NEW FORUM FOR ENVIRONMENTAL ISSUES

BY TOM CHRISTOPHER

PHOTOGRAPHY BY PAUL HORTON

Students in Barry Chernoff's 2009 Tropical Ecology Class gathered on a precipice overlooking Kaeiture Falls in Guyana.

The College of the Environment aims to create a constituency that can speak with insight and clarity about major environmental issues.

"Something big could happen here," Barry Chernoff remembers thinking when he first arrived on campus as a job candidate eight years ago. When he joined the faculty as Robert Schumann Professor of Environmental Studies, his brief was to revise and expand the Environmental Studies Certificate program—an assignment of ample scope, and one that he has pursued energetically and successfully. But Chernoff's dreams didn't stop there. Which is why this year, he is presiding over the establishment of the first new college at Wesleyan in 51 years, the College of the Environment.

In a sense, Chernoff was driven by concern as much as by aspiration. A field biologist by training, he had long been troubled by the disconnect between what he and his colleagues knew about environmental trends and challenges, versus public perception about the health of the planet. He had lost the faith, he says, that when "scientists in white lab coats speak the data, that people are going to turn around and listen." Climate scientists, for example, have been talking about truly huge challenges "for a very long time now, and by and large, they've been correct. But it's not working." As the stalling of clean energy legislation in Congress indicates, legislators feel no urgency in addressing global climate change even though a majority of the American population accepts, at least to some extent, the evidence concerning this issue.

"It comes down to this," Chernoff says, "and I don't think I'm overstating it. I believe that environmental issues are the ones that are going to shape our future over the next century. They already are: this millennium has started off in environmental crisis."

To spread this message, a new and more effective kind of spokesperson is needed, in Chernoff's view. An artist or theologian or philosopher or economist might persuade where scientists could not. Better yet would be to bring all these disciplines into partnership with scientists, to create a new and honest debate, one in which all the participants would be provided with the tools to understand the data so that they could serve as informed advocates. Wesleyan, with its history of interdisciplinary studies, seemed to Chernoff an ideal nursery for such a program. He had a vision of positioning Wesleyan at the center of this crisis, of helping it to become an example of how a university could train students rigorously in these issues, challenge them to form their own opinions. Get them engaged so that they can help our nation and the world make progress on these issues.

As Chernoff is the first to admit, he didn't develop this vision all on his own. It evolved through conversations and collaboration with professors in other departments. And the impetus for translating vision into reality came from President Michael S. Roth '78.

In the fall of 2007, shortly after he became president, Roth challenged all members of the faculty and staff to submit brief proposals outlining ambitious new goals for the university, "big ideas" that could have an impact across the campus. Chernoff put his dream on paper, and Roth asked him to translate that dream into an interdisciplinary college like the COL and CSS. The president and the panels he assembled each selected it as one of several to pursue. Roth continued to support the idea of a new college even after the financial crash of 2008 bled the university's endowment. During a meeting over breakfast at O'Rourke's Diner, the two worked out a minimum budget to keep planning and development afloat.

This has proved to be a good investment:

In 2010, the Andrew M. Mellon Foundation donated $800,000 to support the first four years of operation of CoE (as the new college has come to be known) and this fall, the Huffington Family Foundation contributed $3 million to fund an endowed chair.

The structure that has been established for the CoE is simple yet innovative, reflecting the holistic nature of the vision that inspired it. "The academic spine," in Chernoff's words, requires each enrollee to complete a primary major in some other department, to ensure the diversity of expertise and perspective that is the CoE goal. In addition, each student must complete the requirements for an Environmental Studies major: an introductory course and seven electives. Electives must include one course from each of three core academic areas (arts and humanities, social sciences, and natural science and mathematics) and a four-course thematic concentration on environmental issues of the student's choosing. Finally, each enrollee must complete a senior capstone experience and a senior colloquium, a discussion with faculty and other majors of their project.

This design has a two-fold purpose. First, it allows scholarly work from any one of the disciplines on campus to be included in a student's curriculum. Second, it is deliberately rigorous, avoiding the intellectual "softness" that Earth and Environmental Sciences Professor Peter Patton (one of Chernoff's early "sounding boards") identifies as the besetting danger of cross-disciplinary scientific programs.

Interlinked with the curriculum is a think tank composed of Wesleyan faculty and undergraduates and post-docs, and (in the future) prominent scholars from off-campus who will each year focus on a critical environmental issue. The theme for 2010–2011, for example, is "the vulnerability of social, economic, and natural systems (including climate change) to multiple sources of external stress," and the faculty fellows are Dana Royer, assistant professor of earth and environmental sciences; Gina Ulysse, associate professor of African American studies, anthropology and feminist, gender and sexuality studies; and Gary Yohe, first holder of the Huffington Foundation Endowed Chair, who in 2007 was awarded a share of the Nobel Peace Prize for his work with the United Nations Intergovernmental Panel on Climate Change.

The third branch of the College is outreach, an area which Chernoff and his collaborators have already explored in some depth. In the fall of 2008, Chernoff collaborated with Director of the Center for the Arts Pamela Tatge '84 and nationally recognized choreographer and performance artist Ann Carlson to assemble "Feet to the Fire," a multi-faceted exploration of global climate change that combined lectures and courses with dance and musical performances, art shows, after-school programs for children and a daylong community-wide "eco-arts festival."

Dance, in fact, has emerged as one of the eco collaborators' most powerful tools. Katja Kolcio, associate professor of dance, cites Chernoff's participation in her 2008 modern technique course, which she had dubbed "Moving Self, Moving Earth." The goal was to examine the movement of the dancer's body in relation to environment and global climate change, to understand the moving self as an integral part of the moving Earth. When Chernoff lectured the class about consumption and waste, for example, students were required to develop a personal movement score inspired by whatever bit of waste they had rescued, seeking inspiration in where the waste originated, what it had weathered and what its final destination would likely be. When Chernoff discussed global climate change as a complex of natural cycles and human activities, Kolcio required students to write their own personal history of place, recording all the places they have lived or visited with an analysis of how that has affected their attitudes and movement. Personalizing the science in this way, Kolcio says, proved "an incredibly powerful experience."

Chernoff, in turn has become intrigued by the way in which the physical and contemplative practice of dance serves as a medium for the investigation of the environment. In his tropical ecology class in the spring of 2010, he partnered with Liz Lerman, the founding artistic director of the Liz Lerman Dance Exchange, and company members Cassie Meador and Matt Mahaney, using dance as well as field biology to enhance students' understanding of the subject. Dancers and scientist cooperated in a field trip to Guyana to observe and absorb through dance the effects of global climate change on this sensitive ecosystem. Students told Chernoff that the dance had helped them to "feel the tropics," an assertion he doesn't take lightly. He believes that students gain a deeper understanding of the issues as a result of such a partnership because dance, as well as other arts, addresses our emotional and cerebral sides.

FOR THIS COLLEGE TO SUCCEED, IT IS ESSENTIAL THAT ITS MEMBERS BE "HONEST DEBATERS," THAT IT CHALLENGE STUDENTS TO FORM THEIR OWN OPINIONS.

Such synergistic interaction between disciplines is hardly new at Wesleyan, of course. Indeed, it's a deep-rooted tradition, and this seems to have been one key to the easy, enthusiastic acceptance among faculty and students of the new college.

For some faculty, involvement with CoE began even before the proposal was presented to President Roth. Associate Professor of Philosophy Lori Gruen had been a sounding board for Chernoff in developing the original concept and is now on the roster of CoE participating faculty. Appropriately so, as she had been applying the analytic techniques of philosophy to environmental issues since the beginning of her career: environmental ethics had been the subject of her doctoral thesis. She also co-edited one of the first books in environmental philosophy called *Reflecting on Nature* (Oxford, 1994) and is currently working on the second edition.

Outreach has been one of her strengths. An article she co-wrote with eco-critic and literary professor Greta Gaard 17 years ago, "Eco-Feminism: Toward Global Justice and Planetary Health," has become a classic of sorts, having been republished repeatedly in environmental anthologies, and she has just been contacted about writing a postscript. She has also written in partnership with biologist and Lauren B. Dachs Professor of Science in Society Laura Grabel, concerning the ethical and legal issues surrounding embryonic stem cell research for venues as scholarly as the journal *Metaphilosophy* and as populist as the *Hartford Courant* op-ed page. As a practical ethicist, she has also explored—in classes and in print—humanity's relationship to the primates and other members of the animal world, collaborating on a number of projects with Princeton's Peter Singer, author of *Animal Liberation*. Currently, she is working with two post-docs (one supported by the Andrew M. Mellon Foundation) to expand a digital text concerning environmental ethics available online (www.wesleyan.edu/ethics/teaching/).

The importance of the new college, Gruen says, is that it will create and assemble for students many tools "for solving problems in an interdisciplinary way." These tools can be as fundamental as the words used to express ideas.

As a member of the 2010–2011 think tank, Phoebe Stonebraker '11 found that the first order of business at the weekly meetings has been to develop an interdisciplinary vocabulary. Stonebraker opens her Moleskine notebook to show the definitions the members have been developing for abstract terms such as adaptation, sustainability, and resilience—words crossed out and replaced, only to be crossed out and replaced again. "We're finding that even the language you use has an implication in one discipline that it doesn't in another," she says.

On a more immediately applicable level, Stonebraker found the exchanges at think tank meetings broadly expanded her understanding of her research project. An enthusiastic participant in Chernoff's tropical ecology class and field trip to Guyana, she returned to Guyana for four weeks in the summer of 2010 to collect tissue samples from a small fish, *Poecilia parae*, that inhabits the brackish sections of an extensive system of drainage ditches and canals that also serve for waste disposal.

Her original intention, Stonebraker explains, had been to use DNA fingerprinting to distinguish different populations of this fish and to determine whether it's possible to use genetic diversity to identify the physical barriers within the drainage system, in particular the barrier created by a shift from brackish water to fresh. Explaining her research to an audience largely composed of non-scientists forced her to reformulate it in less technical language, which led her to question her own assumptions. Questions originating in other disciplines—anthropology, philosophy, economics, and others—have helped her to reassess "why and what I'm doing, the words I'm using." The physical barriers she has been exploring, she has realized, relate to stresses within the fishes' environment and understanding that interaction makes her study, in some part, one of biological resilience.

This experience has made Stonebraker more inclined to speak up in classes outside her field of concentration, to feel that what she can contribute as a budding scientist is relevant, for example, to a discussion of anthropology. "It's not *no* discipline," she is quick to add, "it's *inter*disciplinary."

In a purely practical sense, says Nora Vogel '11, enrollment in the CoE is useful to a student of broad interests because it opens doors to courses ordinarily available only to majors in other departments—"really great upper level ones, the tiny seminars where everyone is really into the material." She had taken only one economics course previously, yet Professor Yohe allowed her to join the 15 students, mostly economics majors, in his Economics of Sustainable Development, Vulnerability, and Resilience.

"As long as you've done a dedicated study of the environmental issues," Vogel recalls Yohe telling her, "you'll come from one side and they (the other students) will come from the other and you'll meet in the middle."

A Science in Society major, Vogel enrolled in the CoE in its first semester (fall of 2010). She too had begun her years at Wesleyan considering a major in biology, but found herself wanting to understand more than just how to do the science. What are the difficulties involved in achieving something like true objectivity? What are the factors that influence the progress from "science in the lab to the science people act on and think on in the real world; that's a big concern for me," she says. Her senior essay is, in its own way, a perfect illustration of the sort of informed citizenship Chernoff wants the College to cultivate.

Seniors Nora Vogel, Eleni Healey, and Phoebe Stonebraker have found that participation in the College of the Environment nurtures informed citizenship.

BILL BURKHART

Phoebe Stonebraker '11, Molly Friedemann '11, and Jonathan Wright '09 worked in a small creek on their aquatic ecology research project as part of the tropical ecology course.

Vogel is conducting an investigation of climate change deniers, trying to identify the factors that determine where a person stops along the intellectual spectrum from full acceptance of the climatological data and utter denial.

Every participant in this new venture has his or her own perspective. Eleni Healey '11 discovered Helen and Scott Nearing's 1954 paean to modern homesteading in rural Vermont, *Living the Good Life*, in a course on American pastoral literature. Through the CoE, she has launched a study of that iconic New England industry, maple sugaring. This she has planned as an intersection of forest ecology, economics, environmental change and stress, and oral history. Each of these perspectives cast light on the others: the sugar and syrup producers Healey interviewed in Vermont last summer are necessarily keen observers of the environment, weather patterns, and climate. As several told her, they and their maples are canaries in the environmental coal mine. Ten years ago, one testified, he began tapping trees in March but now begins in February.

For this College to succeed, according to Chernoff, it is essential that its members be "honest debaters," that it challenge students to form their own opinions. Jeremy Isard '11 cites his own experience as a case study. A College of Social Sciences major who is an environmental studies linked-major, Isard is the other undergraduate member of the 2010–2011 think tank. A primary focus through his junior and senior years has been his experience in displaced persons camps in Uganda and Rwanda. He spent time in such communities during the fall of 2009 as part of the School for International Training's program in "Post-Conflict Transformation." He returned on his own for six weeks during the summer of 2010 to interview residents for a project that has since evolved to focus on memory, narrative, and trauma in displacement and how such forces affect one's understanding and articulation of the past, as well as how that influences social participation in the present.

In part, what his time in the camps taught him, Isard says, was how to listen to stories. "Exchanging experiences through conversations and observing the tensions between our different realities was more important to me than research through information-extracting questions," he says. The stories were horrifying, such as the reminiscences of "bush mothers" kidnapped, often during brutal massacres of their relatives and neighbors, and then sexually enslaved by a militaristic dissident group, the Lord's Resistance Army.

Discussions in the think tank have prompted Isard to look at his material differently. The interviews still move him every time he listens to them, but he is also learning to treat them analytically and, at times, to extract from them data for quantitative analysis. Fellow members of the think tank have been instrumental in helping him balance quantitative and qualitative approaches in ways that reinforce each other.

Chernoff agrees that such conversations are essential. "Listen to the arguments," he urges. "Don't just grab something and shout about it, but listen to what the counter-arguments are, and admit the truth in the other person's positions. We are going to have to make choices as we address environmental challenges. It frightens me if the choices come down to public opinion and we don't have enough citizens who are knowledgeable about these things, or who have learned to speak in plain language without depending on appeals to authority." That, fundamentally, is the College of the Environment's goal—to create a constituency that can listen as well as talk, and speak to the heart of the crises that are coming.

Tom Christopher is a freelance writer who heats his home with a geothermal system.

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