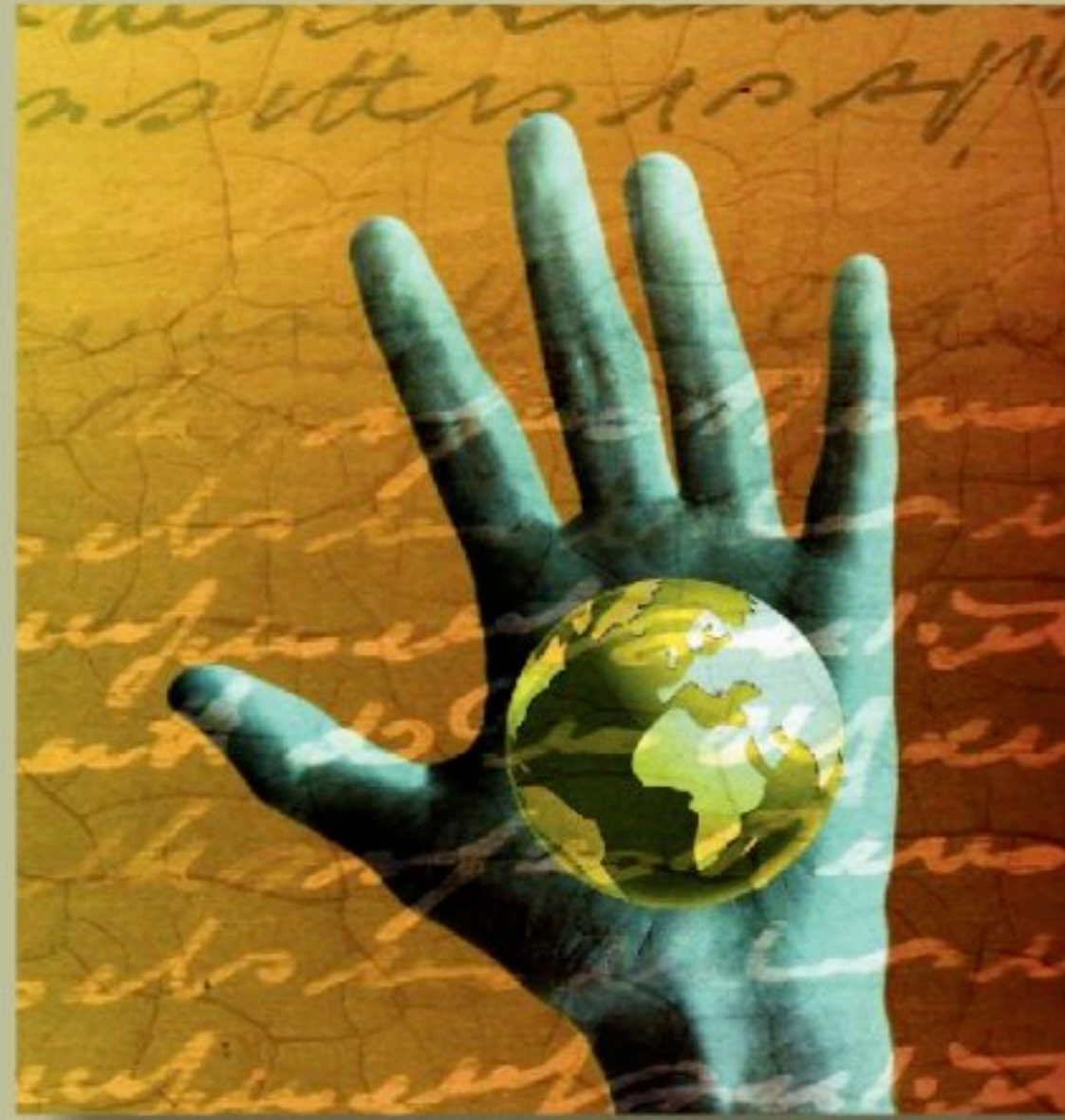
CASCADE

UO COLLEGE OF ARTS AND SCIENCES



2

As the 30th anniversary of the cataclysmic eruption of Mt. St. Helens approaches, a UO volcanologist looks back at the scientific and cultural impact.



14

Ecocritics apply a humanist touch to reveal our society's often conflicted and contradictory attitudes about the natural world.



21

Soaring mountains, windswept tundra and haunting stone monuments highlight thousands of photographs from the Altai Mountains of Mongolia.



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