

Jun-2007

# Bridgewater Review, Vol. 26, No. 1, June 2007

---

## Recommended Citation

Bridgewater State College. (2007). *Bridgewater Review*. 26(1). Available at: [http://vc.bridgew.edu/br\\_rev/vol26/iss1/1](http://vc.bridgew.edu/br_rev/vol26/iss1/1)

This item is available as part of Virtual Commons, the open-access institutional repository of Bridgewater State University, Bridgewater, Massachusetts.

VOLUME 26 NUMBER 1 *JUNE 2007*

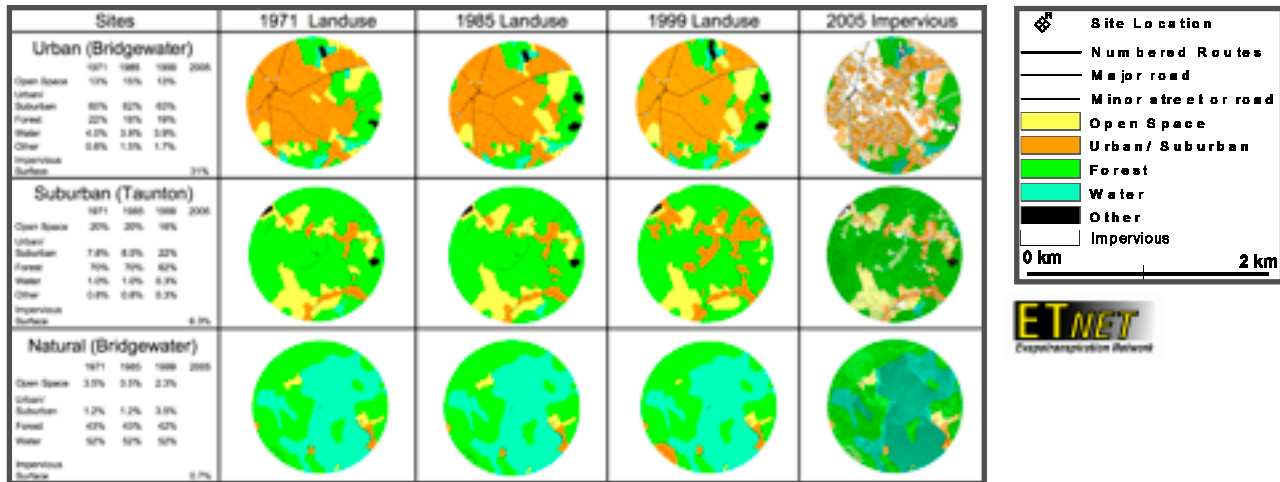
# Bridgewater Review



BRIDGEWATER STATE COLLEGE

# Changes and Variability of Urban Sprawl Implications for Local Climate Change

Scott Damron and Patrick McDonough (Dr. Rob Hellström)



## Abstract

Southeastern Massachusetts is experiencing dramatic rates of landscape change, largely due to human activity. Urbanization dramatically reduces the earth's natural cooling processes. We present methods and results from one of the three sub-projects that contribute to the ETnet local climate change study. This project incorporates Geographic Information Systems to explore landuse change and variability in S.E. Massachusetts between 1971 and 2005. Landscape modification affects local climate and evapotranspiration rates. The rapid growth of urban and suburban landuse at the expense of open space significantly alters the energy and water budget. We selected seven sites of various natural and urban landscapes. We incorporated data sources from the MassGIS web site to analyze color infrared orthophotos, vector layers of landuse, and impervious surfaces using the computer program ArcGIS 9.1. We found striking increases in anthropogenic land area for all sites. We found large differences in the percentage of impervious surface between all sites.

The illustrations on the inside front and back covers of this edition of Bridgewater Review feature the work of Dr. Robert Hellström of the Geography Department. Professional presentation of data from research is becoming increasingly graphic, in large part due to recent advances in the technology for their production. As computer capacity and speed improve, and the software used to produce complex graphics is written for specialized purposes, graphics like these will increasingly present masses of information in compact and easy to understand forms. On this page is a presentation of data about changes in land use in the Bridgewater area over a period of 35 years from a study conducted by Bridgewater State College students Scott Damron and Patrick McDonough under Dr. Hellström's supervision. It takes no special training to understand the trends in urbanization visible in these graphics.

—Robert Hellström is Assistant Professor of Geography.

# Bridgewater Review

## INSIDE FRONT AND BACK COVERS

- Graphic Data  
*Robert Hellström*
- 2 Editor's Notebook  
Baby Boomers in the Sixth Age  
*William C. Levin*
- 4 Faculty Profile:  
Martin Grossman  
*Andrew Holman*
- 7 Researching and Writing  
a New College History  
*Tom Turner*
- 10 A Taste of Reality  
Hunger in the United States  
*Jonathan White*
- 15 Drawings  
*Leigh Craven*
- 20 Zoo Research  
*Amanda Shyne*
- 24 Research Note  
The Irish International Exhibition of 1907:  
Ireland's World's Fair  
*Patricia J. Fanning*
- 28 "She's got Nothing!"  
A Researcher's Journey into the Study  
of Trash Talking in Sport  
*Maura Rosenthal*
- 31 Zebras, or Horses of a Different Choler  
Book Review: How Doctors Think  
*Charles Angell*



## ON THE COVER

*Garden Party*, color silkscreen (18" x 22") by Leigh Craven, Assistant Professor, Art Department. Additional works by Professor Craven are on pages 15–19.

## EDITOR

*Michael Kryzaneck*  
Political Science

## ASSOCIATE EDITORS

*Patricia J. Fanning*  
Sociology

*Andrew Holman*  
History

*William Levin, Acting Editor*  
Sociology

## EDITOR EMERITA

*Barbara Apstein*

## BOOK REVIEW EDITOR

*Charles Angell*  
English

## DESIGN

*Donna Stepien*

## FACULTY PHOTOGRAPHS

*Gary Stanton*

---

*The Bridgewater Review is published twice a year by the faculty of Bridgewater State College. Opinions expressed herein are those of the authors and do not necessarily reflect the policies of the Bridgewater Review or Bridgewater State College. Letters to the Editor should be sent to: Bridgewater Review, c/o Editor, Department of Political Science, Bridgewater State College, Bridgewater MA 02325*

---

*Articles may be reprinted with permission of the Editor ©2007, Bridgewater State College*

ISBN 0892-7634

# Editor's Notebook

## Baby Boomers in the Sixth Age

*The sixth age shifts  
Into the lean and slipper'd pantaloon,  
With spectacles on nose and pouch on side;  
His youthful hose, well sav'd, a world too wide  
For his shrunk shank; and his big manly  
voice,  
Turning again toward childish treble, pipes  
And whistles in his sound.*

—As You Like It, William Shakespeare

A good friend of ours is turning 60 this May, and he is not looking forward to the party. It seems that on the day after his birthday he will lose his job as a commercial airline pilot. The rule that no one can fly after age 60 was put into effect by the Federal Aviation Agency in 1959. Our friend is fit, talented and active, as you might expect of a career Navy guy. In fact, he is the type of person who must be busy all the time. I don't think I've ever seen him sitting still, except for dinner. This retirement is being forced on him, and though he has not talked about it much, he'll certainly need to settle on a third career to satisfy his needs for activity and a sense of usefulness. Increasingly Americans are facing situations like this, though they are rarely as clear-cut and dramatic as our friend's forced retirement. It makes me think that we need to plan better for our futures, both as individuals and as a society, and that this need will soon increase dramatically.

Most of us have acknowledged that we will, with any luck at all, get old. If it is any consolation, you can count on having lots of company when it happens. Not

only are you aging, America is. Here are some of the data about that, almost all of it easily found in publications of the U.S. Bureau of the Census. (<http://www.census.gov/compendia/statab/>) In 1980 half of the American population was older than 30. By 1990 the median age was 32.8 and by 2000 it was 35.5. Census Bureau projections for 2030 bring the median age to 38. Between the first American Census in 1790 and about 1890, the percent of the population that was over the age of 65 remained relatively stable, and below 4 percent. However, largely due to factors like improving diets, work conditions and health care, the percent of the population over the age of 65 then grew at accelerating rates until by 2000 about 12.6 percent of the population was aged 65 or older. And projections for 2050 raise that figure to 20 percent. On the next

page is a graphic representation of the age distributions of the American population at three times in our history.

The inner most part of the figure is what most people would call a "population pyramid," and represents the distribution of ages in America in 1900. Notice that the bulk of the population was young, and a very small percent of it was over the age of 65. By 2000, however, (the outer layer of the figure),

the population had somewhat "squared" to use the terminology of the demographers who study these trends. A much higher percent of the population was older.

In these figures economists see disaster looming in the ratio of older to younger members



of the population. The “dependency ratio,” is defined as the proportion of the population that is of working age (measured by the number of people who are between the ages of 18 and 64) compared with the “dependent” proportion that is presumed to be out of the workforce (people who are over the age of 65). In 1900 there were approximately 10 Americans of working age for each older person. By 2000 the dependency ratio had dropped in half to 5 to 1, and the U.S. Administration on Aging now projects that by 2020 there will be only 4 Americans of working age for each older, dependent one.

What will happen when there are only 4 Americans available to support the increasing numbers of older people who have come to expect their retirements to be long and comfortable? Keep in mind that these are people who are living longer today (American life expectancy has increased from just under 40 years in 1850 to more than 77 years of age today), and no longer die quickly of acute illnesses such as heart attack, or even chronic ones such as cancer or kidney disease. Rather, older Americans routinely take advantage of advances in medicine such as coronary surgery, chemotherapy and kidney dialysis to live with these diseases for decades. It is no wonder that the cost of paying for medical care for the elderly, not even counting the cost of care for the poor elderly, has risen so rapidly in the last decades. In 1970 Medicare accounted for just 3 percent of the federal budget, but by 2004 it was up to 12 percent, on its way to an estimated 19 percent by 2010.

Beyond medical care, the costs for programs like Social Security will also rise as the percentage of the population that is older increases. I am a member of the Baby Boom generation, that infamous bump in the population that some have likened to a goat making its way through the digestive system of a boa constrictor. A surprisingly small percent of Americans realize that Social Security is not a savings program. When Social Security payments are deducted from one’s paychecks they are not put into a savings account or investment portfolio for collection upon retirement. Rather, Social Security is largely dependent on transfer payments from current workers to current retirees. Yes, surpluses do accumulate, but they will be more than needed to cover increased demands on the system that have been predicted for decades. For example, the first of us Baby Boomers will be eligible to retire in a few years. I was born in 1946, right after World War II ended, and will be 65 in 2012. Actually, the drain on the Social Security system began years ago when Americans started living longer in retirement than the system was designed to accommodate. For example, my mother was 63 when she retired to Florida in 1981 after a 40-year career in

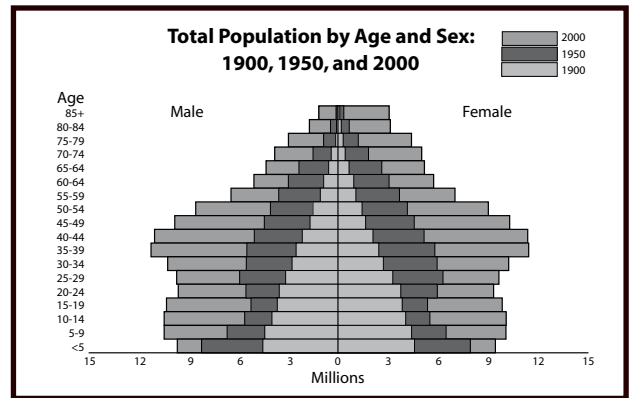
Manhattan. She began drawing on Social Security in 1983. She is now 89 years old, and so has been getting Social Security checks for 24 years, and shows every sign of continuing to do so for years to come. (Knock on wood.) Good for Mom and our family, but not great for the Social Security system when you consider that the life expectancy at the time the system was designed and implemented was just 68 or 69 years. In other words, it was expected that, on average, a retiree would draw such payments for just a few years before dying. It is no wonder that in order to keep the system solvent, many analysts are calling for changes such as some sort of means

testing for eligibility (in truth my mother does not need her Social Security benefits to live well in retirement), a higher age for eligibility (perhaps 70

years of age or even older, given that we are living and working so much longer) and/or lower benefits levels.

So, what is the likelihood that we as a nation will come to terms with the realities of aging, and with the burdens that an aging American population will impose on our resources? I must admit I am pessimistic. As older Americans we will probably have to make do with less generous (and expensive) supports for retirement income and medical coverage. From what I have seen of our Baby Boomer generation, there is little evidence of our willingness to make such sacrifices. I am happy to be surprised, however. And will younger Americans be willing to make sacrifices to maintain support levels for a larger dependent elderly population? Again, the signs do not seem good to me. When we went to buy a card for our friend’s 60 birthday we found the pickings to be, shall we call it, slim. In fact, they were disturbing. As you can see from the few that we have chosen to illustrate this article, the images of old age in America, even for those as young as 60, are negative and nasty. The prospect is not good that such attitudes will improve as our population ages further and competition for resources heats up. We had better get serious about planning for these predictable events.

—William C. Levin, Acting Editor



This picture of the change in the distribution of age in the American Population over time clearly shows that the pyramid has been “squaring” as a higher percent of the population is older than was once the case.

# Faculty Profile: Martin Grossman



"If you are going to do business in China and elsewhere in East Asia," Dr. Martin Grossman says, "you've got to have *guanxi*." The term describes an old concept, but one that has a new vitality in the knowledge-based economies of growing Asia Pacific countries. Simply put, *guanxi* describes the deep networks of social relationships among businessmen; the series of long-term, mutual commitments of loyalty and obligation, favors freely given and equitably delivered. "*Guanxi*," scholars Xiao-Ping Chen and Chao C. Chen claim in an article in the *Asia Pacific Journal of Management* (2004), is "a dynamic reciprocity." Gaining access to that world is no small feat. And *guanxi* is what you need if you want to study Asian business.

A third-year Assistant Professor in BSC's School of Business, Dr. Grossman has come to know the importance of culture to understanding international business. Originally from Queens, N.Y., he came to BSC after more than 20 years of work in the field of information technology for such private-sector firms as General Electric, Johnson Control, Sprint, and Aeronautical Radio, in Washington, D.C. and Miami, Florida. With a grounding in both International Business and Information Technology Management, Professor Grossman is making his mark in BSC's new School of Business by forging ties between these nor-

mally disparate fields in both his research and teaching agendas. "Our recent renaming as the School of Business signified more than just a name change," he said. "We are doing some curricular soul-searching and reinventing ourselves collectively and individually. For me, this process has made me realize that I am passionate about Information Systems and Global Studies, and has pushed me to think about how I might combine the two."

Professor Grossman's current research examines the interrelationships between government, the private sector and academia (the "triple helix") in developing nations in Asia, particularly China, Hong Kong, Taiwan, India and Singapore. His specialty is Knowledge Management (KM): the study of how organizations manage intellectual assets in business, government and higher education. He seeks to measure how different strategies and policies for developing knowledge economies affect economic growth, both regionally and globally.

Technology is, naturally, an essential part of his inquiry. "One particularly vibrant example of this sort of intellectual partnership can be seen in what are called 'technology incubators,' or 'science parks,'" he said. "These are regional clusters of companies and universities that share space, equipment and knowledge 'flows' —the outcomes of research. They complement and rely on each other." With research support from a 2006 CART Faculty and Librarian Research Grant, Dr. Grossman



Professor Martin Grossman in Shanghai, China, with Professor Wing-Kai To, Coordinator for Asian Studies at BSC and Bill Crampton, a BSC graduate who has been in China for 10 years. Crampton is currently CEO of Boston Training Technologies.

spent six weeks in China and Taiwan, visiting more than 10 colleges and universities and several science/technology parks. “I wanted to understand the roots of what the World Bank calls the ‘East Asian Miracle’; that is, how countries in eastern Asia managed to experience such high and sustained economic growth over the past three decades.”



Professor Martin Grossman at Hsaiiping Institute of Technology in the Taichung area of Taiwan, developing Guanxi with colleagues there.

Economists attribute some of the “Miracle” to government intervention – in subsidies to business and in “human capital” (training) – but equally important, to Professor Grossman, is the emphasis on knowledge and innovation. East Asian countries’ nurturing of technological innovation “allowed them to leapfrog from a relatively poor developing status to competitive, cutting-edge knowledge economies.” In November 2006, he presented his preliminary findings from this research to the Second Forum on Global Education and Research, hosted by BSC.

But technology is only part of the picture. So much of success in enterprise depends fundamentally on culture: the ability of people to understand one another’s aims and methods. “Cooperation depends on trust, especially in the new knowledge-based economies of the 21<sup>st</sup> century,” Grossman notes. It is here that *guanxi* comes in. “Once in Asia, I learned pretty quickly about the importance of cultivating a social network of contacts, friends and associates. In order to understand business networks there, I had to develop networks of my own.” This he did successfully, though at first tentatively. “Initially, I made some contacts through the Academy of International Business and the Taipei Economic and Cultural Office (TECO), both U.S.-based, through which I made connections to students and gained access to science parks in Taiwan.” From there, he built his network patiently but determinedly. Grossman now claims a network of “friends” in China, Taiwan and

beyond whose members are familiar with his research interests and have opened doors for him—to schools and businesses in particular.

Language is the most difficult cultural barrier, and one that Grossman has yet to fully overcome. “I audited one semester of Mandarin here at BSC, but my language skills are still very bad. If nothing else, studying Chinese has taught me something about the complexity of Asian cultures. That, and humility.” These attributes will be needed for Professor Grossman to achieve one of his new goals: to some day teach Information Management to students in Asia.

For Grossman, research is a part of a bigger mission at Bridgewater State. “Research, teaching and service all go hand-in-hand. There’s no big divide.” Professor Grossman’s mission includes involving his students in his two central research areas: Information Systems and Global Studies. “Many of my colleagues in the School of Business realize that we cannot give our students a full preparation for careers in business unless we introduce them to international business cultures and sensibilities.” A New Yorker living in Red Sox country, “I know that culture matters,” he says with a wink. “The American managerial style is dramatically different from those in China and Taiwan.” Grossman’s visit last summer to business schools in Taiwan and China made this clear. “In Taiwan, for example, business schooling—and culture—is much more formal and polite than it is here. It would be interesting to see how business education in East Asia and the U.S. might borrow from one another.”



The Hong Kong Science Park.



To that end, Dr. Grossman is working to develop links between the School of Business and the Asian Studies Program at BSC. He has developed a new course for business students entitled “Technology Innovation in Asia.” It is the first of its kind at BSC and one that Grossman hopes will become a regular offering in the Department of Management and in the College’s Asian Studies Minor. Moreover, in summer 2008 he hopes to head up an international business-themed study tour of China. “I hope to build on the contacts that I have made at Wuyi University in Guangdong province. Of course, I know I can lean on [BSC History professor] Wing-kai To, too,” who has also run BSC study tours to Asian countries in the past few years. The course will incorporate study of Mandarin and Chinese business culture, and include site visits to factories and industrial parks, along with guest speakers.

Meantime, Dr. Grossman’s research has drawn the interest of others outside his network of cultivated contacts. His expertise was recently recognized by the U.S. Department of State’s International Information Program, when he was awarded a “U.S. Speaker and Specialist Grant” to conduct workshops for small and medium-sized businesses in northern India. During

March 2007, Grossman visited eight cities in India to deliver lectures and workshops at universities and technical institutes, and to industry groups on the emerging field of knowledge management. In summer 2007, Professor Grossman will travel to Singapore, where he plans to expand his research into government/business/academic partnerships in the development of knowledge management.

In at least one respect, business culture in East Asia is a good deal like what Grossman and his colleagues in Asian Studies and in the other international programs are constructing here, across disciplines, at Bridgewater State. “It’s not only about what you know, or where your particular expertise lies; it’s about developing networks of contacts, support and trust.” *Guanxi* indeed.

— Andrew Holman.

# Researching and Writing a New College History

Tom Turner

*The following are notes for a talk I have given in various forums on my research for a new history of Bridgewater State College.*

I don't know what possessed me to do it, but since I have been a faculty member in the History Department here at Bridgewater for 36 years, I recently divided 36 by 166. I came up with a figure of roughly 22%, meaning that I have been here for nearly a quarter of the college's history. I eventually reversed these figures so I could say I hadn't been here for 78 percent of the school's history, since the original figure made me feel a bit old. When you have been here as long as I have, the college's history inevitably becomes your own history.



Sarah Lewis

I want to say how indebted I am to those who have gone before me, and to those who are currently working in this area, since Bridgewater has been fortunate to have had many people interested in its history. This list includes Albert Gardner Boyden, faculty member and third Principal of Bridgewater Normal School from 1860-1906, Arthur Clarke Boyden, also a faculty member and fourth Principal of the Normal School and son of Albert, Jordan Fiore, long-time Chair of History at Bridgewater State College, Dave Wilson, who was an undergraduate student here and now works in our publicity department (if you are not on Dave's daily email newsletter you should be at [www.bridgewater2005.com](http://www.bridgewater2005.com)) and my long-time colleague in the History Department and friend Ben Spence, who has generously shared with me his research, particularly from the *Bridgewater Independent*.

In a limited article like this I would never try to provide complete details for the entire history of the college from 1840-2007. What I do want to convey are some of the resources I have used, and what is available to scholars of our history both on and off campus. Despite the great fire which destroyed several buildings in



December 1924, there are many resources (including primary sources) in our archives. For example, there are numbers of letters from Nicholas Tillinghast, the first Bridgewater Normal School Principal from 1840-1853, among whose claims to fame are that he taught Robert E. Lee when he was an instructor at West Point, though I'm not sure how loudly we want to boast about that. There is also a letter from Cyrus Peirce, the first Principal at Lexington Normal School, the first founded in the country, to Marshall Conant, the second Principal of Bridgewater Normal School, in which he complains that he hadn't accomplished much.

Bridgewater can also boast the first female Principal of a Normal School, Julia Sears, who was ultimately demoted, primarily to give the job at Mankato Normal School to a male. This precipitated a strike and student expulsions. Sears eventually went on to a very successful career at Vanderbilt University.

Until recently we believed that Mary Hudson Onley was the first African-American graduate in 1912. But one of my most exciting discoveries was that one Sarah Lewis, who graduated in 1879, was actually our first African-American graduate. This was a true example of serendipity in research, as I put my hand on the relevant album purely by chance. I was able to track down records of Sarah's admission, her later teaching career, places of residence and so on. Phil Silvia, also of our History Department, has discovered that Sarah Lewis' sister was married to Harold Lattimer, who worked with Thomas Edison, and is in our Hall of Black Achievement (HOBA).

There are letters and other materials about a Japanese student named Shuje Isawa, who had an enormous impact on education in Japan after his time at Bridgewater. Isawa worked for a time for Alexander Graham Bell and has the distinction of having spoken the first words in Japanese over Bell's telephone. The Boydens (Albert and



Mary Hudson Onley

his wife) and Isawa were extremely fond of one another, and some books Isawa gave the Boydens still exist in the collection. I probably would not have stumbled on this connection without an internet search of the Bell Papers, a connection unlikely to have been made in the pre-internet era. Yet, Isawa was only one of many foreign students who came here from many other places,



Albert Gardner Boyden

including Chile, Mexico, Jamaica, and Turkey.

As Principal at Bridgewater, Albert Gardner Boyden was known nationally for the “Bridgewater Model” which emphasized the value of training women to teach in elementary schools. At the time there was a system of “Visitors,” members of the Board of Education who closely oversaw the

operations of each school. Among the Bridgewater Visitors was Phillips Brooks, a minister who wrote “O Little Town of Bethlem,” Thomas Wentworth Higginson, author of *Army Life in a Black Regiment*, and Alice Freeman Palmer, the first woman president of Wellesley College. Palmer, given her connections to both Bridgewater and Wellesley, may have been at the center of what has become a bit of a mystery about our respective college mottos. Bridgewater State College’s motto, “Not to be ministered unto, but to minister,” is clearly an English version of the motto of Wellesley College, which was in Latin. Today the Wellesley motto is in English also, and reads “Not to be served, but to serve.” The question is, which school got there first?

Apparently, student social life was pretty rigid by our modern standards. As an example consider the expulsion of a Miss Howe and a Miss Ryder in 1890 for daring to walk downtown with two young men. The records hold numerous examples of ‘Pa’ Boyden asking frightening questions at daily assemblies (“How many windows are there on the left wall of this building?”) and imposing a rule against a young man canoeing with a young lady on nearby Carver Pond.

Arthur C. Boyden (1906–1933) labored in the shadow of his more celebrated father, though I feel he was underappreciated. He was a tireless worker and awarded two Honorary Doctorates from Amherst and Rhode Island College. He kept extensive notebooks, both

chronologically and by topic which, incidentally, are badly in need of preservation. I don’t know when he slept. He also found time to give countless lectures at various institutions, and was active in the Nature and Garden Movement.

I have found that the modern period is tougher to research. The materials of more recent college leaders are quite limited by comparison with their predecessors. However, Adrian Rondileau was here for more than a quarter of a century, long enough that there are ways of getting good information about his administration. And fortunately Adrian Tinsley is still with us. Hopefully, all presidents in the future will copy the model of current college president, Dana Mohler-Faria, a student of history whose records will certainly be thorough and accessible.



Arthur Clarke Boyden

For the modern period we have to rely on resources like *Bridgewater Today*, *The Comment*, *Hard Times*, and the *Alumni News* and *Bridgewater Magazine*. Publications such as these clearly paint a picture of very activist students in the 1960s, a fact that wasn’t apparent to me until I did the research. (Just because you lived through a time doesn’t mean you necessarily have a full comprehension of the history.) There were a number of confrontations with the administration, not the least of which was a strike over the firing of philosophy professor Donald Dunbar. The dispute was settled by allowing the three segments of the college community to vote. I have gained even more admiration for my friend Dave Wilson, who works in the Public Affairs office of the college. As a student at Bridgewater, Dave was editor of the student newspaper, the *Comment*. In that time of turmoil he stood up for free speech, publishing, among other items, Eldredge Cleaver’s “Black Moochie,” Cleaver’s raw, autobiographical reminiscence of growing up in Los Angeles. At the time other publications on state college campuses were being shut down for doing publishing such work, and even now I would find it hard to read to you some of the language of that never-completed book.

I have also come to appreciate some lesser known, but very important graduates, not the least of whom was 1923 graduate Louise Dickinson Rich, who I see as one of our most prominent graduates of the 20th century. Ben Spence kept urging me to read Rich’s *Innocence*

*Under the Elms*, with which I was honestly not familiar. I did, and now I highly recommend this delightful work about growing up in Bridgewater, attending the Model School, and assorted insights about the town and college. Rich published many other books and articles, including the classic *We Took to the Woods* which is about living in Maine. She was a friend of Ernest Hemingway's, and her obituary appeared in the *New York Times* when she died at 88 in 1991. Rich was something of a character, planting poison ivy and disrupting a graduation by playing tennis during, and next to, a college graduation. In 1955 when she returned to her alma mater, she publicly observed that Faulkner's writing was "the most obtuse rot she had ever read."

I have also visited a number of archives off campus, some of which I am still using. These include those at the Schlesinger Library at Harvard and the Frank Speare Papers at Northeastern. At the Massachusetts Historical Society I read the letters that Nicholas Tillinghast, the first president of Bridgewater State College, sent to Horace Mann. They reveal, among other things, that Tillinghast, a confirmed bachelor, apparently married at the age of 35, mainly because principals were expected to be married. He sought Horace Mann's advice when it was rumored that Boston abolitionists, frustrated in their attempts to get African-Americans admitted to Boston schools, were planning to enroll some of these students at Bridgewater. We don't have Mann's response, but it certainly would have been favorable since the African-American student Chloe Lee boarded with Mann and his wife when she couldn't find lodging at West Newton.

There is also a rich collection of Boyden materials in the Special Collections library at the State House thanks to Caleb Tillinghast, secretary/treasurer of the Massachusetts Board of Education, and the State Librarian. Among the materials is Boyden's embarrassed letter to Tillinghast when he discovered that he had made a \$2 error in his accounts.

As I indicated, I eventually reached a point in my research where the college's history seemed to become interlaced with my own. In 1940 there is a delightful *Comment* article about Jordan Fiore's experiences as a student teacher in Fall River. I taught with Dr. Fiore for about twenty years before his death. It seems Jordan was mistaken for a high school student and was given detention for running in the corridor, and was chas-



Shuje Isawa

tised for sitting in an area in the library that was reserved for teachers. And just to note an even more personal instance of the overlap between college and personal history, I also came upon a mid-1970's *Comment* article about a faculty-student basketball game held to benefit the Martin T. Rizzo Scholarship. Rizzo was a student who died from injuries he received while

playing football. While the faculty lost that game, the *Comment* noted that only the tenacious rebounding of one Professor Tom Turner and Mr. David Morwick, now Director of Administrative Services at the college, kept the game close.

These are some of the building blocks I am using but I will also be attempting to place the history in broader context. The last thing I personally need to keep in mind is that I'm not trying to reproduce Gibbon's *Decline and Fall of the Roman Empire*. I hope that in 250-300 pages I can capture the major trends in the Bridgewater story. In 1846, when Horace Mann came here to dedicate the new school building, he said "Coiled up in this institution, as in a spring, there is a vigor whose uncoiling may wheel the spheres." Like any institution, Bridgewater has had its ups and downs over its long history, including that terribly damaging fire and a president, Gerry Indelicato, who resigned his Bridgewater State College presidency while under indictment for forgery and fraud. However, surveying all the good and the bad I suspect that even Mann might be a bit surprised and pleased at the uncoiling which has occurred in a school that started 166 years ago in the town hall basement with just 28 students, and which is now a multi-purpose college of over 9,000 students that is currently exploring university status.

—Tom Turner is Professor of History.

# A Taste of Reality: Hunger in the United States

Jonathan White

*MOMMY SAYS DON'T WORRY because in heaven there is plenty of food and lots of toys and everyone can eat anything they want. Sometimes I think about heaven...I can't wait until I die and get to go there. (Bridgett, Age 7)*

Hungry American. At first, one might think that this phrase must necessarily be an oxymoron; that the juxtaposition of these two words could only be for the purpose of some bizarre satirical or literary illusion. The truth, however, is that there exists a sad and real irony of large-scale hunger in the United States, the wealthiest nation in the history of the world. Today, according to the well-respected Food Research and Action Center (FRAC), between 35 and 40 million Americans live in conditions of hunger and food insecurity. FRAC also reports that one out of every ten American adults, and one out of every six American children experience poverty-induced hunger during the course of each month. This in a nation that prides itself in being the leader in the world on issues of human rights. But the right to food, the most basic and fundamental right, is a right that we have chosen to ignore in modern-day America. And the price is being paid by the tens of millions of hungry Americans.

*SOMETIMES WE HAVE A DAY, a day when there's enough food for everyone. That's a good day, but it doesn't happen like that all the time... Some days one or two of us have to not eat [skip a meal] so that the others can eat. If I could, I would make it be me everyday, me who didn't eat. But I have to work [in the fields] and I can't do that if I don't eat. (Jose, Age 41)*



*I CAN'T REALLY TELL YOU WHY or anything, but sometimes we have enough [to eat] and sometimes there's not. (Joshua, Age 10)*

Over the past several years, I have been researching hunger in the United States for a book I am currently writing, *Hungry to Be Heard: Voices From a Malnourished America*. The research consists of 54 intensive interviews

of hungry Americans in more than a dozen states, a survey of 200 college students in the Boston area, and an intensive literature review. The story of hunger in America is a complex and nuanced story with many catalysts and solutions. Interspersed throughout this piece are the voices of our fellow Americans, those who live in conditions of hunger.

Within our country lies the scathing paradox of hungry Americans amidst plenty, hungry Americans amidst vast abundance, hungry Americans amidst overwhelming waste. Each day,

millions of hungry Americans battle with the under-nutrition resulting from the realities of day-to-day poverty. Hunger robs their bodies of the physiological ability to function properly, their minds of the capacity to learn and contribute, and their souls of the emotional will to compete.

*I THINK THAT HUNGER JUST might be something that's not to be described. It's just always there. You try to think about other things, but no matter how many games you try to play or [how] hard you try to trick yourself into not thinking about it, you can't. Sometimes it hurts, and sometimes it makes you tired, always wanting to sleep. (Mary, Age 68)*



**I**T KIND OF FEELS LIKE THERE'S something turning in your tummy and then it growls like this (he makes a growling noise) and then you just forget about it. But sometimes it's still there and you just hold and wait 'til the next time you eat. (David, Age 11)

**T**HERE'S NO ONE WAY TO describe what hunger feels like. Sometimes it pokes at you, like someone's sticking their finger in your stomach every few seconds. Sometimes it hurts like the worst cramp, like the worst cramp. Sometimes you don't even feel it, but you're just tired or have a headache or no energy or you're cranky or it's there, it's there but you don't feel the pain in your stomach every time. Sometimes it's like there's a snake twisting and turning in your stomach and it just hurts. But it always, always, is something that changes who you are and how you go about your day.

(Lisa, Age 34)

Hunger leaves the mind unable to reach its full potential. It decreases a person's attention span, ability to concentrate, and ability to remember. It increases irritability and decreases learning potential. According to the Center on Hunger at Brandeis University, hungry kids are much more likely to develop learning disorders and behavioral problems and are significantly less likely to stay in school. Hungry adults are less productive in their place of work, more likely to be moody, and often less emotionally even-keeled when facing pressure situations. As such, hunger has a way of being the catalyst in a vicious cycle. Increased hunger creates decreased ability to work, learn, and excel, which decreases a person's ability to get ahead, which increases a person's chance that they and their family will remain hungry. And hunger eats away at the American workforce, creates untold amounts of potential unrealized, and weakens our ability to compete in the global economy.

**Y**EAH, I MEAN, I FALL ASLEEP IN classes a lot now and even when I'm awake I'm not really paying attention like I know I should, it's so hard to pay attention. I mean, you definitely can't be the same way when you're hungry. (Jessica, Age 15)

FRAC reports that, according to recent national surveys and reports, between 13 and 16 million American children experienced hunger in 2006. A child who is hungry in a land of plenty will inevitably become holistically malnourished, losing faith in society and humanity. Although we like to see the dreams of our nation reflected in our children's faces, reflecting from the faces of our hungry children are their nightmares, resentment, apathy, and lost dreams. Plain and simple, hungry children are much less likely to grow up respecting the rules of a system that has failed them from the beginning.

**A**LL THESE PEOPLE GOT ALL THIS food, you see, and they throwing it away. You tell me why I shouldn't be shitty about it? You can't sit right there and tell me that you wouldn't be shitty if you were hungry, right? (Matthew, Age 15)

**I** SIT IN SCHOOL AND HEAR everyone—parents, teachers, everyone—telling me that I should obey their rules and I do, I really do. But then I think to myself, 'why should I follow their (society's) rules when all the people who make the rules couldn't give a rat's you-know-what about me?' (George, Age 15)

Hunger also hurts on emotional levels. Imagine the pain of knowing that people around you, people who are supposed to be your "fellow Americans," live wastefully and extravagantly while you go without basic means of subsistence. Imagine that they simultaneously elect officials who create a labyrinth of policy that perpetuates your hunger. Those I interviewed consistently stated that the callous indifference and rationalization of those who are supposed to be your brothers and sisters is likely the very most painful aspect of living hungry in the U.S.

**W**HAT I CAN'T UNDERSTAND, what I'll never no matter how long I live on this earth be able to understand, is how people can't care that children are hungry. It goes against everything I've been taught and believe in. No child should have to know how painful this world can be and how mean the people are to not care. (Owen, Age 38)

**M**AN, I DON'T EVEN WANT TO waste my breath on them (those who don't care). I guess it's their choice, man. I just know I'd help out if they needed it and I could help, you know what I'm saying. Honestly, I guess I just can't really understand them. (Matthew, Age 15)

As poverty increases in the U.S., and as the social safety net is being systematically cut, more and more Americans are experiencing hunger on a regular basis. Hunger is a social outcome of poverty, a complex problem interconnected to the many cultural and structural trends that create and perpetuate mass poverty in a wealthy nation such as ours. Trends in work, education, wages, taxes, family, and public policy have come together to enable the disease of hunger to spread throughout our country. According to FRAC and data collected by the seminal annual Second Harvest Survey, since 1980 there has been a 250% increase in the number of Americans who go hungry due to poverty. The majority of these are children, elderly, and people living with disabilities. As wages have dropped, jobs have been downsized, and the tax burden has increasingly been shifted to middle and lower class individuals, the government has responded with a concomitant reduction of the social welfare system. And somewhere along the way, a discursive campaign to blame poor people for their poverty has infiltrated the American psyche.

Combined, these trends and others have created the social disgrace of mass hunger in a land of plenty. More people are experiencing hunger than at any time since the Great Depression. Although it might ease our collective conscience to buy into the idea that all of a sudden millions more Americans are lazier than two decades ago, any intelligent analyst has to consider that massive social trends like these occur due to structural catalysts. For instance, the US Census Bureau reports that on average poor people work harder today than in 1980, and yet they have experienced vastly increasing levels of hunger.



**I** WAS ALWAYS TOLD THAT IF I work hard enough then I will advance myself and my family. I will be able to buy those things that I didn't have when I was growing up as a kid in a poor neighborhood. And so I did what I was supposed to do and I stayed out of trouble, and that was hard to do where I come from, and I went to school and did my work. And then when I started working I put my head down and just gave it everything I have, I worked as hard as I think I know how to. When there was overtime, I put in overtime. When someone asked me to do something, I did it. And I've worked as hard as I can as long as I can remember but sometimes it's damn hard to even put enough food on the table or to have enough heat in the apartment. (Owen, Age 38)

**E**VERYONE TALKS ABOUT THE American Dream of cars and homes and boats and mansions. But me? Hard as I work, I can only dream of putting enough food on my table so that my kids have enough to eat. That's my American Dream. (Marla, Age 37)

According to United for a Fair Economy, an independent, nonpartisan, nonprofit group that studies the concentration of American wealth, over the past two and a half decades there has been a significant decline in wages for the bottom 40 per cent of American workers and a freeze on the minimum wage for most of this time period. An increasingly common trend among business has been to move toward contingent labor forces (often without benefits); a move, essentially, from a reliance on skilled labor among the lower and working classes to one on unskilled labor, with a corresponding result of lower wages paid. There has been, additionally, a busting of labor unions and labor laws protecting American workers, particularly low-wage earners. A new and unprecedented trend toward “downsizing” and “restructuring,” and a large-scale deindustrialization at home and the movement of working-class jobs to other countries has, overall, pitted the American working class against laborers from poor countries around the world. The result, clearly, is more hunger in America.

United for a Fair Economy also points out that despite the fact that the aggregate economy has mostly been booming, and that CEO pay rose by over 500 percent in the 1990s alone, poor people find themselves swimming against a massive current created by a changing work structure. Although they are swimming harder than before, they are still falling behind. Our rising tide, in



**R**IGHT NOW I'M HOLDING down two different jobs, one that's pretty much full-time and then another one that gives me about 20 hours or so a week and this is six days a week that I'm working now. But no matter how hard I work we simply can't get by on what I'm making. . . Minimum wage at one place and a little better at the other doesn't help me enough in terms of feeding my children. (Betsy, 41)

fact, has not “lifted all boats.” Rather, the boats of poor people are taking on water fast.

Meanwhile, we continue to systematically reduce our social welfare protections for poor Americans. Importantly, many of the programs targeted for cuts have been food and nutrition programs. Other programs that have been cut, like housing and healthcare assistance for poor people, have created a greater financial burden on the budgets of poor people and, in turn, have forced many into unthinkable choices between paying for healthcare, heat, housing, and food.

**S**OMETIMES IT GETS COLD around here and I just can't turn the heat up anyhow. If I get bigger heat bills, that just means less food the next month and so the choice just wears on me. Can we wait out the cold or should I turn up the heat and later on down the line know that we'll have to skimp on food? Killer choice, I'll tell you. (Frank, 37)





**I** TRY MY BEST WITH WHAT LITTLE money I have, but it doesn't always happen. I had to choose between food and everything at one point or another... And food lost most of the time. (Mary, Age 68)

As a result of the structural constraints of the American economy, combined with the fact that the US offers the least generous welfare assistance programs of any of the world's highly industrialized nations, more Americans find themselves living in post-assistance poverty, by far, than in any of these other nations. And, as a direct result of this fact, the fact of mass poverty, tens of millions of Americans are experiencing hunger. But still, as a society, we remain in denial that this social disease is all around us, caused in large part by our social system, catalyzed by our roles as social actors and bystanders, and urgently awaiting our actions to create and implement the social solutions that can eradicate hunger from our society.

Those who are hungry are indeed quite attuned to our collective denial. In fact, all 54 of those I interviewed indicated that the worst part of being hungry is that you feel "invisible." How can it be that 35–40 million Americans are invisible? It is a multifaceted invisibility, purposeful on one level and ignorant on another. The media continues to ignore the issue of hunger, or at least remains unwilling to examine the structural catalysts of mass poverty in a land of great wealth. When hunger



Food drive programs like this one are made necessary by the existence of hunger in America.

is discussed, hungry people are often portrayed either as sad cases needing our charity or as stereotypical welfare freeloaders, not as ordinary people facing extraordinary circumstances. Politicians and educators avoid the topic and make the issue invisible on their agendas and in their curriculum and, when pushed, often pass along the same half-truths and untruths disguised as whole truths. Some may do this because they are mean-spirited or unsympathetic, some because they have a vested interest in the status quo of our system, and most simply because they themselves are uneducated about the massive social problem of hunger and its structural catalysts. Organizations like the Food Research and Action Center and United for a Fair Economy work to educate all of us to these truths, but it is clear that more needs to be done. Invisible from our collective conscience is the fact that between 1980 and today, the amount of hungry and food insecure people in the United States has more than doubled. Invisible is the fact that 27 percent of American children under twelve are hungry or at risk of hunger. Invisible from the conversation is the fact that 3.3 million elderly Americans will experience hunger this year. Invisible from our less-than-honest discussion about poverty and hunger is the fact that nearly two-thirds of households experiencing hunger in the United States have at least one person who is working full-time. Invisible is the admission that 25 percent of full-time, year-round workers earn less-than-poverty-level wages and that nearly 70 percent of these hard-working Americans faced conditions of hunger last year. It is much easier to blame poor people than to take an honest look at poverty. It is much easier to dismiss hunger as a failure of those who are hungry than to recognize it as a moral failure of society. And as we continue to take these easier routes of analysis and rationalization, the epidemic of U.S. hunger continues to erode the moral fiber of our nation. The existence of mass hunger in our overabundant nation may indeed tell us more about those of us who are not hungry than it does about those who are.

—Jonathan White is Assistant Professor of Sociology.

# Drawings

Leigh Craven



*Our relationships are complex. What we project to the outside world may not be the reality of our inside world. But each of us exposes clues about our life and our relationships with the look of an eye, the expression of our mouth, our body language. We each expose ourselves in ways we may not have realized. And simultaneously, we clothe ourselves in deceptive guises as means of protection. Portraiture opens the door to the sitter's personal space. It provides insight to the subjects' character, their identity. ♦ Much of the work in my portfolio focuses on my (subjective) reactions to individuals, often family and close friends. Portraiture allows me to investigate both the physical and psychological attributes of these people and myself. I play with representation and narrative in attempt to create an image that is ambiguous in read; whose distance from reality, or fantasy, is indiscernible. And while my work is derived from personal experiences, I hope that it carries with it universal associations. ♦ One such subject into which I have recently made explorations is the morality issue. Historically represented as the 'Deadly Sins', these themes possess a universality that will allow those who view the work to relate intimately with it; each person having a unique encounter based on their own private experiences.*



WHAT IS YOUR FANTASY? (series).  
Graphite on mylar. 7" x 12"



*Sin retains a precocity to sin: it engenders  
This results in perverse inclinations which  
judgment of good and evil. Thus sin remains  
but it cannot destroy the*

*Caution of the*



Pride (page of book). Colored pencil, graphite and pastel on paper. 22" x 44"

... by repetition of the same acts.  
... and corrupt the conscience  
... as reproduce itself and violence itself,  
... moral sense at its root.

Caroline Church



*Above*  
*AVARICE (page of book).*  
*Colored pencil, graphite and pastel on paper. 22" x 44"*



*Below*  
*GLUTTONY (page of book).*  
*Colored pencil, graphite and pastel on paper. 22" x 44"*



*Right*  
AFTERNOON TEA  
*Graphite, watercolor and colored  
pencil on paper. 33" x 48"*

*Below*  
UNTITLED  
*Pastel on Paper. 6" x 6"*



# Zoo Research

Amanda Shyne



Have you ever visited a zoo and seen animals pacing back and forth, rolling their heads from side to side, or even plucking their fur or feathers? Animals who are forced into unnatural and stressful situations often exhibit these types of abnormal behavior. As do humans. Take for example the soon-to-be father pacing in the waiting room as his wife gives birth to their first child or the worried mother returning again and again to peer out the window for her overdue child. Among captive zoo animals behaviors like these that are invariant, repetitive, and have no obvious goal or function are called stereotypic, and usually indicate poor welfare. The occurrence of these behaviors not only restricts exotic animals from engaging with their surroundings in normal species-typical ways, but also misinforms the zoo public about the animals' natural behaviors.

Environmental enrichment—any technique used to promote welfare for captive animals—is the focus of much of my research. Providing the animals with toys, climbing structures, or food puzzles (interactive toys that have food inside) can help them approximate the behaviors necessary for survival in the wild and thereby improve their welfare. These enrichment techniques promote natural behavior, alleviate boredom, and provide opportunities for the animals to control and interact with their surroundings in species-typical ways. For example, anyone who has recently visited the Franklin Park Zoo in Boston and observed the gorillas (including the notorious escape-artist gorilla named Little Joe) exploring their new exhibit, foraging for food, and interacting with one other, can be confident that the gorillas' welfare is quite good.

One very effective enrichment technique that I used with the male and female ocelot living in the tropical forest at Franklin Park Zoo, was to stock the pool within their exhibit with live feeder fish. Almost imme-

diately, the predatory cats were transfixed, and seemed amazed by their new prey. During the enrichment period the cats' stereotypic pacing decreased significantly. In addition, the animals were observed engaging in species-typical behaviors such as stalking, pouncing, and swimming, behaviors never observed before the introduction of the fish. The transformation of the two ocelots was nothing short of amazing and suggests that the enrichment stimulated the animals in ways similar to wild ocelots that need to hunt and fish to survive in the wild.

Before beginning many of these studies, I compiled results from all previously published studies that examined whether enrichment had a measurable effect on stereotypic behavior in zoo animals. This meta-analysis clearly showed that enrichment works in reducing stereotypic behavior; however, it also confirmed a number of omissions in the existing literature. For example, does enrichment work equally well for all species? Could it



The exhibits shown in the photographs accompanying this article are of good quality, and foster desirable natural behaviour in the animals.

be the novelty of the enrichment that accounts for the observed effects? In other words, would the stereotypic behavior eventually reemerge after a period of time with a given enrichment? Does enrichment improve other indicators of welfare? To find out, I began a series of studies that examined the effects of various types of enrichment on the behaviors of different species of zoo animals. These studies included food puzzles for Bactrian camels, ring-tailed lemurs, ocelots, and African wild dogs; the construction of a sand pit for the camels; a heat lamp for the lemurs; hidden food for the dogs; and, as mentioned earlier, delicious live feeder fish for the ocelots.

My study of previous research also provided insight into a larger problem within the field of environmental enrichment and zoo animal welfare. A few articles have been published that do not attempt to analyze changes in the animal's behavior. Rather, these papers suggest that the specific form of enrichment is effective because the animals played with the enrichment device or appeared "happier" to the researcher. This unsystematic approach may lead to the correct conclusion, but often people's judgments of animal behavior can be incorrect. For example, many people interpret a dolphin's "smile" as a sign that the animal is happy and feeling good, possibly expressing emotions similar to those emotions of a smiling human. In actuality the dolphin's "smile" is a physical trait created by the shape of the animal's jaws rather than an emotional expression. While anthropomorphizing can occasionally be a good way to come up with novel enrichment ideas, quantitative assessment is needed in order to ensure accurate evaluation. Papers that fail to include quantitative data often do not help zoo personnel understand the true impact of the enrichment on the captive animal's life.

Currently, my research interests have shifted slightly. I am now looking at the possible effects of operant conditioning on zoo animal welfare. Operant conditioning is a type of training that changes an animal's behavior by rewarding the animal with a tasty treat for showing behaviors that the trainer wants to encourage. In a study I conducted with the three African wild dogs at the Franklin Park Zoo, the animals' behavior—in particular the percent of time spent in stereotypic activity—was examined. On days when the animals were trained, positive behavioral effects were observed. All three animals exhibited far less stereotypic pacing following training sessions than they did after sessions



with no training condition. The unnatural behaviors (lifting paw, opening mouth, etc.) that the dogs engaged in to acquire the food reinforcement during training may have substituted for natural functional behavior (such as hunting and stalking prey) and thereby filled a behavioral need to control access to their food.

These findings suggest that positive reinforcement training can impact animal welfare and can be thought of as a type of enrichment. Zookeepers typically use operant conditioning to teach the animals to behave in ways that will either improve the quality of their care or make caring for them on a day-to-day basis easier for the keepers. These trained behaviors may include opening their mouths for veterinary exams, moving from one part of the enclosure to another, and presenting a leg for an intravenous injection. In the wild dog study, the marked reduction in pacing observed during the training condition indicates that the training sessions may have a greater impact on an individual animal's welfare than just these husbandry behaviors. This study was one of the first to provide data on this exciting topic.

This enclosure allows visitors multiple sight lines for viewing, and safe and relatively close access to the lions. In fact, the enclosure features a small truck that juts into the habitat, and sometimes the animals jump onto its hood, providing an exciting close-up experience.





Student researcher/observers (from left) Brianna Allison of Stonehill College, Lauren Hansen and Nikki Maddocks, both of Bridgewater State College.

To date this research suggests that various forms of environmental enrichment can have a positive behavioral influence on the welfare of captive zoo animals. Zoo personnel can improve welfare by increasing the animals' mental stimulation through a number of different enrichment techniques including training, time-intensive feeding techniques, and species-typical habitat design. In addition to improving the animal's

Presently I am conducting research with three Bridgewater State College students, Lauren Hansen, Nicole Maddocks, and Brianna Allison. We are examining the effects of operant conditioning on the behaviors of African lions, tigers, and ocelots, all housed at the Franklin Park Zoo. Keepers are currently working with these animals to train them to engage in all sorts of behaviors designed to reduce stress and improve animal care. We already know that training an animal to "voluntarily" stick its leg out for an injection improves and facilitates veterinary care; our current research is exploring whether or not the act of training itself improves welfare. This research project will provide data that may help zookeepers prioritize animal training. For example, if operant conditioning does improve welfare it may be more important to train an individual animal restricted in a solitary holding area with presumed poor welfare rather than an individual who is part of a thriving social group living in a stimulating habitat with presumed good welfare.



welfare, these techniques can enhance the zoo public's learning experience by encouraging the animals to behave in ways that accurately represent their wild counterparts.

—Amanda Shyne is Assistant Professor of Psychology.

*During the interview phase of my dissertation defense one of the professors asked me if the results of my research suggest that he should wiggle the dead mouse as he feeds it to his pet snake.*

*Ultimately, this is the point of my research. Animals have evolved to participate in specific behaviors that lead to predictable and desirable events, such as the acquisition of food. While all animals, including domesticated cats and dogs, have evolved specific behavioral traits, few pets are given an outlet for these natural behaviors.*



*The vast majority of pets spend countless hours alone with no way to express their natural behaviors or pent-up energy. Many common behavioral problems seen in dogs, such as constant digging, destruction of furniture and incessant barking often stem from the animal's inability to engage in natural behaviors that produce a desirable consequence.*

*No one knows more about excess energy than the owners of border collies, dogs that were bred to herd sheep day in and day out. As the proud owner of a very high-energy border collie named Dillinger, I learned quickly that I needed to provide him with his own brand of enrichment in order to have a few minutes of peace*

*and quiet for myself after a long day. This enrichment is a sport called dog agility in which a dog, with the help of its owner, negotiates an obstacle course at top speed. The dogs (and their human handlers) get plenty of exercise while engaging in behaviors that lead to desirable consequences, a game of fetch for Dilly and a quiet peaceful night at home for me. Agility allows Dilly to engage in physically and mentally challenging behaviors which result in his acquiring desired goals. Agility replicates the pattern of behavior that is seen with all wild animals: the animal engages in behavior that leads to a reward—food, mating opportunities, and so on.*

*My other dog, an Australian Shepherd named Frisby, also enjoys agility, but since she is highly food motivated, most of her rewards come in the form of dog biscuits. This makes providing her with enrichment a much easier task, since I can leave the house and give her a pet toy filled with dog kibble (her breakfast) and know that she is engaging in productive and rewarding behavior instead of tearing the house apart. My two cats also get a bit of enrichment from time to time, as I sometimes sprinkle a bit of cat nip around the house or put a table covered in birdseed directly outside a window. (Whether my cats actually enjoy the sight of the birds, I will never know. But it certainly provides them with stimulation and encourages natural hunting and stalking behaviors which, unfortunately for them, result in the birds' flying away instead of a meal.)*

*All animals, including humans, need more than just the essentials in order to thrive; we need to engage in meaningful behavior that provides opportunities to fulfill certain needs. By allowing our pets to work for the things they need, we are allowing them to have control over an aspect of their environment. Although our furry friends may seem quite distant from the wild environment in which they evolved, if we take the time and energy to provide them with opportunities to engage in wild-like behavior we will almost certainly see improvements in their welfare.*

# Research Note

## The Irish International Exhibition of 1907: Ireland's World's Fair

Patricia J. Fanning

The recent popularity and critical acclaim garnered by Erik Larson's *The Devil in the White City*, which chronicles the building of the World's Columbian Exposition in Chicago in 1893, brings to mind a lesser known enterprise mounted a century ago. The Irish International Exhibition was held in Dublin from May to November, 1907. The Fair's organizers had hoped it would be the largest and most successful of its kind. Planned as an exposition of art, science, industry and inventions, the exhibits consisted of crafts, goods, art, and machinery from around the world. As in Chicago, and Paris before it, lavish buildings were erected especially for the event. In Dublin these mammoth structures included a Grand Central Palace, Palaces of Mechanical Arts, Fine Arts, and Industries, a Concert Hall, a Japanese Tea Room, and a Somali Village, complete with native villagers working at their crafts. It was to be a glorious exhibition, capable of handling 80,000 visitors a day and attracting travelers from the British Isles, the Colonies, America, and beyond. A closer look at this exposition uncovers an intriguing bit of history, one which helps to document a cultural awakening and emerging nationalism.

While under the control and rule of Great Britain, Ireland had been the site of several general exhibitions to promote products of English and Irish manufacture in the 19<sup>th</sup> century. Most of these exhibitions were organized by the Royal Dublin Society, a group primarily made up of English-born professionals, clergy and liberal landlords. An exhibition was even held in 1847 despite a deep economic depression and famine caused by the failure of the potato crop in preceding years. Six years later, the Royal Dublin Society's 1853 exhibition was the largest to date and inspired the establishment of the National Gallery of Ireland, still standing today.

By 1882, however, these exhibits took a decidedly partisan turn when an "Artisan's Exhibition" to promote strictly *Ireland* and the *Irish* was mounted. Exhibit categories included raw material produced in Ireland,

articles manufactured in Ireland, machinery made in Ireland for Irish concerns, home and cottage industries, and painting, sculpture and works of art produced by residents of Ireland. This nationalistic attitude was also reflected in the closing ceremony when "God Save Ireland" was played for the first time. The Cork Exhibition of 1902 followed in this same vein. There were exhibits on historic arts, crafts and Celtic design, and the opening ceremony featured Celtic odes, both indications of an increased awareness of Celtic heritage. This exposition sought to balance industrial development with handcrafts and heritage, and organizers were rewarded with attendance six times as great and receipts three times as large as the 1882 enterprise.

Coming only five years after this highly successful Cork Exhibition, it might be expected that the Irish International Exhibition of 1907 would continue to highlight Celtic heritage and crafts along with economic advancements; it seemed to be a successful formula. But, the organizers had other ideas. The Chairman of the Finance and General Purposes Committee of the 1907 exhibition, the committee which essentially ran the show, was William Martin Murphy, the owner of the *Irish Daily Independent*, a publication widely read by the Catholic middle class. Murphy was a moderate nationalist who believed that Ireland's future depended on its ability to modernize and industrialize. To this end, Murphy steered the exhibition into waters which were much more "International" than "Irish," more "industrial" than "artisan." He aimed to demonstrate Ireland's strength and potential by showcasing not only foreign products but products made by modern industrialized production methods. This decision caused considerable controversy and may even have helped to galvanize the radical separatist movement which emerged with some force in Ireland between the Second Boer War (1899–1902) and World War One (1914–1918). The Irish International Exhibition of 1907 fell squarely in



the middle of this radicalization process and the intense debate and factionalism surrounding it indicates the instability of Irish labor, culture, and politics as the country lurched towards revolution.

First, Irish labor was rather stagnant at that point. There was no real industrial movement in Ireland; what industry did exist was essentially small-scale and tied to the needs of a chiefly agricultural economy. There were a few small craft unions but, since unemployment was nearly 20 percent, any attempts at labor organization were hampered by the easy availability of non-union Irish labor. In 1907, however, the National Union of Dock Laborers sent one of their best organizers, James Larkin, to foster union sentiment in various Irish ports just in time for the mounting of the exhibition.

Second, the level of cultural awareness within Ireland was changing rapidly. Eoin McNeill and Douglas Hyde had founded the Gaelic League in 1893, and its membership had boomed during the Boer War. The goals of the League were to revive the use of the Irish language and to “de-Anglicize” the Irish people. League sentiments included not only the idealization of the rural Irish lifestyle, including artisanship, but also an accompanying anti-modernism (often a code word for anti-British)—a sense that handcrafted items were superior to manufactured products. These beliefs would eventually lead to a suspicion of, if not outright opposition to, an exposition whose goals were to promote foreign and manufactured goods.

Third, the radicalization of both labor and cultural populations was further ensured by the rise of political nationalist groups. In 1900, Arthur Griffith founded *Cumann na nGaedheal* to advance the cause of Ireland’s national independence. To advance this end, the organization encouraged the dissemination of the language, art, music, literature, and history of Ireland. In April of 1907, one month before the opening of the exhibition, *Cumann na nGaedheal* became the *Sinn Fein* League, and, a little more than a year later, merged with the National Council to become *Sinn Fein*, whose purpose was the reestablishment of an independent Ireland. It was into this cultural and political maelstrom that Murphy moved his “international” exhibition, and, not surprisingly, he paid the price.

In February of 1907, the Hotel and Tourist Association complained that the exhibition’s catering contract had been awarded to a London establishment rather than to Irish firms. The debate spilled into the press. Although the organizers assured the public that the exhibition would employ as many native Irish as possible, by April word had spread that capable Irish service people had been let go and foreigners brought in to wait tables at the exposition. Later that same month, it was proposed that goods being shipped to the exhibition be allowed to enter Ireland without port dues and that Irish carrying companies transport them free of charge. There can be



little doubt that the contentiousness surrounding the use of Irish labor, free port duties, and carriage charges were exacerbated by the union activities and labor agitation of Larkin and others. But, labor disputes were not the only problem facing the exhibition organizers; there were administrative problems as well. As opening day—May 4, 1907—approached, several of the pavilions were not ready and there were rumors of infectious disease in the Somali Village!

More disturbing, word had spread as far as the Irish American enclave in Butte, Montana that the exposition was not very popular. The *Butte Evening News* reported that although the exhibition purported to be Irish, it was composed largely of goods of foreign manufacture, with England, Scotland, Wales, Canada, and several European nations having larger representations than Ireland itself. Readers were told that the Irish were not attending and those considering a trip were advised to stay away. To further complicate matters, thousands of union organizers, Gaelic League, and *Sinn Fein* members arrived in Dublin at the end of May for a nationalist conference. At that convention, the Irish

International Exposition was widely denounced by the Gaelic League and *Sinn Fein*, both of whom advocated a boycott of the exhibition.

Most of this negative publicity was gleefully reported in *The Leader*, a weekly Dublin review founded by D. P. Moran. Moran was a Waterford native who had become a London journalist. He had returned to his homeland to encourage the Irish language revival and Irish independence. Above all, he embraced voluntary protectionism and thereby urged his readers to buy only Irish goods whenever possible. To Moran, the Irish International Exhibition was a travesty. Its organizers had hired foreigners in place of Irish workers, and were asking the Irish to buy goods manufactured elsewhere. He used *The Leader* as a bully pulpit to criticize the enterprise in general and William Martin Murphy in particular. By the close of the exhibition, the *Leader* was calling the effort “a disaster,” blaming Murphy and the *Independent* for the “costly failure.”

We will never really know if that characterization was an accurate one but it does appear that the exhibition suffered greatly from the pronouncements of the Gaelic League and *Sinn Fein* and the condemnation of *The Leader*. Newspaper coverage, which had been lavish and steady at the outset, became less extensive and sporadic as the summer wore on. By August the exhibition



was forced to close its gates on Sundays due to a lack of attendance, a clear indication that its success had been compromised.

The Irish International Exhibition of 1907 held its closing ceremony on Saturday, November 9, 1907 and was rapidly forgotten. Within a decade, at the Easter Uprising of 1916, the Irish were making news of a more dramatic sort. There has never been another exposition in Ireland. A century later, with independence secured and the Celtic Tiger roaring, perhaps it is time to try again.

—Patricia J. Fanning is Associate Professor of Sociology and Associate Editor of the Bridgewater Review.

# “She’s got nothing!” A Researcher’s Journey to the Study of “Trash Talking” in Sport

Maura Rosenthal

*You are a 12-year old who just joined your town’s recreational basketball league. Even though your team just lost its first game 25–14, you enjoyed the first two practices and the game itself. As you cross the gym towards your parents, you see your teammates laughing and pointing towards you and hear them say, “You suck at playing basketball, you’re the worst player on our team, and it’s your fault we lost.”*

*Your coach assigned you to cover the opponents’ best player—you are to stick to her “like glue.” In the second half, she gets frustrated and as you line up to defend an inbound pass, she turns to you and says, “Get your fat ass off of me.”*

Participation in sport is clearly not the only way for children to be physically active. Such participation, however, is the most common introduction to physical activity for children in the U.S. Because the Centers for Disease Control and Prevention estimates that 30–45 million children participate each year, youth sport is certainly a worthy area of study. I had the privilege of enjoying a post-Title IX childhood. I have participated in sport recreationally and competitively since the fourth grade. For me, youth sport was an important forum for learning; it was an arena in which I learned to be a leader and to interact as a member of a group. Sport participation can make for wonderful experiences in which children find joy and lifelong pleasure in physical activity. But participation in youth sport can also have the opposite result by producing a negative experience for children that colors sport and other physical activity and brands it as something to be avoided. Part of this negative experience may be caused by the practice of taunting or trash talking in sport.

I first became interested in trash talking in sport through research leading to my dissertation, *Body Culture of Women’s Recreational Ice Hockey*, at the University of Minnesota. Through a participant observation, in which I was able to use my own physical experiences as an ice hockey player and my keen sociological eye, I found that verbal communication was important to both the organization of the team and the competitions themselves. “Body talk” in the locker room and “banter” on the ice were the most



striking types of verbal communication recorded in my field notes during the season. Discussions of body functions, smells and the stench of hockey equipment were elements of what I called “body talk” in the locker room. Anyone who has ever ventured into an ice hockey locker room knows the sensory overload of



sweaty bodies, wet leather, and peeling rubber floors. The Comet Sisters, the fictitious name of the team I played for and studied, spent their pre- and post- game time in the locker room joking about topics ranging from pregnancy and urination to how to best air out hockey pads at home. Much of my dissertation analysis focused on the connections between this body talk and how adult women experience the game of ice hockey. The second important type of verbal communication was on-ice banter. I found trash talking on the ice that threatened and sometimes led to physical violence, *and* I found lighthearted taunting among opponents about who will buy beer after the game. I wondered, in my recently published article, “Harmless banter or serious trash talk? Aggression and intimidation in women’s recreational ice hockey,” how some trash talking could be humorous and some could contain threats against opponents.

When I further investigated this topic in a 2004 study of collegiate men’s and women’s ice hockey, I realized the potential of this topic to yield some very ugly and disturbing parts of sport. In the words of one of the young men in my focus group, “I don’t think we [he and his teammates] ever have a conversation without having something to do with something dirty or swearing”; another said “so, the dirtier the better, more shocking.” The primary difference between my previous results

regarding female recreational players and this study of male and female players at the college level is the language the players report using and hearing on the ice is more offensive, sexist, heterosexist and racist. I should point out, that some of the on-ice banter is done in jest, e.g. asking an opponent “did you bring the varsity tonight?” Much of what the players reported would be inappropriate to include in this article, however the major themes of the trash talking revolved around dominance, intimidation, and name-calling. Men and women in this sample use trash talk slightly differently with men trying to assert dominance over opponents in their language, e.g. “you are a b\*\*\*\* and should play for the girls’ team” while women are responding to physical aggression of opponents, e.g. “get off me you bitch!” In a focus group interview with the college players, I was struck by the idea that players learn how to trash talk from older players. I began to think about at what age young children might learn *how* to taunt opponents, and the larger issue, which is that children are often learning this behavior *through* sport participation. What does this say about the potential for sport to provide



professional sports ranks, and recognition by both the public and the research community that bullying and taunting are enormous problems in middle and high schools. Not only did the NBA Detroit Piston’s brawl headline most major print, televised and web media outlets,

but it drew the public’s attention to violence in sport much the same way the McSorley-Brashear slash did in the NHL a few years prior. The Columbine shootings and other such violent acts in schools alerted teachers and parents to the dangers of bullying and teasing in schools. Wessler and de Andrade’s (2006) article “Slurs stereotypes and student interventions” includes data on the severe impact of harassment and bullying on the 10–16% of middle and high school students who report being victims of taunting and bullying.



both positive and negative experiences for children? Existing research by David Conroy (2001) and his colleagues at Penn State clearly demonstrates that the more years children spend in sport, the more they find acts of physical aggression to be acceptable sport behaviors.

However, research has not considered whether the same would be true for instances of verbal aggression.

Consequently, my latest research project attempts to answer the following general questions: Do young athletes find trash talking to be acceptable sport behavior? Do youth find trash talking “cool” or useful in getting opponents “off their game?” As I designed my next research project, two things happened to convince me that this was a timely and important area of study: a proliferation of very public sports brawls in the

Discussion with one of my Movement Arts colleagues, Karen Pagnano, led me to understand that the work I was doing with young athletes and verbal aggression sounded “a lot like bullying.” Review of the education and sport literature revealed little attention to verbal harassment in sport and even less on the traditionally understudied girls and women in sport. My graduate school advisor’s constant question “Maura, what will be your unique contribution to the literature?” was still ringing in my ears after 6 or 7 years. Here was my chance to make my “unique contribution” to the discipline.

In the summer of 2005, I conducted part one of an exploratory study focusing on the sport behaviors of girls, aged 10–14 who were participating in a basketball skills camp in central Vermont. These fourth through eighth graders had from one year to nine years participation in sports ranging from basketball, dance, ice hockey, and skiing, to softball, soccer, swimming and horseback riding. I continued data collection in February 2007 with varsity female basketball players at the high school level for part two of the study. Ranging in age from 14–18, these athletes generally had 10 years’ experience in basketball and some years of experience in a variety of other sports including soccer, tennis, volleyball, and field hockey. Data came from four urban or suburban schools in Eastern Massachusetts and Rhode Island.



The results from a simple study such as this were revealing, if not totally surprising. Quantitatively, the elementary school aged girls found the trash talking behaviors significantly less acceptable than the high school aged girls. In youth sport, high school sport, college sport, and professional sport, the high school aged girls found retaliating verbally or taunting opponents to be “Never OK” or “Seldom OK” dependant on the situation.

The girls in all age groups were able to fill the available spaces in answer to the open-ended questions about trash talk they have heard used in their basketball experience. This is an interesting finding because if the younger girls believe it is “Never OK” or “Seldom OK” to use trash talking, who is making all these trash-talking statements in the context of the game, and to whom are they directed? I surmise that the girls have been taught or told not to use verbally aggressive behaviors in basketball, but that in actuality during games, practices and tournaments, trash talking is so common that these lessons are forgotten or ignored. Secondly, we know from sociologist Nan Stein’s (1999) book *Classrooms and courtrooms: facing sexual harassment in K-12 schools*, verbally aggressive behaviors are common in middle and high schools, so it is not surprising that they show up on the basketball court.

The trash talking phrases the girls used or heard used were grouped thematically into a “you suck” category and a “name calling” category. The “you suck” category contained at least 30 different iterations of the phrase ranging from “you suck” and “you suck, grow more before you play again” to “your team sucks” and “you suck at playing basketball, you’re the worst player on our team, it’s your fault we lost.” Similarly, name-calling ranged from “retard, ugly, show off and jerk” to insults over body size such as “look at that fat girl” to racially-motivated phrases like “walk your black ass off the court.” Other phrases included interesting references to popular basketball culture “You ain’t Jordan,” and “ballin.” I wrote the fictitious stories at the beginning of the article using phrases that the girls in the study reported.

Another interesting result that I have also seen in collegiate and recreational women ice hockey players were trash talk fragments aimed at body size. Calling each other fat has power even among 10-year-old girls: “look at that fat girl,” “go by her, she’s fat.” When and how do girls become obsessed with body size and their peers’ body sizes? What are the pressures on these basketball players—are they similar to what we might find in gymnasts or figure skaters? The literature on aggressive behavior among adolescent girls provides insight on this issue. Girls likely get a body size obsession from older girls. According to a recent Center for Disease Control and Prevention (2000) study on “Tweens,” i.e. boys and girls aged 9–13; show that 11- and 12-year olds say they

worry about being fat. In fact, 22% of children surveyed mention being afraid of being fat.

How does this trash talking influence or affect the girls and boys who participate in sport? Might trash talking contribute to children dropping out of sport? What is the role of the coach in managing behavior and in creating a positive learning environment on his/her team and in competition? Challenging my students, many of whom will be physical education teachers, coaches, and sport and recreation managers, with these questions is one important way I see my research informing my teaching. Like me, many of my students have had positive experiences in sport. However, unlike me, they have not considered how some parts of the sport ethic serve to exclude, alienate, and even violate those involved. As a professor, it is my duty to encourage students to critically analyze sport so they may be better prepared professionals. Access, inclusion, and a positive learning environment are what will keep children and adults in sport, fitness, and wellness programs. It is our collective responsibility to work diligently towards ensuring our programs welcome participants in, not scare them away from, physical activity.

—Maura Rosenthal is Assistant Professor of Movement Arts, Health Promotion and Leisure Studies.



# Zebras, or Horses of a Different Choler

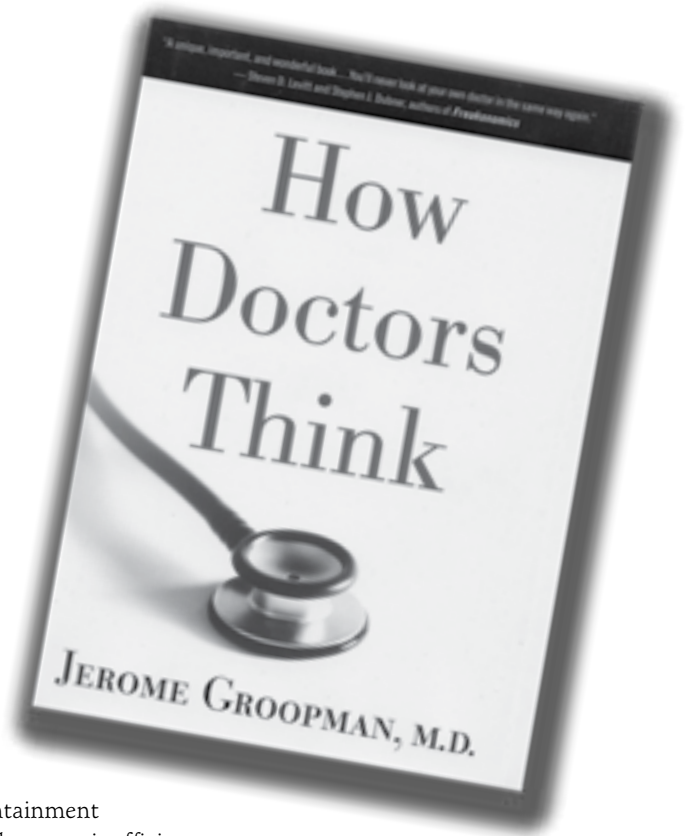
Jerome Groopman, M.D.,  
*How Doctors Think*. Houghton-Mifflin, ©2007

Charles Angell

I have taken of late to calling the evening TV news the pharmaceutical hour owing to the barrage of ads for one or another drug that usually conclude by directing the viewer to “ask your doctor about....” Aimed at an aging boomer population that now tells itself that “60 is the new 40,” these ads promise to restore youthful vim, vigor, and virility to bodies debilitated by normal wear and tear and, one suspects, bad habits. Technology will trump nature; pills will, if not arrest time, slow its ravages.

Dr. Jerome Groopman of Beth Israel Deaconess Medical Center and the Harvard Medical School faculty offers *How Doctors Think* as a caution to the notion that some miracle therapy or cure exists for every affliction. Drawing on his experience both as a physician and a patient and on his discussions with medical colleagues and patients, he reiterates that practicing medicine is an art that requires a serious and sustained dialogue between doctor and patient. What factors, Groopman asks, come into play that determine whether a doctor succeeds or fails in diagnosing a patient’s condition? “While modern medicine is aided by a dazzling array of technologies, like high-resolution MRI scans and pinpoint DNA analysis, language,” Groopman answers, “is still the bedrock of clinical practice.” Later in *How Doctors Think* he stresses that accomplished diagnosticians, when confronted by a patient who hasn’t responded to treatment and therapy, will reconstruct a narrative from the patient’s symptoms. Groopman paraphrases a colleague who “emphasized to me that sensitivity to language... should be considered with every patient.” The doctor must hear not only the facts of the clinical history but the manner in which the patient delivers the facts; the how can be as important and revealing as the what. As my doctor has said to me more than once “the most important knowledge I have about your condition comes from what you tell me.”

Groopman insists that the primary care physician who first hears the patient’s account of his symptoms acts as a “gatekeeper” for much of what follows. He laments the circumstances that compel primary care physicians to spend less time with patients—primarily insurers’, or “bean counters” as he calls them, concern with cost



containment and economic efficiencies—with the result that the doctor must too frequently make a quick diagnosis. While a large percentage of clinical diagnoses are routine, some demand time and careful thought. The initial diagnosis will follow a patient and assume what Groopman terms “diagnosis momentum” where subsequent physicians in their diagnoses follow the direction established by the original. Doctors must learn to recognize and avoid this cognitive trap, know when to put the clinical record aside, and have the patient redescribe the symptoms in order to determine whether some symptom has been missed or been considered unimportant.

In his seventh chapter, “Surgery and Satisfaction,” Groopman recounts his own experience as a patient trying to learn what was causing his right wrist to swell and throb with pain. At first he attributed the condition to carpal tunnel syndrome, but as the pain increased in frequency and intensity, he sought relief from specialists. Over a span of more than three years he consulted five hand surgeons whom he identifies as Drs A, B, C, D and E. Dr A at first admitted he didn’t know what was

wrong with Groopman's wrist and recommended first splinting it, then after several months unsplinting it. Nothing worked. Finally, Dr A fell into what's known as a "commission bias"—the "tendency toward action rather than inaction"—and diagnosed Groopman as suffering from "hyperactive synovium." Dr A essentially invented a diagnosis to mask his uncertainty.

Dr B examined the wrist, found cysts and what he thought was a hairline fracture of the scaphoid bone, and recommended three separate surgeries which would require an eighteen to twenty-four month recovery. Dr B made the cognitive error that Groopman terms "satisfaction of search" where once the surgeon finds something, he tends to stop searching for any other possible diagnosis. Once Dr B found the cysts and fracture, he assumed there was nothing more to be found.

Dr C, a world renowned hand surgeon, gave Groopman a cursory examination and turned him over to a resident for tests and told Groopman he had calcium deposits in his wrist that had stiffened and inflamed the tissue, a condition technically called chondrocalcinosis. He recommended arthroscopic surgery, but when Groopman, aware that treatment with an anti-inflammatory was the appropriate therapy, inquired whether arthroscopy would correct the problem, Dr C basically said he'd figure it out in the operating room. Dr C arrived at not an invented diagnosis as had Dr A but an "inventive" diagnosis to conceal his uncertainty about the origin of Groopman's pain.

It was Dr D, a young doctor new to Boston, who finally diagnosed the problem by examining and x-raying both wrists which showed in the right wrist a torn or imperfectly functioning ligament that was causing the bones to misalign when under stress. Groopman questioned Dr D on why the MRI had failed to reveal the problem. "Doctors relied too much on such sophisticated scans," Dr D said, "so sometimes you had to discount their findings if they were out of sync with the clinical picture." He recommended surgery though admitted he had performed the procedure only once. Groopman had the diagnosis confirmed by Dr E, a more experienced surgeon, underwent the operation and had his wrist restored to 80% efficiency. Though he, like all patients, had hoped for a full recovery, he learns from a surgeon friend that "The perfect is the enemy of the good... nothing that you do in surgery is perfect. Everything is a compromise. Eighty percent of normal after surgery—well, that's pretty good." A surgeon should practice candor and avoid "paint[ing] a too rosy scenario" for the patient. Groopman points out that "such [clinical] honesty is not rewarded in today's society" where "patients shop for doctors" and "some doctors are keen to market themselves." The lesson to be learned by doctors and

patients alike is that doctors should "think in sync with the patient" and "the patient should be helped to think in sync with the doctors."

Groopman explains how technology sometimes works to inhibit doctors and patients from working in sync with one another. He cites the introduction of "patient templates" which are "based on a typical patient with a typical disease. All that is required of the doctor is to fill in the blanks. He types in the patient's history, physical examination, lab tests, and the recommended treatment." While the technology promotes efficiency by reducing the amount of time physicians spend with each patient—the bean counters again—"it can also drive a wedge between doctor and patient" and "risks more cognitive errors" since the doctor focuses on filling in the template blanks rather than on "open-ended questioning" of the patient to elicit data that may not fit the template. Groopman fears the increasing commodification of medicine which de-emphasizes physician-patient interaction "within a context and in a social system."

One reads on an almost daily basis or hears in the TV and radio news of the crisis in medical practice—the ever increasing costs, overcrowded emergency rooms, under- or uninsured patients, ineffective and sometimes downright dangerous drugs, and stressed physicians. Groopman addresses these problems and more in *How Doctors Think* by letting other doctors and their patients tell their stories to illustrate what does and doesn't work. One finishes the book sensing that most doctors want to do what's right and helpful for their patients but are often confined by their medical school training where interns are taught "when you hear hoofbeats, think about horses, not zebras." Worse, the bean counters, in restricting the time doctors can spend with patients or the number of tests they can order, encourage the doctor to focus on horses. Which has its place, "unless, of course," Groopman remarks, "that one zebra turned out to be the bean counter's own child." I think it's fair to say that for Dr. Groopman accomplished doctors, at whatever level they practice, should assume every patient is that unique zebra. But, all of us, when we visit our doctors need to offer a narrative of our symptoms that allows the doctor to perceive our unique stripes and heal us.

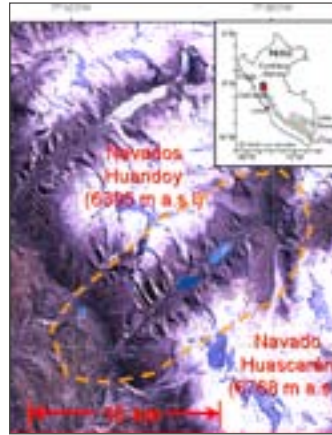
#### Correction:

in my review of Nathaniel Philbrick's *Mayflower (Bridgewater Review, December 2006)*, I placed First Encounter Beach in Orleans; it remains in Eastham.

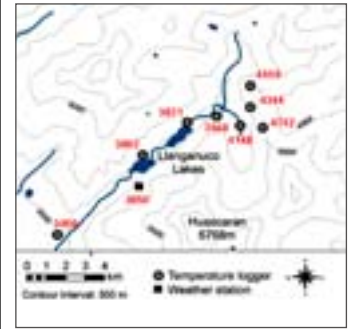
# Annual Hydrometeorological Variability within a Tropical Alpine Valley

## Implications for Evapotranspiration

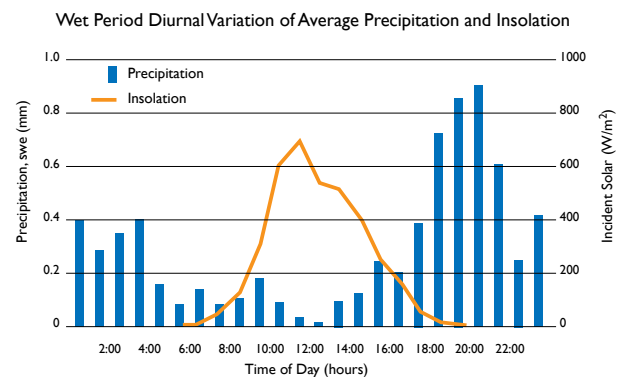
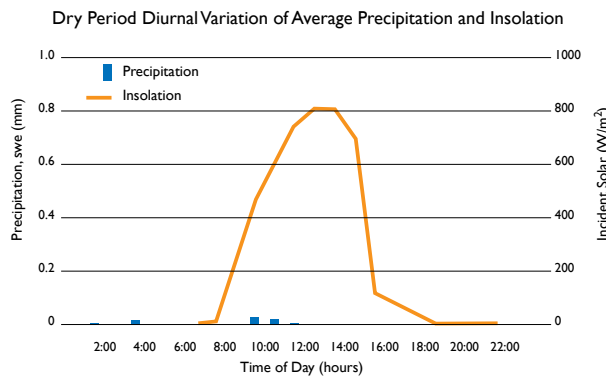
Rob Hellström, Bridgewater State College  
and Bryan G. Mark, Geography Department,  
The Ohio State University



Study Area (Llanganuco Valley)



### Diurnal Variation of Dry and Wet Period Insolation and Precipitation



- Very little precipitation with ITCZ located north of valley
- Afternoon shading by steep valley wall
- Most precipitation occurs at night
- Insolation is not significantly reduced by cloud cover

In this graphic we see a number of techniques used to present information about Dr. Hellström's research project on climate in the Peruvian Andes. On the left are two maps, one showing the position of the research site within the country of Peru, the other locating the site more precisely on a larger scale relief map as set in a mountain valley. At the upper right is an illustration of the location of the data collection stations on a topographic elevation map. And at the bottom right of the page are two graphic presentations of data indicating precipitation and solar input that were generated from data collected at these sites. The dry and wet seasons are clearly evident by differences in the vertical bars showing precipitation. The relatively smooth bell shape of solar input indicates a lack of cloud cover during daylight hours for the wet season, and this promotes high rates of evaporation. Evaporation is a critical component of the water balance in this part of the Peruvian Andes.

**Bridgewater State College**

*Bridgewater, MA 02325  
Bridgewater Review*

Non-Profit Org.  
U.S. Postage  
PAID  
Burlington, VT  
Permit No. 341