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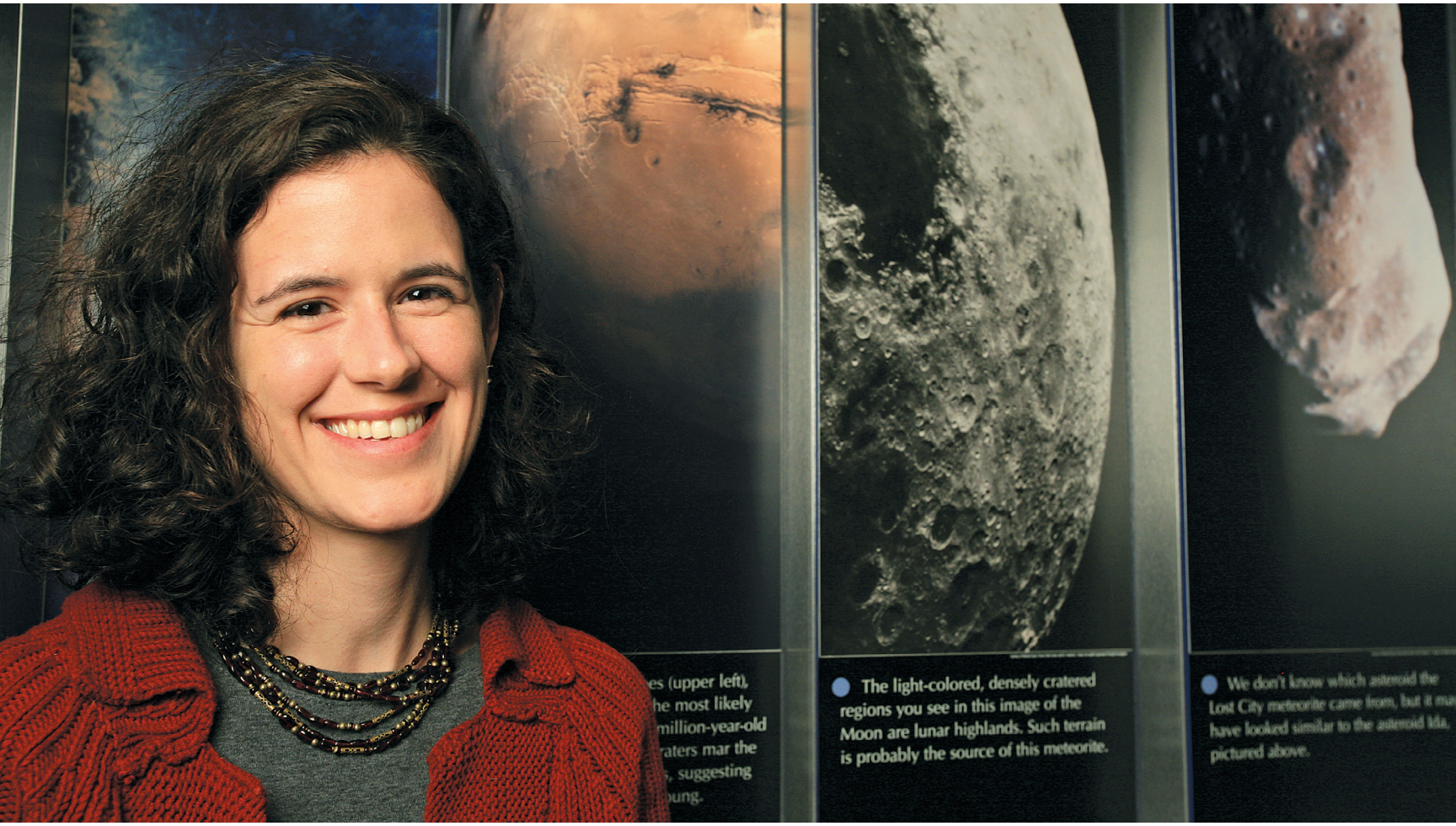
From the Hill

Laura Meader
Colby College

Lauren Pongan
Colby College

Gerry Boyle
Colby College

Stephen Collins
Colby College



Q&A

VOLCANOLOGIST MARIEK SCHMIDT '99 ON MARTIAN VOLCANOES AND WHAT THEY CAN TELL US ABOUT THE GEOLOGIC HISTORY OF THE RED PLANET

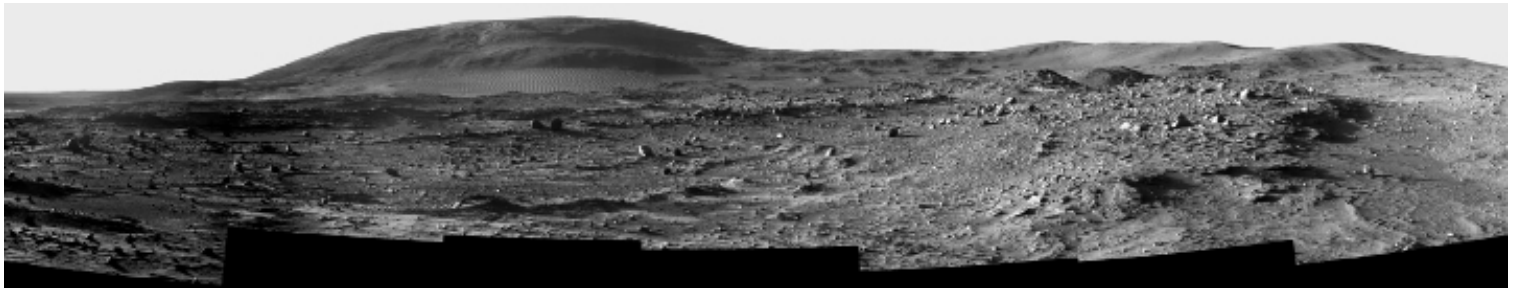
Mariek Schmidt '99, a geology major at Colby, is a postdoctoral fellow in the department of mineral sciences at the Smithsonian National Museum of Natural History. After writing her dissertation on North Sister in the Three Sisters volcanic field in Oregon, she joined the mission working with the Mars rover Spirit. She spoke with Colby staff writer Laura Meader about rocks, water, and life on Mars.

How did you become a volcanologist?
Volcanology is just a sub-discipline of geology. One of the first upper-level geology classes you take at Colby is called mineralogy. Each mineral tells a story about how it formed. You look at a rock, it has a particular mineral in it, you could say something about how that rock formed. And you can start to put together a story of that rock or the plate that the rock was formed in.

Volcanology is following that to the next level—it's exciting and it's active. I got into volcanology because I was interested in the chemistry of rocks and the minerals in them.

You're working with the Spirit rover. Aren't there two rovers on Mars?
The Mars rover mission began at two different sites in 2004. They chose these sites thinking they were going to find sedimentary rocks. The Opportunity rover did find sedimentary rock. But the Spirit rover was at Gusev Crater and they thought they were going to find lakeshore deposits and instead they found basaltic lava. Fairly early on in the mission people were kind of disappointed with what Spirit had found, because there wasn't evidence for water. That was the whole goal of the mission, to find evidence of water at that particular crater.

You were brought on to the mission after they found the volcanic rock?
Basically they realized that there are very few people on the mission that could interpret volcanic rock. The other people on the mission who work with chemistry and mineralogy of rock are people who either work on meteorites—so they work on igneous rock but they're rocks that have no geologic context—or they think about things from orbit.



An image of the Columbia Hills on Mars as captured by the rover Spirit. The light-toned layered rocks of Home Plate are visible in mid-ground, and the profile of Husband Hill is in the background.

How does a volcano on Mars differ from one on Earth?
The largest volcano in the Solar System is found on Mars. It's called Olympus Mons. It is absolutely enormous. It's equivalent in size to the state of Arizona. The reason why that volcano—and others on Mars—is so big is because on Mars there's no plate tectonics.

A volcano like Hawaii is a hot spot volcano. What happens at Hawaii is there's a stream of hot magma that's focused in one place. And we have plates that move over the top of that hot spot on the Earth. Because that plate is moving over the top of it, you have a line of volcanoes that are downstream of it. On Mars there's no plate tectonics. So everything that forms in that one hot spot is built up in one place.

Why are there no plate tectonics on Mars?
It's actually because of the size—it's a smaller planet. Mars is two thirds the size of the Earth. So basically it's cooled to a point where there's nothing that's driving flow within the mantle anymore.

What was it like studying Mars after working with Earth rocks?
It's been an interesting transition coming from a terrestrial background where I'm used to being able to handle rocks and walk around the field. Now I'm in a field where it's a mission, so there's a lot of people involved. There's engineers, there's planetary geologists, there's meteorists, there's people who develop the instruments. … So I went from a situation where I was a single researcher and then became part of this bigger thing. But I bring to it a different perspective because I had the terrestrial background.

Do you have to vie for attention?
Yeah, we do actually. Let's say the rover is driving someplace and I see a rock that I think is really interesting. In order for that rover to actually go over and examine that rock, I have to come up with a workable plan for that to occur. And not only do I have to come up with a workable plan, I have to come up with a hypothesis for why we would study it.

For example, the Spirit rover has been in a place called Home Plate for almost three years. Home Plate is a platform of bedrock. It's only 80 meters across. And one side of the structure has one kind of mineralogy and the other side of the structure has another kind. So there's what we call a mineralogical gradient across it. I suggested that we do a series of observations using the chemical equipment to analyze the structure along a traverse to track how that mineralogy changes.

There's such a mystique about Mars. What's it like working with Martian rocks?
It's definitely different from working on Earth. On Earth we have so much data—we have existing theories we can work with and, basically, most things we learn on Earth we fit it into our preexisting understanding of the planet. Whereas on Mars we only know information about a handful of sites. We have the orbital view, which is really great right now, but we've only landed successfully in a handful of places.

When you're studying the raw data, is there much difference between data from Earth and Mars?
It's different because the instruments we use are very different. For example on Earth, when I look at terrestrial rocks, a lot of times I'll look at a thin section under a microscope, where you see the mineralogy very, very well and you can see the texture very, very well. But on Mars we can't do that sort of thing. We're basically left with what's visible as the outer surface of the rock.

Do you have a favorite image of Mars or a favorite area?
I'm attached to Home Plate—I've done most of my work on it. My favorite image was one that we took—it was actually taken in black and white—but it was taken at a low sun angle, so it was taken pretty late in the day. Usually when the sun goes down we shut off the rover in order to conserve power, so it's rare to get these kinds of pictures. But what you can see in it are these beautiful shadows across the plate. It's just a stunning image.

Beyond the search for water, are you looking for something specific?
Now we've found water at both sites. At Opportunity rover we found water and it looks like it was a sedimentary system. At the Spirit site we found evidence for water as well and it turns out to be these hydrothermal deposits, which are basically rocks that have been altered by water and volcanic gases. Now we're interested in what the nature of that water is or the nature of those volcanic acids and whether or not they could sustain an environment that could possibly have life. We're getting more of an understanding of environment as opposed to just "is there water?"

Do you think there was once life on Mars?
We haven't found it. I think it's possible.

In what form?
I don't think there's going to be dinosaurs walking around. I'm imagining something more in the lines of scum. Microbes, things that might digest rocks or that might use hydrothermal fluids to get energy. Things like that.

If you had the chance, would you travel to Mars?
[Long pause.] It depends on whether or not I could come back. There's always the possibility that you wouldn't return, and I don't think that my husband would be that happy about that.

LEFT: PHOTO BY LINDA WELZENBACH, RIGHT: NASA/JPL-CALTECH/CORNELL

A Healing Touch

JANE HUBLEY HELPS REFUGEE CHILDREN HEAL THE WOUNDS OF WAR

LAUREN PONGAN '09 STORY **FRED FIELD** PHOTO

On the phone with an Arabic translator and sitting next to an Iraqi refugee, school social worker Jane Hubley '76 told the translator, "If you help me, I'll help her." The refugee—the mother of one of Hubley's sixth-grade students—and Hubley took turns on the phone speaking with the translator as Hubley explained the logistics of moving the student into a junior high equipped to help English as a Second Language (ESL) students. The junior high would be the student's latest stop after fleeing Iraq for Syria.

"It's difficult for many Iraqis who were middle or upper-middle class in Iraq, but then they arrive here with nothing," Hubley said.

"Here" is the East End Community School in Portland, Maine, which, like many public schools in the United States, is home to a newly diverse population of refugee students from around the world.

In 2008 alone, according to the U.S. State Department, more than 60,000 refugees have come to the United States. They bring with them memories of experiences that few of their non-refugee classmates could imagine.

"Some of these kids had seen people murdered or had seen people having their eyes drilled out," said Hubley. She recalled how puzzled she initially was when some of her refugee students began rummaging through other students' lunch bags—until she realized that while in refugee camps they survived by scavenging for food. "Refugee children, more so than any normal kid who moves somewhere, have the trauma of their experiences as a challenge of integrating successfully into a new environment," said Jake Kurtzer, a congressional advocate for Refugees International. Kurtzer prescribes increased funding to adequately address children refugees' issues through services such as Hubley's social work.

For the refugee students and counseling staff, like Hubley, it's a new and sometimes daunting challenge. "The way a school might typically work is you send the social worker the bad kids, the naughty kids, the sad kids," she said. "But you get a refugee population and they're sad all the time, and you might not know that."

It's Hubley's job to know, and to do that she moves through the school daily, connecting with the school's nearly 430 students, almost half of whom do not speak English at home. Hubley takes what she calls their "emotional temperature." "If I was an old-fashioned social worker," she said, "I would sit in my room and the teachers would call me when the kids would explode."

Instead Hubley tries to meet students' emotional needs before serious problems arise. That takes constant interaction and, as a result, she knows all of the students by name—and has heard firsthand their stories—and the trauma of their experiences.

Hubley has responded to her students' needs with creative and often nontraditional approaches to social work. "In her social work practice, Jane does not do the easy thing, but she does the right thing," said Ken Kunin, principal of Deering High School and Hubley's former colleague. "Countless times she has taken the extra time to connect with a student, to seek out a parent, to take time to inform a teacher, and to problem-solve with colleagues."

Hubley feels strongly that respecting children's autonomy is essential to helping them to feel emotionally and physically healthy and to heal traumas from their past. "Another thing that I believe is that the kids are people. We shouldn't be controlling them," she said.

In what she calls "guerrilla social work," Hubley mostly walks the halls to make herself available to students. "I like to be totally present so that kids can grab me and say, 'I need this. I need that,'" she said.

Another nontraditional outlet Hubley wants to use is play writing. "I think the way to get people to understand the trauma of refugees is through art," said Hubley. She is writing *Bus 61,* a play about the personal stories contained within a single school bus, as a way to facilitate the understanding of refugees' problems.

Given Hubley's history of activism, it seems natural that she would be drawn to helping refugees. While at Colby she was half of a two-person sit-in to protest a lack of private women's health care. She recalled protecting a social event organized by the gay, lesbian, bisexual, and transgender group on campus, to prevent harassment of members. "Like the refugee population, initially I didn't realize [the GLBT students] were in danger," said Hubley.

Hubley's first love is art history, but when she took a job at the St. Mary's Home for Girls, in Manchester, N.H., she discovered the rewards of helping others. She went on to earn a master's degree from the University of Chicago's School of Social Service Administration in 1983.

For her sabbatical next year, Hubley is enrolled in the International Trauma Studies Program at New York University, which may include a hands-on component for helping victims of trauma in Africa.

"There's a human condition and we join it," she said, "and we are responsible for what we know. We can't fix things, but we cannot add to the suffering."

Social worker Jane Hubley '76 with a few of her students at East End Community School in Portland, Maine. Hubley works with children new to Maine and the United States, including many from families resettled from refugee camps. The new arrivals have different needs an offer new challenges for educators.

In Our Blood

TRACING THE PATH OF MAN AND MALARIA THROUGH HISTORY

GERRY BOYLE '78 REVIEW

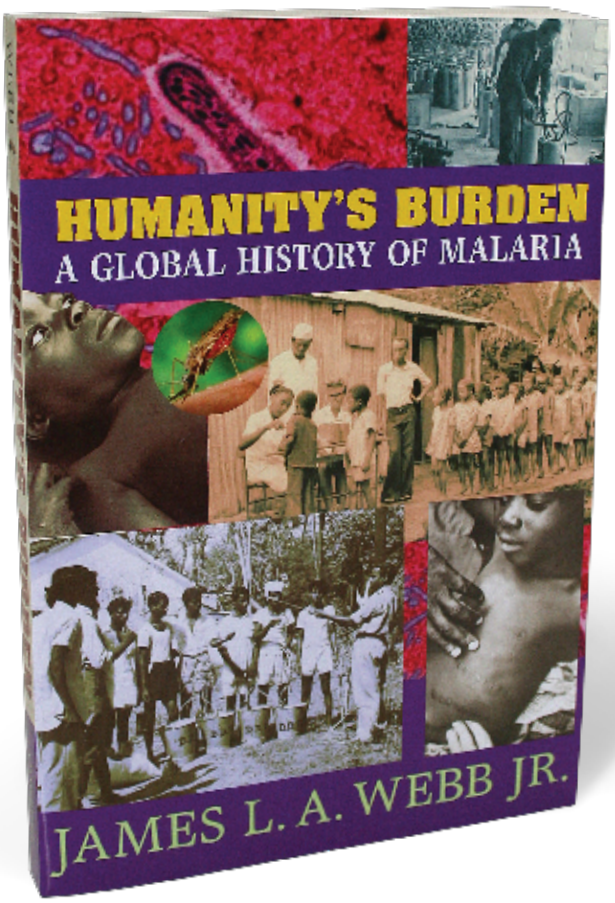
Most of us think of malaria, if we think of it at all, as an unavoidable fact of life, a health hazard that plagues people in equatorial regions, as consistent and predictable as the sweltering tropical climate. Historian James L.A. Webb Jr., in this wide-ranging and compelling book, shows that humans and malaria have a long, evolving, and fascinating relationship, with people—from the time of the earliest hominids to the present day—playing host to the mosquito-borne parasite that has significantly shaped the way our species has developed around the world.

What might seem a daunting task—chronicling the role of malaria in world history—is accomplished through an accessible narrative in which Webb weaves history and science, epidemiology and health policy, archaeology and genetics. What emerges is an interdisciplinary big-picture look at a force that has had profound effects on our species but is usually viewed through a narrow lens.

The story begins in prehistoric tropical Africa. It explores a model that has human populations growing partly, the theory goes, because of a genetic mutation that made some people immune to a prevalent type of malaria. Later, cultivation of forest crops, including yams known to increase resistance to malaria, affected where and how human civilization developed.

Human migrants who left Africa for Eurasia left behind many of the tropical insects and animals that spread myriad diseases among humans, Webb writes. "However, they could not flee easily from the malarial infections. They carried these infections in their bloodstreams, and in a spate of intense misfortune, as the migrants rambled through the wilds of Afro-Eurasia, they encountered the never-ending hum of Anopheles mosquito species that could play host to malaria parasites."

On to the Americas, where malaria may have been spread by Spanish conquerors, and where the Caribbean basin proved to be "a lethal environment for non-immunes." When the British invaded the island of Saint Domingue in 1794 to suppress a revolt by African slaves, an estimated 100,000 troops died—of malaria. The same fate befell the French troops in Haiti, a country created by rebels supported by epidemiology.



Humanity's Burden: A Global History of Malaria
James L.A. Webb Jr. (history)
Cambridge University Press (2009)

Webb moves adroitly through history, considering wars of the 19th century (a major reason for malaria's spread during that period), the use of quinine (and global trade in the tree bark from which it was first derived), anti-mosquito campaigns after World War II, and the recent resurgence of malaria in Africa, where the saga began. Why the resurgence? One factor, Webb reports, may be the growing of hybrid maize, the pollen of which is a boon to mosquito larvae.

It appears that malaria's role in human development is long-standing and ongoing. In this book, Webb gives the disease its deserved place in history.—Gerry Boyle '78

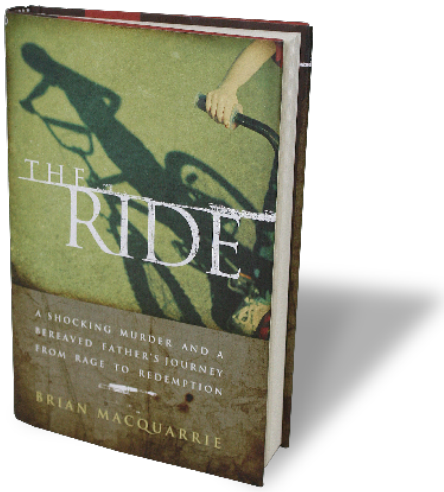
A Rough Ride and Unexpected Destination

The subtitle on MacQuarrie's first book-length project is, "A shocking murder and a bereaved father's journey from rage to redemption." And what a ride it is. A more gruesome narrative than the first 50 pages, which describe in excruciating detail the 1997 abduction, murder, and sexual abuse of 10-year-old Jeffrey Curley from East Cambridge, Mass., is hard to imagine.

But beyond the macabre crime, the book unfolds on multiple levels, incorporating court reporting on the trials, statehouse reporting on campaigns for the death penalty, and, ultimately, an intimate portrait of Jeffrey's father, Bob Curley, who fitfully rebuilds his life after the murder. The crux of the story is Bob's conversion from a frothing death-penalty advocate to an articulate spokesman against capital punishment.

The levels reflect MacQuarrie's varied experience as a general assignment reporter for the *Boston Globe* for 20 years, covering more than his share of mayhem. MacQuarrie's animated, finely tuned prose carries the day, turning the book into a piece that Sister Helen Prejean calls "a riveting story of the redemptive potential of the human spirit." *—Stephen Collins '74*

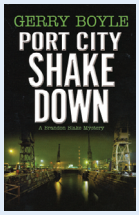
The Ride
Brian MacQuarrie '74
Da Capo Press (2009)



RECENT RELEASES

Paying the Human Costs of War: American Public Opinion & Casualties in Military Conflicts
Christopher Gelpi, Peter D. Feaver, and Jason Reifler '95
Princeton University Press (2009)

Reifler, assistant professor of political science at Georgia State University, and his coauthors painstakingly dismantle the conventional wisdom that says the American public judges the merits of U.S. military conflicts based solely on casualty numbers. When casualties mount, does public support diminish? Not necessarily, the authors say. Using evidence gleaned from public reactions to conflicts from Korea to Iraq, they argue that the public doesn't get enough credit. In fact, polling data and voting patterns show that public support for military action hinges more on whether the United States is likely to win a military conflict than on the numbers of casualties associated with that conflict. In Iraq, for example, "expectations of success trumped other considerations in determining the public's casualty tolerance," the authors write. If the cost of military action does not exceed the benefits, they conclude, "policymakers need not fear that public indecisiveness will hamstring effective foreign policy." *—G.B.*



Port City Shakedown
Gerry Boyle '78
Down East Books (2009)

'Rest In Peace' is hardly the case.

A fight breaks out at a funeral and Brandon Blake finds himself in the wrong place at the wrong time. Along the docks in Portland, Maine, a sociopath fresh out of jail is now stalking Blake, a police intern and aspiring detective, who is the new hero in Boyle's latest crime novel.

Battered by abandonment issues, Blake must open his lonely world to protect the only two people who matter: the alcoholic grandmother who raised him, and his new girlfriend Mia. Along the way he learns that love does not always have to hurt. Even his mother's memory is at stake when clues surrounding her mysterious death resurface near the very ocean that took her life.

Boyle gives us insight into the mind of a vicious criminal and his target, a young man in some way also lost at sea. And, just when you think it's safe to stop and take a breath, another turn of events unfolds as Blake discovers things are not always what they seem—on dry land or beyond. *—Dana Hernandez*

Minor League Mom: A Mother's Journey Through the Red Sox Farm Teams
Pam Plumb Carey '65
Barking Cat Books (2009)

We know that professional baseball players have agents, coaches, managers. We forget that behind every ballplayer there most likely is a mom and/or dad vicariously feeling the thrill of victory and agony of defeat.

Pam Plumb Carey '65 was one of those moms. With her husband, Charley, she rode the roller-coaster baseball careers of sons Todd (shortstop, Brown) and Tim (catcher, Dartmouth), who both were drafted by the Boston Red Sox. For the Carey family it was a dream come, well, almost true, as the Carey brothers entered the rough-and-tumble world of minor league baseball. They never quite made the bigs but came darn close. Todd Carey played for the AAA Pawtucket Red Sox alongside future stars like Trot Nixon; Tim Carey rose to AA ball before being released.

Their mom provides a fascinatingly detailed account of the family's baseball career, and any parent will feel every hit and strikeout. "I don't know whether players or their parents develop worse paranoia," Pam Carey writes. "We dissected, regurgitated, and diagnosed every word the managers said to our kids."

And, thankfully for us readers, she must have been taking notes.—G.B.

Women's Lacrosse Tops NESCAC—Again

SECOND CONSECUTIVE CHAMPIONSHIP AS TEAM DEFENDS ITS CROWN

STEPHEN COLLINS '74 STORY **ELIZABETH HATHAWAY '11** PHOTO

Women's lacrosse won the NESCAC championship in May—the second year in a row that the Mules prevailed in what is widely regarded as the most competitive Division III conference in the country. But the second championship season had a very different character, according to players and their coach.

Last year Colby was fighting its way up. Until 2008 Middlebury had won every NESCAC tournament ever held—seven in a row after the conference launched the championship series in 2000. But, following last year's dramatic underdog victory, this year Colby played like the defending champion it was.

Following a loss to Tufts in the second game of the 2009 campaign, the team went without a defeat over the next 15 games, right through the NESCAC tourney. Among many highlights: beating the number-one D. III team in the nation, Salisbury, March 24. That victory, plus a triple-overtime 10-9 win over Middlebury three days later and a parade of subsequent victories earned the Mules a number-two national ranking in mid-April, and they entered the postseason ranked third.

> "When you have your strongest players being your hardest workers, they set the tone."
>
> – Coach Karen MacCrate Henning

The repeat championship was an extraordinary accomplishment for coach Karen MacCrate Henning, whose teams won NESCAC laurels in both her first and second years coaching at Colby. She attributed a good measure of the success to this year's seven seniors. "When you have

your strongest players being your hardest workers, they set the tone," she said.

Henning had won two national championships in Div. II at C.W. Post before she came to Colby. Co-captain and four-time All-American Kate Sheridan '09, who has played at a very high level since she was in fifth grade, said of Henning, "I've never had a coach whose knowledge of the game is so impressive."

But Sheridan also perceived that mixing a new coach with a team so tightly bonded that players describe it as "like a family" could be tricky, and she credited Henning for deftly navigating the intricacies of introducing a new system while respecting the traditions and bonds already in place.

Co-captain Cary Finnegan '09, who was also Student Government Association vice president, described the arc of the team's rising fortunes when she recalled conversations with Sheridan in their first two years: "We would say, 'If we could just beat Middlebury once before we graduate.'"

They got their wish in the championship game in 2008, then beat Middlebury twice this year—in three overtimes during the regular season, then with a more convincing 17-12 victory in the NESCAC semifinal. (Ultimately Middlebury's Panthers would exact a measure of revenge in the NCAA regional semifinal on May 9, but it would require a complete retooling of their game plan to do so.)

The Mules secured the NESCAC championship with a 12-10 win over Williams in the final, a game Williams led at halftime. Colby finished the season ranked eighth in NCAA Division III, behind Middlebury (6) and Tufts (7), despite the NESCAC championship.

PHOTO BY ROB KIEVIT '09

Co-captain and four-time All-American Kate Sheridan '09, left, who helped Colby win its second NESCAC championship. Above, Lauren Barrett '09 in pursuit against Middlebury.

Nor were all of the team's triumphs on the field. Sheridan, a two-time NESCAC Player of the Year who broke more scoring records than there is room to report here, and Finnegan volunteered as co-leaders of a Hardy Girls coalition-building group, working with 11 fourth grade girls in Vassalboro. The experience propelled Finnegan to try her hand at teaching after graduation, and she will be working for Teach For American in Hartford, Conn. Sheridan had a plan that included a job in Australia that would allow her to play for a club lacrosse team Down Under this year.

And how does Coach Henning see her third act shaping up, after graduating seven seniors?

"I'm excited about next year," she said. "These players have been in the shadows of the senior class." She noted that Amy Campbell '10 was a first-team All-NESCAC and Caroline Duke '10 was a second-team All-American, both as juniors, and Kathleen Kramer '10 was NESCAC player of the week in March, so there's plenty of talent returning.

"It's a little unusual," Henning said. "I'm not sure who's going to step up and want to drive."

For a Lacrosse Magazine Online story about Henning and Sheridan by Jac Coyne '94, "Power Players: Colby's Perfect Match," see www.colby.mag keyword: perfectmatch

SPORTS SHORTS

MEN'S LACROSSE, led by first-year Head Coach **JON THOMPSON**, made the NESCAC playoffs for the first time since 2002 with an 8-7 record. Midfielder **CRAIG BUNKER '11** is Colby's first men's lacrosse All-American since 2002. He earned first-team All-NESCAC honors. Attacker **WHIT MCCARTHY '10** made the NESCAC second team. Attacker **CADDY BROOKS '09** finished his career with 91 goals and 79 assists. … **BRIANNA KONDRAT '09** won the New England Division III title and the NESCAC title in the hammer throw for **WOMEN'S OUTDOOR TRACK AND FIELD.** Kondrat broke a 14-year-old school record with a toss of 167-01. **DANIELLE SHEPPARD '11** won the New England Division III and NESCAC titles in the high jump. **EMMA LINHARD '11** won the New England Division III 1,500-meter run. … **SOFTBALL** started with a 10-0 spring trip to Florida and ended the year with a 4-0 victory over St. Joseph's College in the final game for retiring Head Coach **DICK BAILEY**, who spent 13 years at Colby and compiled a 197-177-3 record, 18-11 this year. The Mules had solid pitching from **BRITTANY TASI '10**(7-3, 2.24 ERA), **RANDI ARSENAULT '09** (4-2, 2.41 ERA), and **ALYSSA CROWELL '09** (7-6, 2.58 ERA). **ALLYSON CHEEVER '11** (.398), **CARLIE MINICHINO '09** (396), **ALYSSA LEPORE '11** (.384), and **ALEX ESSMAN '11** (.338) led the offense. … **MEN'S TENNIS** players **BRYAN BROWN '09** and **ALEX CHIN '09** earned NESCAC second-team honors after going 7-2 during the spring season in first doubles. Brown earned the Clarence Chaffee Sportsmanship Award, given annually to a NESCAC men's tennis player. … **WOMEN'S TENNIS** was one of the more improved spring squads, going 3-5 in NESCAC play after a 1-7 record in 2008. **KATIE MUTO '11** and **CAROLINE REAVES '10** were the top two singles players, while the second doubles team of **TARA DAVIDSON '10** and **KATIE BREZINSKI '11** had a solid season. … **CRAIG COOPER '09** finished with 139 career hits and made the **All-NESCAC BASEBALL** second team. He led the Mules in batting average (.398), homers (4), RBIs (32), and slugging percentage (.610). Catcher **KYLE MCKAY '09** batted .311 and led the team in walks (24). … **BEN OSSOFF '10** won **MEN'S OUTDOOR TRACK AND FIELD's** first race ever at the new Harold Alfond Stadium with a victory in the 800 meters. … **MEN'S CREW** placed second in the petite final (places 7 to 12) at the New England Championships. **WOMEN'S CREW**, with mostly first-year and sophomore rowers, placed second in the CBB races. The novice eight boat was first against Bowdoin and Bates in the CBB meet.