Night Lights 1989
Robert A. Daniel
Watercolor on 300 Lb. Cold Press paper
22” x 36”

Ground light patterns (viewed from a
night flight) were made by dribbled
rubber cement which was allowed to dry.
Then they were covered with several
washes. When these dried, the rubber
cement was removed and the resulting
white patterns were painted with water­
colors having little or no dilution.

ARTIST’S STATEMENT
I am an artist who produces representa­
tional, abstract and non-objective
works. I am primarily concerned with
trying to create compositionally
dynamic relationships between the
formal elements of art such as lines,
colors, values, etc., that make up any
given work. Subject matter, when there
is any, is secondary to these relation­
ships, though not irrelevant. The
work is a reflection of my interests in
a variety of approaches to the handling
of both media and compositional
challenges. This is a portrait of the
artist as a work in progress.

Robert Daniel is Emeritus Professor
of Education.
BRIDGEWATER REVIEW
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Campaign 2000 will forever be known as the election that brought America a democratic language that was largely unknown and unused. Hand recounts, pregnant chads, vote certification, under-voting, canvassing boards and butterfly ballots have now permanently entered the lexicon of national politics. But while George Bush and Al Gore fought over every last ballot in Florida and the news networks turned a constitutional crisis into a media circus, many of the essential elements of this year’s national election were left unreported. Let’s take a look at what happened in Campaign 2000 before the fight for Florida began.

1. Democracy is not Cheap – George W. Bush raised $187 million and Al Gore nearly matched him with $133 million, and that’s just from the first primary through the last weeks of the campaign. Add to this the nearly $400 million raised by both political parties (so-called soft money) and the enormity of the cost associated with electing a president comes into focus. Over $4 billion was spent on all campaigns in 1996. In 2000 that amount should easily double. Most European countries accomplish the same end for a lot less money, but in the United States elections have become a kind of cottage industry that employs thousands of people. Talk of campaign finance reform is just that, talk. There are just too many people making money trying to get out the vote.

2. The Messenger Rather Than the Message – In Campaign 2000 the American public was bombarded with issue positions on everything from Social Security to prescription drugs to tax relief. But no matter how much Bush and Gore laid out their views on how they would change America, the voters were looking beyond the issues and trying to determine which of these two guys was a better man to occupy the White House. Electoral victory hinged on who had the brainpower, the experience, the veracity; who tended to exaggerate, who engaged in youthful indiscretions, who was a phony, who was arrogant and most of all who possessed the most common sense. American voters are certainly smart enough to know the broad generalities of key public policy issues, but they also want to know that the man who enters the White House will not disappoint them or worse yet embarrass them.

3. Demographics Makes the Difference – This may be the United States of America, but when it comes to elections it is the male vs. the female vote, getting out the African American and Hispanic vote, winning over the suburban electorate, widening the union base, and convincing the all important senior constituency. Campaigns are individual appeals to individual demographic groupings within individual states. Candidates may claim that they are talking to the American people, but they are really taking to voters who their polling has told them hold the key to victories. Winning elections is thus putting together scores of mini-elections. The election victor is thus the president of a narrow demographic alliance.

4. Voting Does Matter – The 2000 election should finally put the rest the oft-repeated phrase, “my vote doesn’t count.” The razor-thin popular vote for president and the votes in Florida, New Mexico, Oregon and Wisconsin point clearly to the importance of the vote. But while all attention focused on the narrow margins of victory in key states, the most distressing story was that voter turnout remained around 50%. This country continues to suffer from enormous voter apathy, particularly among the young. This election might not have had two knights in shining armor, but the issues they talked about go to the heart of our future as a nation. Perhaps the scrugging around for every last vote in Florida and other states may be the spur that gets Americans off their easy chair and into the ballot booth.

Most of the foreign press corps who were in the United States for Campaign 2000 often were found scratching their heads when they saw this “organized chaos” we call electing a president. They were offended by the hoopla, the lawyers, the grand promises and the constant barrage of television commercials. They can’t understand the reason for the Electoral College and our unwillingness to move away from the two party system. It all seems so disorganized, so personal, so rancorous and oh so long. The only answer to all this head scratching and bafflement is that it is our way of electing the most powerful man in the world, and its unlikely to change. That’s not a very good defense of the electoral process in the “World’s Greatest Democracy” but since most Americans either don’t care or seem satisfied with this “organized chaos,” Campaign 2004 will likely be the same, only more costly, more mean spirited and more factionalized.

Michael Kryzanek is Editor of the Bridgewater Review
MYTH #1: Sports viewing and activity are overwhelmingly the peoples' entertainment, and the arts and culture are only for the few and the elite.

MYTH #2: Massachusetts south of Boston is a cultural wasteland in which there is no measurable theater activity.

MYTH #3: Communities depend on real jobs with real economic impact such as those in construction and the information industry. Everyone knows there are no important jobs in theater and that theater has no real economic impact on the region.

Those three statements have the power of popular wisdom, and they seem to be louder than any voices that might contradict them. Despite popular wisdom, the facts say that each of the above statements is a myth. The reality behind the first myth is that in New York the Metropolitan Museum of Art has greater annual attendance than the Yankees, Knicks, and Rangers combined. The three top cultural institutions in Boston have greater attendance than the Red Sox, Bruins, and Celtics combined. The reality behind the second myth is that there are more professional theaters, community theaters, schools of theater, college, public and private school theaters producing more plays on the South Shore and Cape Cod than there are in Boston. My work leads me to estimate that total participation and audience attendance exceeded 300,000 people last year! I also estimate that the total effect in dollars on the regional economy exceeded $20,000,000 last year. (The exact numbers are still being calculated as part of my study to be completed December, 2000.) The reality behind the third myth is that in the United States employment in the arts is greater than in many essential fields. For example, in 1997, the arts accounted for 6% of the Gross National Product (the construction industry accounted for 4.8%) and the arts employed 2.7% of the American workforce, or 3.2 million individuals (agriculture employed 2.6%). In New England, job growth in the arts and culture world exceeded every other field last year; and south of Boston, I estimate that employment in theater included over 170 full-time jobs and over 1200 seasonal or part-time jobs. By comparison, the region's vaunted cranberry industry likely has less than one tenth that amount of employment.

It is important to understand that at the root of this issue is access to public money. Our taxes are invested in a wide range of activities in the Commonwealth, and decisions about how they will be spent are fought out in the state house and the court of public opinion. Take, for example, the campaign this summer by the Boston Red Sox to convince legislators, the governor and the public that the region would be wise to spend huge amounts of public money ($312 million was the most recent estimate I read in the Boston Globe) to help build a new Fenway Park and the infrastructure such as roads and parking, on which it would depend. To bolster their argument that the region would benefit, Red Sox executives pointed to the importance of the Red Sox in making Boston a "world class city", and to the economic benefits of having a major league team that draws two million fans a year and sells lots of hot dogs and ball caps. So, people make both cultural and economic arguments to support their right to dip into the public treasury for the special activity in which they believe.

I want to smash myths about theater and the arts because I want more support, especially public support, for theater in our region. The problem is that the myths are so pervasive that they stand in the way. The reality has been obscure and unrecognized, like the reality of an underground economy that secretly adds up to a $20,000,000 effect. Consider the
following examples that may be news to you. There is a little, funky professional theater named Wellfleet Harbor Actor’s Theater, with Jeff Zinn as resident director and Gip Hoppe as resident playwright, which has sent plays on to Boston and Off-Broadway in New York. Did you know that? There is a well-attended private school of theater over the old appliance store in East Bridgewater, headed by Teresa Capacione. There is an enormous theater program (winning more state titles than the football team) at Brockton High School, under the direction of Carol Thomas. There is a large, adventurous community group named Company Theater, directed by Zoe Bradford and Jody Saucerman who saved a former professional theater in Norwell. There is even a nationally honored theater program at Bridgewater State College. Did you know that? (A more complete listing of theater groups, including professional, amateur and education-affiliated groups are listed on page 5.) The facts will show that all of the theaters in the region add more to their communities than they receive, much more than popular wisdom has allowed. I want you to know that all of the theaters add much more than they receive economically as well as culturally.

Old arguments touting the artistic and educational value of the arts (and particularly of theater) in the cities and towns south of Boston have simply not produced sufficient attention and support. Though I strongly agree with such arguments, and made them myself in the past, they are not being repeated here because they simply have not been effective. As a society we seem to measure everything in terms of money, but the dollar argument for theater in the region has not yet been made loudly enough to overcome the myths connected with it. I hope to counter the myths about theater with concrete data demonstrating the scope of the economic impact of all the theater on the South Shore and Cape Cod. I hope to let the factual reality of dollars argue for theater louder than the artistic and educational values have ever done. Can you hear it?

There have been studies measuring such things as the economic impact of a new Fenway Park for the Red Sox, the cranberry crop, Canadian whiskey, crime in Massachusetts and building the Big Dig in Boston. Economic impact studies have been conducted whenever public funds are to be spent on an activity in our society. The term, “economic impact,” means measuring the influence of an activity by examining all of the ramifications that activity has on the dollar value of employment, property costs, goods and services produced, income and expenditures, as well as other business generated in a specific population. And “gross national product” is used as a measure of all the economic activity in the United States. It does not measure the spiritual or artistic worth of an activity except as each generates dollars spent.

In my study I am searching for a kind of “regional theater product” composed of all the economic activity related to theater. That is, I am trying to calculate how much money is spent in each of our communities that would not have been spent without its theater activities. One very important aspect of that measurement has already been widely accepted by economists: a basic formula (often called an economic model) for calculating business generated. As a general rule it can be assumed that every dollar spent directly producing and attending theater in the region creates three dollars worth of other business. This three-to-one ratio takes into account the ripple effect of increases of property costs, employment, goods and services produced, income and expenditures for businesses that benefit indirectly from theater activity. Every dollar directly spent producing a play also means another three dollars spent in the community by actors and audience on restaurants, gas stations, clothing stores, local/state taxes, and so on. Every dollar directly spent producing a play also means another three dollars spent in the community by accountants, lumber yards, fabric stores, lighting manufacturers, installers and renters, and others. When I estimated that the total effect of theater activity in the region exceeded twenty million dollars I used the standard ratio of three to one to calculate that figure.

There is yet another aspect of the regional theater product that is much more difficult to measure: donated goods and services. These are called in-kind contributions, and must be counted along with other contributed income from sources such as corporations, foundations, individuals, as well as federal, state and local grants. In-kind contributions represent more dollar value by any measure of theater than all of the dollar contributions combined. My estimation that the number of participants and audience in theater in the region...
exceeds three hundred thousand includes its approximately seven thousand volunteer participants. Of course, many of the volunteers, employees and audience members may have attended and been counted more than once (just as the Red Sox or any other business includes many individuals who attend and are counted more the once). In fact, my estimate that the total economic effect of theater in the region exceeds twenty million dollars could increase significantly. I have not accounted for any in-kind contributions in my estimate, simply because it is taking much longer than I anticipated to calculate the fair dollar value of used goods and volunteer services.

Until recently, my personal interest in theater has been exclusively artistic and educational. This economic impact study is something I had always hoped that someone else would do, but in my 32 years in southeastern Massachusetts, no one has. I finally realize that if it is needed enough, I'd better do it. Other studies have been done, nationally and in New England, but their primary focus has been not-for-profit incorporated arts and cultural organizations in major urban centers. Research in Massachusetts, for example, included only not-for-profit corporations in Boston. The studies excluded for-profit and unincorporated arts organizations as well as all organizations outside of Boston. Because most theater production outside of Boston is for-profit or unincorporated, there is a significant gap in the research on the economic impact of theater in Massachusetts. Consequently, two unique aspects of this study are: first, the inclusion of data collected from all organizations engaged in theater; and second, the limitation to a geographic area outside a major urban center, in this case southeastern Massachusetts. If you measure the value of your community in money, then you should hear this loud and clear: we need to support our local theater.

**Stephen Levine is Professor of Communications Studies and Theatre Arts.**

*Editor's note: Dr. Stephen Levine of the Department of Communication Studies and Theater Arts is in the midst of a study of "The Economic Impact of Theater production in Southeastern Massachusetts." During his sabbatical leave in the spring semester and summer of 1999 he began collecting data for his study and is currently working toward completion of the project.*
"My Ambition is to Weigh 150 Pounds"
College Women’s Attitudes Toward Their Bodies, 1875-1930
By Margaret A. Lowe

In the late nineteenth-century a vociferous societal debate accompanied women’s admission into the halls of higher education. Although only a fraction of the female population, women had begun to enroll in institutions of higher learning in significant numbers. A reflection of broad changes in American society, by 1900, the New Woman had not only entered colleges and universities but demanded the vote, organized national political movements, worked in settlement houses, and in unprecedented numbers opted not to marry. Directly challenging traditional gender definitions, white and black middle-class women’s expanded social role sparked myriad disputes about the meaning and character of proper womanhood. Both advocates and opponents of women’s education struggled to reconcile traditional notions of femininity with the new portrait of womanhood that students and educated women presented. By the 1920s, however, attending college had become commonplace; “the thing to do” for middle-class women. No longer pioneers, female students attended colleges the country. Reflecting the roaring twenties’ sensibility, they relished both new vocational opportunities for women and also all the fun and fads of modern campus life.

Through this transition, perceptions of the female body — its purpose, appearance, and health — stood at the center of the national debate about women’s place in academic institutions. School administrators, social commentators, physicians, and students debated women’s entry into higher education in terms of its impact on femininity and the female body. Intrigued by this ubiquitous theme, I wondered: In the midst of these debates, how did college women feel about their bodies and what might their experiences tell us about college women today? To find out, I began to read Smith College women’s letters and diaries. Much to my delight, I quickly discovered that they left copious detailed comments about fashion, food, athletics, health, and appearance. From there, I decided to expand my research to include a coeducational institution (Cornell University) and African American students (Spelman College). Unfortunately, we have far fewer written records for Spelman students and for black women in general. But not wanting to leave this population out, I managed to piece together enough historical material to still tell their story though the student “voice” is much quieter. In the end, after many years of research, I have written a social and cultural history, Student Bodies: College Women and Body Image, 1875-1930 (Johns Hopkins University Press, forthcoming 2001) that illustrates among other things the central importance of college women in defining and shaping modern notions of body image — notions that continue today.

At the heart of the early debates over white women’s entry into higher education lay opposing views about the projected impact of higher education on the female body. Supporters strove to prove that higher education would not damage female health. Critics, on the other hand, predicted ruin. Social critics and medical professionals argued that “mental work” would debilitate the female reproductive system. The most famous attack came from Dr. Edward Clarke, a retired Harvard medical professor, who was especially concerned that women were beginning to agitate for admission into his beloved medical school. In his book, Sex in Education, written in 1873, Clark conceded “that a girl could study and learn,” but, he warned, “she could not do all this and retain uninjured health, and a future...
secure from neuralgia, uterine disease, hysteria, and other derangements of the nervous system."

Though the femininity of the students at all three colleges was challenged, African American women faced a different problem: many believed that they did not yet possess femininity. In the midst of pseudo-scientific assertions that labeled them racially inferior, Spelman students had to demonstrate that African American women were indeed womanly. In the late nineteenth-century evolutionary science fitted African-American bodies into new visual classifications of inferiority based on facial angles and physiognomic measurements. African Americans were said to be closer to the ape and thus inferior. While such theories dated back to the antebellum period, the rise of the social science movement, and as historian Robert Wiebe would say, "the search for order" amidst rapid social change in the late nineteenth century, gave such ideas added potency.

Ultimately, however, it was the health and reproductive capacity of white, native, middle and upper-class women that critics wanted to preserve. As early as 1885, studies began to demonstrate that for the majority of college women, white and black, their health either improved or stayed the same while at college. By 1910, college women had proved they could withstand the rigors of academic life; while many critics still bemoaned female education, they could no longer base their criticisms on projected health failures.

How did college women accomplish this? Most notably, they answered back. They reassured parents and friends in personal correspondence, wrote "letters to the editor," published detailed empirical studies, and most importantly not only survived but thrived in the academic environment. But students also used their bodies to prove social critics wrong. While they did this in a variety of ways, their gestures regarding food and body size stand out. From about the 1880s until the 1910s, white college girls "proved their health" by displaying hearty appetites and gaining weight while black students showcased moral health and perfect dining decorum. After World War I, new fashion codes superceded health. As a result, white women began to diet but, pointing to the racial dimensions of this new trend, black women did not. To take a brief look at this transformation is to begin to grasp the history of the female body image in twentieth century American life.

Today weight gain alarms us. It is an indisputable sign of, among other deplorable things, ill health. For white college women at the turn of the twentieth century, an exact opposite paradigm ruled. Weight gain represented a healthy adjustment to college life. By gaining flesh, students countered notions that they were frail and sickly. Losing weight was troublesome. It was perceived as a symptom of some of the most common female illnesses: neurasthenia, hysteria and consumption. To certify their health, students and administrators detailed what the students ate, the state of their appetites, and how much they weighed.

The letters of Smith student Charlotte Wilkinson, class of 1894 illustrate this mentality perfectly. She wrote to her mother in February 1892, and stated somewhat cheekily, "It is my ambition to weigh 150 pounds." Charlotte clearly understood that weight gain reassured her mother. In her closing remarks of a letter written in April of that year she wrote, "Now I must stop, dearest Mamma, with a heart full of love from your devoted and healthy daughter, Char." Then she added, "I put in healthy because I know you want me to be that, next to being good, as I am very well now, as I was all winter term. I weigh 135 1/2 pounds." In June of that year, she used weight gain once more to substantiate her health. For most college women, campus activities or the "life" as they called it offered constant pleasures and temptations. Parents and administrators worried that students would become devitalized and ill. Charlotte countered with the most common and effective form of reassurance at her disposal. "I have never had so much going on in my life as this last month" she wrote. But don't be afraid that I shall get tired out for I am bouncingly well. I weighed 137 pounds the other day." She was slowly creeping toward her goal of 150.

While college officials clearly encouraged weight gain and relied on statistics of such to demonstrate student health, they did not foresee the myriad food rituals that students would develop. At Smith College and Cornell University the students were given free rein. Granted permission to gain weight, they went about the business of eating.
Above: As this photograph of the Spelman Class of 1892 shows, the students embodied the very image of late Victorian femininity in dress and posture. Their dress and pose is quite similar to the group photo (bottom) of students who resided in Hatfield House at Smith College in 1888.

Although some historians have argued that "bird-like," Victorian appetites followed women into the late nineteenth century, women at all three colleges displayed no such tendencies. They displayed little of the shame, fear, or battles of will in regard to their appetite, that earlier Victorian women did, or that many young women do today.

Smith students created the most lavish eating rituals. Having a "spread" was the most common. Spreads were small, informal food parties organized by students to share a food-box sent from home, celebrate a birthday, or mark a school event. A photo of Helen Lambert and Bertha Allen (page 6) was titled "A Memorial of exams, essays, metrical travelations and the like." In their night clothes, Helen and Bertha celebrated the end of exams with festive food. Similar to Smith students, Cornell women enjoyed spreads and praised college food. Students saved photographs of festive spreads in their scrapbooks and recounted spreads consisting of pears, ginger snaps, chocolate creams, and lemon and ginger soda. In an alphabet rhyme, one female student wrote, "S standss, too, for spreads, to which our friends we write//Of pickles and crackers, and rare-bit not trite." Students found in every occasion a reason to eat. Robust appetites, encouraged to ward off illness, allowed students to indulge, with only a too full stomach as retribution.

At Cornell and Spelman, however, eating was more complicated. Because Cornell had not yet built dormitories for men, male students and faculty were allowed to take their meals at the women's dormitory, and the presence of men at the dining table created anxiety for some female students. Unlike Smith and Spelman women who enjoyed the protection of the single-sex environment during meal times, Cornell women encountered men.

In her letters home, Cornell co-ed Jessie Boulton expressed some of the anxiety this unbalance could cause in regard to dining. In January, 1880, she lamented, "I am just in about as deep trouble as I was last term in regard to our eating table. I moved away from Mr. Kent but who should come but three new gentlemen, filling our table completely, and making six gentlemen to four ladies..."A few days later she wrote again. "It is a source of misery to all of us girls...I ate scarcely anything at dinner yesterday...I am just tired of eating with gentlemen at every meal; I think they all might go. I believe in coeducation but I get tired of co-eating."

Unfortunately she never specified what prevented her from eating. But in a letter to her father, she revealed part of her distress. She felt inadequate to the task of socializing with men; she fumbled in conversations about literature, philosophy and politics. She may also have feared not getting enough food, since Cornell women competed with men for their portions at the table. Cornell historian Morris Bishop recounted that the men took more than their share. In the 1870s, the dining hall manager had to "propose restricting the men to two-thirds of the accommodations." Yet Boulton and her classmates did not express anxiety about displaying their appetites in front of men. Cornell women attributed their anxiety not to the supposed sexually symbolic meanings attached to women's appetites but rather to the social pressures of interacting with young men while eating. Health codes which encouraged hearty eating still applied, even in the presence of men. Later in the month, Jessie Bouton, reassured her sister that her "table was much better...so Mamma need not be alarmed about my health."

In contrast, Spelman administrators, guided by Baptist doctrine, advocated moral health. Moral health required orderly restraint, hard work, purity, and cleanliness not sensual or physical excess. Spelman's founders, well aware of racist stereotypes that caricatured African American women as crude, gluttonous, depraved, and promiscuous, attempted to counter such portrayals by commanding refined deportment around food. For example, unlike Cornell and Smith students, Spelman students were not allowed to receive food boxes from home. To foster a sisterly spirit and womanly decorum, Spelman administrators wanted the students to have equal and school controlled provisions.
To gain social respect at Spelman, students needed to develop good manners. An 1886 article in the *Spelman Messenger*, entitled "A Visit to the Spelman Dining Room," demonstrated the positive results of the administration’s efforts. After reciting scripture before the meal, the writer reported, “then began the music of knives and forks, and we could only wonder, that four hundred of these instruments should make so little discord. By eight o’clock, the dining room was tidied, the tables laid out for dinner, dishes washed, and every girl out of the kitchen.” Spelman’s missionary spirit, its desire to mold ladylike character, and to train the students to “uplift” their race hemmed in the students food pleasures.

By the mid-1920s, however, a different set of concerns began to dominate women’s relationship to food and their bodies. In striking contrast to previous generations of students, dieting to lose weight had infiltrated white college students’ daily lives. At Spelman College there is little evidence that the students dieted at all.

A diary entry by Smith student, Dorothy Dushkin in 1922 revealed the conflicted feelings dieting could evoke. She resented her classmates’ constant preoccupation with dieting but also struggled with it herself. She reported: "Resolved once more to cut down my diet. Betty & Fran’s chief topic of conversation is dieting. It is extremely wearisome especially since they are both slender. I shall try once again to exert my will power. I’m not going to say a word about it. I’m not going to foolishly cut meals and starve on certain days & relax on others as they do — but attend all meals & refrain from eating between meals.

Reducing, along with its attendant battles of the will, had become a familiar symbol of student adjustment to college life. Although the prevalence of dieting among the students is difficult to determine, in the post-World War I college environment, it clearly emerged as a tool utilized by white college women to shape their appearance. Weight gain no longer symbolized health; instead it suggested disorder, weakened will-power, and the potential loss of feminine appeal.

How do we interpret "dieting" among Smith and Cornell students in the 1920s? Why did it emerge when it did? And what impact did it have on young women’s attitudes towards their bodies? And why didn’t Spelman students also diet? These are complicated questions without clear-cut answers. But I would argue that dieting among white women emerged within a complex web of social and cultural factors that coalesced in the 1920s. I will briefly summarize two: new standards of health which stressed scientific nutrition and fashion ideals which emphasized slenderness.

The flapper image certainly encouraged women to diet, since losing pounds would allow the students to better emulate the flapper’s idealized, slender physique. In addition, excess pounds were not easily hidden behind flapper fashions. Clothing revealed bare arms, necks, backs and calves. And while women stepped out of the corset, only to step into rubberized girdles and often severe braziers, they still felt a need to re-shape their bodies, rather than their clothing. Until around 1910, it was expected that a dressmaker would alter even ready-made clothing in order to create a proper fit. By the mid-1920s, the emphasis had shifted, as students were encouraged to mold their bodies to fit into standardized styles. Dieting provided an obvious means to “alter” the body. In some ways, dieting replaced the dressmaker. The body itself had become the locus of change.

Perhaps more importantly, white college women evidently internalized and adopted the new scientific nutrition information that was widely circulated in the 1920s. Retailers, physicians and advice columnists had popularized new nutrition tenets formulated by food scientists earlier in the century. Dr. Wilbur Atwater, a chemist, had “discovered” the calorie in the late nineteenth century which spawned the widely held belief that the human body required and burned food calories as fuel, much like a machine. Food was increasingly scrutinized for its nutritional and caloric value. In the 1920s, closely monitoring one’s food intake was a sign of health. At the same time, fat and gaining weight became signs of ill-health.

Much of this information was disseminated by Cornell University’s nationally renowned home economics department. Cornell women integrated new nutrition research into their daily routines as it was being formulated by their faculty and graduate students. While not all students wanted to lose weight, most incorporated the new science.

For example, in the Foods I final examination given in 1927, students were asked, "What is the most important thing you have learned in nutrition which applies to your own health condition?" Students such as Jean Warren reported, "I have learned how to plan meals for the overweight person. I learned that to reduce correctly you must know what you are doing and how to do it.” Placed within the larger cultural context, newer nutrition principles laid the foundation for what would become a dominant motif for American women in the twentieth century: an expectation to command and internalize scientific principles in order to gain health and beauty for oneself and one’s family.
bared their arms. They were also well aware of newer nutrition guidelines.

Spelman College followed the newest nutritional guidelines, evidenced by photographs, Spelman women viewed, created, and imitated flapper fashions. They bobbed their hair, wore dropped waist dresses and bared their arms. They were also well aware of newer nutrition guidelines. Spelman College followed the newest nutritional guidelines in its health, hygiene and home economics courses as well as in its school menus and dining regimens. Yet it appears that Spelman women did not diet.

Why not? Due to the limited archival sources at Spelman, we can only speculate on the answer. On the one hand, it would make sense that Spelman students dieted. Since both the act of dieting and a slim body denoted middle-class status in mainstream American culture, students could have employed dieting as one more strategy to demonstrate assimilation and affluence. On the other hand, if slenderness did not hold the same cultural and psychological capital it did for white women, it is unlikely African American women dieted in large numbers in the 1920s.

For African American women, hair and skin were of greater concern than slenderness. African American women, immersed in the early twentieth century beauty culture, used cosmetics, hair products, and skin treatments in abundance. This does not mean they were not concerned about the shape of their bodies. In contrast to white standards of youthful beauty, a more curvacious, robust figure was often celebrated in African American culture. In addition, African and African American southern food customs still favored hearty meals laden with rich, heavy, spicy food.

Furthermore, though Spelman students were instructed to follow middle-class ideals, most were not middle-class women. And dieting reflects affluence. Without abundant food, Spelman students could not have afforded the luxury of food refusal that dieting entailed. Nineteenth-century connections between robust bodies, fat, health and prosperity that had faded for white, middle-class Americans by the 1920s, may have remained potent symbols for African Americans still on the economic margin.

Unlike earlier generations of college women, who consumed food with little regard to its structural composition, by the 1920s, elaborate nutritional guidelines stood between students and their appetites. The new guidelines did not incite dieting in and of themselves, but they dispensed the requisite tools for building and implementing dieting habits.

Incorporating the experiences of Spelman students complicates the picture, for there is no evidence that the average Spelman student experimented with dieting in the same way Cornell and Smith students did. It was not an issue in campus publications, college records or in the black press. Yet, as evidenced by photographs, Spelman women viewed, created, and imitated flapper fashions. They bobbed their hair, wore dropped waist dresses and bared their arms. They were also well aware of newer nutrition guidelines.

Spelman College followed the newest nutritional guidelines in its health, hygiene and home economics courses as well as in its school menus and dining regimens. Yet it appears that Spelman women did not diet.

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Clearly, popular debates about student health, femininity and women's education in combination with large cultural and social changes in the early twentieth century shaped college women's attitudes towards their bodies. During this period, college women expressed both intense bodily pleasures and also anxieties. For Smith and Cornell women, their pre-War students' voluptuous enjoyment of food stands in stark contrast to the tension and anxiety that twenties' students expressed. For Spelman women, the nation's preoccupation with race pressured them to counter racist stereotypes with irrefutable proof that they were ladies. Yet, in the 1920s, they did not diet, suggesting that African American and white women had different conceptions of ideal body shape and size. For both black and white women, racial constructions were mapped upon the body.

Much has been written about women and body image in recent years, particularly in regard to white college women's supposedly problematic relationship to food. While sociologists, literary scholars, and psychologists have "weighed in," few historians have commented. I hope that this case study of young college women at three historically distinctive institutions adds to the discussion.

Finally, I would like to also suggest that though both white and black college women proved they were healthy and thus could remain at college by the 1910s, central questions about gender, education and their identities were answered with pronouncements about their bodies. Despite significant social progress, their bodies still garnered tremendous attention, and responses to women's bodies were powerful enough to determine women's fates. While women had quieted social critics and won medical approval, the purpose and meaning of women's education remained unsettled well into the 1970s.

Margaret A. Lowe is Assistant Professor of History.
The Demographer Who Stole Christmas
By William C. Levin

This Christmas was a dad year, at least for one of the girls. The other daughter was scheduled for mom's, and the boy was a relatively free agent, though he had some sort of idea that he would like to start his own tradition. Luckily, I had the graduate training in sociology that is required to interpret such complex circumstances. You can, too, but you first have to picture the following.

The various members of the Aught family are planning their Christmases, and the task is made difficult by the fact that they are a bit scattered. I don’t mean that they are scattered in the sense of mental deficiency (though you can be the judge of that later), but in the more physical sense of “all over the place.” Jay and Ellen Aught are in their mid-fifties and have been divorced from each other for ten years. Ellen is remarried and lives in the suburban home in Massachusetts in which they raised their three kids. She got the house as part of her divorce settlement. Jay has been living with his girlfriend (and her two children) in the next town. The Aught’s oldest child, Laura, lives in Maine with her husband and new baby. The middle child, Grace, is newly married and making a ton of money doing something with computers in Chicago. The youngest, Bobby, is living in the basement of his mom’s and stepfather’s home. (After all, the boy is only 28 years old.) He’s trying to get his dot.com band off the ground. Got all this?

When the Aughts were raising their children Christmas was a complicated affair only to the extent that the dinner table wasn’t quite big enough to hold all the food. Ellen’s mom always came from Connecticut, bearing an entire Christmas dinner in fear that Ellen would ruin every dish she had prepared. (This was not special Christmas behavior. She always brought a full dinner when she visited.) Jay’s family was sometimes represented by one of his six younger brothers, depending on which one had come east from Iowa to go to college in the Boston area. On occasion there was also an exchange student in the house. Christmas dinner tended to look like a Norman Rockwell painting, assuming Norman had lived in Billerica. There was always a big tree in the living room bay window, and gifts were opened at 8 A.M.

In time, things have changed. This year the various branches of the Aught clan had problems planning their Christmases. (Actually, Bobby didn’t. He told his mom he would go with her and her new husband wherever they found food and a tree, and promised that soon he would be out on his own making his own big Christmas and inviting everyone to “his place.” For the time being, he just wanted a few minutes notice where they were going and permission to bring a date.) But things were Byzantine elsewhere.

Since their parents’ divorce, Laura and Grace had come to realize that it would be fairest and simplest to rotate holiday commitments between their parents. For Grace, the year 2000 was a “dad” Thanksgiving and a “mom” Christmas. Laura, being what the family called “less organized,” always called Grace to find out which parent she was scheduled to see on a particular holiday. This arrangement worked well for a few years. As long as there was a daughter available for each parent the semblance of Christmas—past was maintained. But then things happened (as they say).
The girls got married, their mom remarried and their dad moved in with his girlfriend. Now each household included wildcards, people who had their own agendas for Christmas. Ellen’s new husband, Saul, was Jewish. Though he had no interest in Christmas as a religious event, he knew about its importance as a family tradition. After all, for years he had traveled to Manhattan to join his brother’s and sister’s families to share their Christkah (Chanukah/Christmas) extravaganzas. O.K. He would give that up to celebrate Christmas with Ellen. But Grace’s new husband came from a Minnesota clan with a huge commitment to Christmas in all its weight and glory including church, presents, food, football, air travel...the works. This would entail reworking the alternating mom-dad schedule so that it was no longer alternate years, but every third year for each component. Work it out for yourself.

Laura’s case was worse. Her husband, Joseph, also had a large family to be blended into the Christmas scheduling, but his parents were also divorced. They would also have to be included into the schedule. So, Laura’s Christmas would alternate yearly between her mom, her dad, and Joe’s mom and dad. (I’ll stop spinning out the complexities in a few sentences, though you should know I could go on indefinitely.) In addition, Laura’s new baby, Crouton, had become the center of the universe, and all bets were off in the desire of the grandparents to spend important occasions in the glow of his frequently naked personhood. By last count, Crouton had at least five people that he called grandma, including Saul and Saul’s mother. (Saul’s mother, dissatisfied with the frequency with which her own grandchildren called her, had glowing hopes for Crouton’s potential as a more responsible adult, and sort of glommed onto him in a step-great-grandmotherly way.)

I will not attempt to explain the outcome of all the delicate negotiations. Suffice it to say that there were more than a few carefully split schedules, as in “We’ll open presents at dad’s then fly to your place for dinner by evening.” There were also quite a few bruised feelings. There was, however, no Norman Rockwell painting in the bunch.

Where had Christmas gone? To a sociologist like myself, Christmas is not just a religious holiday and an economic tidal wave of marketing and expenditure. It is also an important focus for the expression of belonging in society. At Christmas time families, religious groups and entire communities come together in ways that reaffirm what they mean to one another. So when Christmases change in a society, we begin to suspect that the change is a marker for change in the society. In the case of the Aughts’ Christmas, it was the demographer who plays the part of the Grinch. To understand this, consider some of the data about the family in America since World War II. One way to calculate the divorce rate is the compare the number of marriages in a given year with the number of divorces. In 1950 about 1.67 million Americans got married. In that same year 385 thousand Americans got divorced. This translates into a “divorce rate” of 23 percent. (385 divided by 1,670) By 1970 the divorce rate had climbed to 33 percent, and by 1980 we had reached a divorce rate of 50%, the level at which the rate has remained since. (For two decades about 2.4 million Americans get married each year and about 1.2 million Americans get divorced.) This alone would make for lots of families who can’t figure out where to serve Christmas dinner. But there’s more. Looking at data for women who divorced since 1970, approximately 70 percent remarried within ten years of their divorces. (Remember to add to the Christm ess planning their new husbands and the children from his first marriage.) Then, of the 70 percent of divorced women who remarried, 60% of them are re-divorced. (I’m not making this up. All this data is from the U.S. bureau of the Census. However, they have no Christmas dinner data I could find.)

Actually, the Norman Rockwell Christmas of my youth (right after World War II), was always something of a distortion of the American reality since at that time only 40% of American families consisted of what we normally call a “traditional nuclear family” (married couples with children, and no one else in the household). Since the 1950’s the percent of American families fitting this description has fallen to nearly 20%. In fact, the trend is toward the “blended family”, in which at least one member of the adult couple is a step-parent. Current estimates predict that within a decade between a third and a half of today’s young people will become stepsons and daughters.

In a healthy society the practices and institutions change to reflect the changing needs of its members. Society adapts, though social change makes for discomfort. While we mourn the loss of treasured traditions of our youth, we still need to think of how to save the old and adapt it to our new world. The demographer may not have actually stolen Christmas, but it certainly looks different with all those weirdos around the table. (“Get away from my grandson with that idiotic parsnip pudding, whoever you are.”)

William Levin is Professor of Sociology and Associate Editor of the Bridgewater Review.
When my husband and I moved to Bridgewater from Brooklyn, New York, so many people said “oh, how nice, to get out of the city. To be part of a community. To have neighbors. A yard. Your kids can have their own swingset.” And a yard is nice; not waiting in line for the swing is easier for our kids; our own sandbox, contaminated only by falling leaves and not rat droppings, is a lovely sight. Few things are sweeter than a walk in Borderlands, or a swim at Horseneck Beach. We know we are living in a beautiful place, and we are thankful.

I walk through Bridgewater's common and down the hill on Route 104, past the two Federal-style houses doomed to be torn down for a new drive-thru Walgreens Pharmacy. “Sodom and Gomorrah,” my mother says upon hearing the news, a bit melodramatically, but I see her point. The common was once the place where the townspeople gathered, to market, gossip, and socialize; these two buildings reach back to that time. When we lose those houses, we'll have instead a drive-thru pharmacy, designed in part for the “convenience” of minimizing human contact. It seems we have come to the point where even interacting with the other customers in the drug store requires too much time and energy, exposes us to too many uncontrolled, unpredictable brushes with our neighbors. Is this where Bridgewater is headed? Is this the community where I live?

I grew up in New England, in Pittsfield, a small industrial city in the Berkshires. When I came to Bridgewater on my interview, the town felt familiar: Federal and Greek Revival houses, the town circling the common, the meandering paved roads following the Native American footpaths, ubiquitous stone walls marking lost property lines. Part of me hoped - believed, even - that those physical links to the past might reflect a sense of continuity and coherence in the community.

But after almost four years here, something is still “off” for me, for us. The yard that should have made us so happy is sometimes oppressive in its constant demands; relying on a car for transportation - I thought the MBTA was a cruel master-is a lesson in chaos theory; and community - this community that we were supposed to find in the suburbs - has eluded us to a distressing degree. I wave to acquaintances in their cars as they drive to work in the morning while I walk my dogs. I chat with my neighbor, also a teacher, also white, also nearing middle-age, over the fence about one thing and another. I gripe with the parents of my daughter’s friends about school class sizes or about overdevelopment in town. But too often - not always, but too often - these contacts feel artificial, forced, and necessary. Outside of my work at the college, I feel a bit lost here in the suburbs. A bit at sea.

What is it I keep hoping for here? What am I unable to find? Is the torpor I often feel unique to me, or is it woven into the fabric of suburban life?
I miss passing the time with Earl, my elderly neighbor, while he watches his grandson ride his big wheel up and down the sidewalk. I miss the old ladies sitting on their stoops, commenting on my dress, or the weather, or my daughter’s rapid growth, as I walk by. I miss small, daily interactions with the newspaper vendor, the coffee lady, the token clerk, the man who sweeps the sidewalk in front of the library at the same hour every morning. A smile, a nod, a “how you doin’ today? Gonna be a hot (cold, pretty, windy, rainy) one,” repeated ten times during the day, from ten different mouths.

In mid-September in New York City, 1995, we experienced a fierce Indian summer. I am 8 months pregnant. It’s been a long, hot, miserable day. I don’t want to be pregnant anymore, don’t want to drag around this extra thirty pounds, this rebellious little body kicking around inside mine, a day longer. I plod down St. John’s Place, my street, wanting only to get away from everyone seeing me, wanting to touch me, or (worse?) ignoring my “condition.” Suddenly a voice pipes up from the buildings on my right, a heavily southern-accented, creaky, little old lady’s voice: “you look beautiful, sweetheart. Don’t you look beautiful.” I nearly weep with gratitude, with relief. “You sit yourself down, it’s a hot day.” I ease onto the concrete stoop, next to her lawn chair with its jerry-rigged umbrella shade, and she tells me about her babies and grandchildren, about real, southern heat, about working while you’re pregnant. 15 minutes later I get up, lighter and stronger, and walk the rest of the way home.

These encounters were so sweet to me, often because they were so unexpected. Community in New York — perhaps in any city, I can only speak of New York — comes together, unravels, re-forms itself in a different shape at a different time. It’s 15 people on a subway car concerned about a sick passenger; two women discussing their pregnancies and motherhood; parents chatting idly while their kids play on the swings. Throughout my day I would touch the edges of these groups, fall into one, fall into another, see one dissolve. There were of course more structured gatherings — our food co-op, my co-workers at NYU — but they never had the rich unexpected delight of those little groups I walked by and slipped in and out of during my day. Is this community? It’s hardly heaven; we saw ugly things on the street. One night I watched a man repeatedly slap his 3 year old child across the side of his head for an offense only that father could see; another day a man is shooting up heroin on the stoop across the street. My husband asks him to leave, and he is apologetic, sad, packs up his kit — but not until he’s done and moves on.

I am sure there is a community here in Bridgewater, perhaps on the side streets behind the college where I see the kids playing and parents sitting on their doorsteps; maybe I will find it as we fight the demolition of those old houses. Right now I don’t have access to it — I haven’t figured out the code, the password. Or maybe it’s taking me too long to get adjusted and to let go of what I was used to in the city. I know that I was wrong to believe the old buildings would translate into community; without the people to care for and defend those buildings, they mean nothing.

I do sense one thing is true. The place I live in now is balanced between two worlds: one where neighbors act like neighbors, in the best and worst senses of the word; another like the world envisaged by the mega-corporations and housing development engineers, where every contact is tightly controlled, every interaction carefully screened for safety and personal gain. Maybe it’s the occasional tilt of the balance toward the latter that makes me anxious, and nostalgic for the messiness of the city.

Ann Brunjes is Assistant Professor of English and Associate Editor of the Bridgewater Review.
Simple Form
2000. Collection of South Bay Development Corporation
Sunnyvale, California
So, what do you do?

Occasionally I find myself stopped dead in my tracks by the question asked of most artists, “what is it that you do?” I am never quite sure how to answer because what I do does not seem that out of the ordinary to me. As a sculptor I combine the skills of an ironworker, welder, engineer, rigger, heavy equipment operator, over-the-road trucker, logistics expert, public relations rep, accountant and artist. The career of any artist is multifaceted.

I made the decision to do what I do when I saw a film on the artist Henry Moore while a high school student. The artist was working with a crew of assistants on a large bronze in an enormous studio. What I saw was a career that could blend my intense love for building things with art, another one of my passions. What I do comes from my educational training that was in university art departments as well as an apprenticeship with the sculptor Bruce White. It was the nine years working for Bruce that I gained the majority of the knowledge that I apply and teach today.
What I do is create works of public art. Many of them are large scale and are shown or have been placed in collections where they are seen by tens of millions of people every year. I prefer the public spaces as opposed to museums and galleries because the public spaces are democratic. While museums and most galleries are open to the public there are artificial cultural barriers that exist: Socio-economic and educational factors keep many Americans from attending museum and gallery shows.

What I do is rewarded with the appreciation of viewers that I have the opportunity to interact with, some of them at art openings and others at gas stations along America's interstate highway system while I am transporting artwork. The greatest reward comes from the people who are like me, builders. I enjoy the fact that a machinist or a millwright can understand and enjoy the work as much as an art critic, even though they might appreciate it for different reasons. The machinist will appreciate its craft, the beauty of its material. The critic may comment on its subtle form or constructivist heritage. The commentaries of the two are equally important to me.

So this is what I do, and I will keep on doing it because it is what I love to do.
Open Apex
Installed as part of Pierwalk 2000, Navy Pier, Chicago, Illinois

Loaded on the back of a flatbed truck for shipping and assembling on Chicago's Navy Pier. Currently on exhibit as part of the Sarasota Season of Sculpture, Sarasota, Florida

Rob Lorenson is Assistant Professor of Art.
Two years, ten days, three hours and twenty-four seconds. That's how long I lasted in industry as an engineer. While it wasn't 100% misery, my industry time certainly catalyzed my early mid-life crisis. The crisis was path-dependent; one path was conventional and safe and the other was inherently risky but had the potential for infinite payoff. After six and a half years in a Ph.D. program at the University of Connecticut, two years in a post-doctoral fellowship at Oak Ridge National Laboratories and CERN (literally beneath Switzerland and France), and 3 years in various visiting professorship positions, the risky path has taken me to Bridgewater State College. The infinite payoffs have been, and continue to be, monetarily immeasurable. I've smashed atoms in a 18 mile long accelerator, learned to split and aim laser beams, and speculated about GUTs and TOEs (grand unification theories and theories of everything). Along the way I've made my share of quasimolecules and antiparticles, shmoozed with intellectual giants and Nobel prize winners, and I've pondered super-symmetric strings (superstrings), a strong TOE contender. Today I get to think about and research these deepest mysteries of the universe and share the rewards with the brightest and best students at Bridgewater State College in the classroom and through the research programs I am working to develop.

Blame my dad for the electron-atom smasher, the laser spectroscopy laboratory, the Maple software investigations, and the electronic circuit in a horse that I've brought to BSC and hope to describe a bit here. He was the one, after all, who planted the latent physics seeds in my head while I was growing up. "Imagine" my dad would say, "if you were one of the few capable of understanding the things that Einstein did". But Einstein didn't know everything. I believe that his chalkboard remains as it was at the time of his death; filled with questions he hoped to get the time to think about and answer. Something Linus Pauling said in an interview also stuck in my head - he recounted how he was able to come up with such brilliant ideas that ultimately led to two Nobel prizes (chemistry and peace). He simply stated that he had millions of ideas every day and that sometimes one or two panned out. As a scientist, there aren't enough hours in the day or days in the year to see all of your ideas through. That's cool.

To me it was physicists who were tackling the toughest questions and the ones that have always bugged me. With physics, I could not only know more everyday, I'd be swimming intellectually, way over my head. I wanted my brain to feel the soreness and fatigue from intense thinking workouts in the same way that my body did after tennis or basketball. I'd be exploring black holes, visiting atoms, probing the truly foreign cultures before the big bang, and be intellectually stimulated and challenged until the last gasp with physics.

The only problem was that I didn't have a degree in physics, I just wanted to be a physicist. Luckily as an undergraduate I caught the eye of a mathematics professor who managed to convince the physics department at the University of Connecticut that I had mathematical potential. This got my foot in the door but it wasn't fully opened yet. The recommendation was enough to allow me to take a tough graduate level course called Mathematical Methods for Physicists as a test of my ability to do the graduate work but probably more honestly to weed me out. So while working full time and competing with graduate students who already were accomplished undergraduate physics majors, I did well enough to convince the graduate physics faculty and even myself that I was a good candidate to earn a Ph.D. in the graduate physics program. This meant health and dental insurance, tuition, and a stipend of about $13,000 a year to work
on getting a hold on the wonderful questions that intrigued me so much. When I did arrive on campus full time, I still had to complete most of an entire undergraduate physics degree. Actually, as soon as I got accepted and while still working for a living, I bought all the undergraduate text books and mastered some of the undergraduate physics work on my own. My head was plenty tired from doing physics all day so then all I needed to do was get my body exhausted so that I could sleep at night. I had used up my varsity eligibility in tennis as an undergraduate so I needed something else. Through a series of coincidences and wonderful friends I became the only graduate student on the crew team. Its funny how things work but the most beautiful crew coach in the world had just came face-to-face with her mid-life crisis as a Ph.D. candidate in history at Oxford University. Now at UConn and taking on essentially a new undergraduate degree like I was, the future veterinarian, of horses in particular, was yelling at me for catching a crab and throwing the boat off. Such distractions often lead to marriage as it did here and now my coach is yelling at students as a professor of Veterinary Medicine at Tufts University School of Veterinary Medicine. Incidentally, my coach's mom, Beverly Gouldrup Mazan, graduated from BSC in 1953.

THE ELECTRON-ATOM SMASHER, 18-MILE LONG ACCELERATORS AND ANTIPARTICLES:

At the University of Connecticut I worked with a true physicist and good friend, Quentin Kessel. This friendship was strained only twice - both times on the tennis court on the annual physics department picnic day. My department head, witnessing one of the events, said it best: "if you are going to hit your thesis advisor, the single most important person involved in approving your Ph.D. work, you have to shoot to kill". Quentin recovered both times.

I always like to say that I smash atoms, and I do, but it is not entirely for the fun of it. I investigate atomic and molecular structure and electronic interactions using collisions, smashing atoms. This means I explore the ways in which bound and free electrons configure or develop about atoms and molecules in response to interactions initiated by a collision or some external field. The knowledge of collisions and how electrons behave themselves during collisions is integral to understanding parts of the universe made from atoms, ions and molecules-from chemical reactions here on earth to the spectroscopy of planetary atmospheres and astrophysical plasmas. Quentin and I did most of our work using a 2 million electron volt (2 MeV) Van de Graaff accelerator at the University of Connecticut. We also used the Van De Graaff to do material analysis for several companies doing semiconductor research. As Quentin's laboratory continues to be very productive I hope to have the opportunity to continue some of these investigations with my BSC students.

Almost immediately after writing and defending for my Ph.D., I had the good fortune to do a DOE post-doc with an absolutely brilliant thinker; Sheldon Datz, at Oak Ridge National Laboratory in Oak Ridge Tennessee. Even as a freshly ordained Ph.D. I had to struggle to keep pace with the high voltage, 70 year old, sharper than ever, Sheldon. While I was sitting in my office one tennis-playable late November day, Sheldon floated in on cloud nine. He had just determined that his latest idea for an experiment, one that could help to determine the amount of He atoms in the early universe, was indeed double. These ideas as well as many of the other good ones that he had "just came to him while in the shower"; he explained. Sheldon's new experiment, which he later went on to complete with colleagues in Sweden, resulted in the creation of experimental numbers, called cross-sections. These cross-sections, when used in theoretical models of the cooling-condensing soup of electrons and nuclei after the Big Bang, could then be used to predict the relative abundances of the known elements we see today, some 15 billion-ish years later. Sheldon kept very clean and as a result the other post docs and I were all very fortunate to be the bouncing board for his wonderful ideas.

Sheldon and several of the senior scientists with whom I worked were actually chemists, so most of the time the problems we focused on in Oak Ridge (using a 6 MeV Tandem Van de Graaff accelerator) continued to be concerned with the quasimolecular issues of electrons developing and decaying to and from atomic and molecular orbitals in collisions. Sheldon, Quentin and two other professors, Steve Shafroth at the University of North Carolina and Robert Fuller at the United States Coast Guard academy have since then graciously contributed electron-atom smashing equipment on permanent loan to me here at BSC.

Figure 1 is a picture of the apparatus that, as you might be able to see, was once mounted to the end of a big accelerator that supplied a steady stream of heavy atoms. An electron gun, a flash light bulb filament, inside the chamber now provides accelerated electrons that are electrostatically guided into a target cell where they smash into individual atoms or molecules. The heart of the system, a high resolution position-sensitive, electron and ion spectrometer measures the numbers and energies of the electrons emerging from the collision event. The resulting spectra show the electronic energy-level structure of the target. It all boils down to a rather complicated game of bouncing, in effect, tennis balls from bowling balls in order to figure out the size and internal structure of the bowling ball. It is a useful technique that was in fact used on the first lunar probe in the 60's to measure the elemental composition of the lunar surface.
Before I left Oak Ridge, however, Sheldon asked me to take part in another of his projects at CERN in Geneva, Switzerland. CERN is the biggest particle physics accelerator facilities in the world. The SPS, the super-proton synchrotron, is a modest 7 miles in circumference while the LEP, large electron positron collider, is the largest particle accelerator in the world today stretching 18 miles in circumference. Particles accelerated to nearly the speed of light travel in these circular tunnels dug beneath the farms and hills straddling Switzerland and France before violently crashing to a halt in collisions with various targets. Occasionally new, massive, short-lived particles are created as the kinetic energy of the collision is converted into mass energy according to that famous equation having something to do with E, m, and c. You might remember the United States started to build what was to be called the SSC, superconductor super collider, in Texas but the money and support has sadly gone by and what we have left is a tunnel 53 miles in circumference that would have housed the largest accelerator in the world. There we might have found the highly sought after Higgs particle which has been called by some the 'God particle'.

At CERN, we were involved in the first ever ultra-relativistic experiments with lead atoms (Pb) traveling at 0.99996 times the speed of light at CERN. What we measured experimentally was this: we used the intense electromagnetic fields generated from the relativistic Coulomb interactions between the speeding Pb projectiles and the target gold atoms to excite and then capture the electron of an electron-positron pair sparked from the vacuum. Let me try again... at these energies, we were able to make, yes out of nothing, an electron and its antiparticle the positron, and then measure how often the very electron we made stuck to (electron capture) the very Pb projectile going nearly the speed of light that started the whole process. For me, that's as good as it gets.

To appreciate why we, or anyone else for that matter, cares about antiparticles and Pb ions traveling at nearly the speed of light, I am going to have to talk about the scientific method and the nature of fundamental, or basic, research. The scientific method is like the world ladder ranking of tennis players. The best player emerges eventually at the top of the ladder, but can never rest, and must always accept the challenge of the players below continually defending his title. The same is true of theories that emerge from the scientific method with one major exception. In science, the number one theory got to be number one by being tested against, every other theory and experimental piece of evidence ever accumulated or measured! Today's theories are the accumulation and strength, or evolution, of every bit of knowledge ever gained. Now that's a tough ranking system. Hopefully critical thinkers remember to apply this system to things like astrology, magnetic therapy, and chi. We can now wing big heavy atoms like lead near the speed of light, cool things to almost absolute zero, and measure the velocities and luminosities of supernovas throughout the cosmos. If our theories are going to finally crack, they ought to start cracking soon as we are pushing them to explain more and more.

Our experiment at CERN pushed the predictive ability of quantum mechanics to an extreme never before possible. The good and the bad news is that the theories appear to be holding. It is good that the theories work at these extremes but bad because it would have been fun to help turn the physics community absolutely upside down. Additionally, our experimental numbers are being used for another accelerator in Long Island New York called RHIC for relativistic heavy ion collider, where we might get a glimpse of another big prize in physics called a quark gluon plasma—but that's another story.

THE LASER SPECTROMETRY LABORATORY AND SUPER SYMMETRIC THEORIES:

With my post-doc winding down and Melissa in Florida the only happy people were the ones at AT&T and USAir. We decided it would be nice to live together under the same roof and Massachusetts was the place to be. We would be central to our families in
To top it off, he is the most natural and wonderful teacher of physics I have ever known. David is beyond the standard model with students here at BSC. Although the odds of getting two academics in the same place at the same time was low, we did ok. Melissa became board certified, secured external funding and landed a faculty position at Tufts while I taught summer school for calculus, chemistry and discrete mathematics which landed me a visiting assistant professor position at Wheaton College in Norton. I then secured a visiting assistant professor position at Amherst College in Amherst where I found new influences and new academic and research opportunities that I would soon be able to develop in earnest at BSC.

Most of these breakthroughs for me came at Amherst while working with the third of the three most influential physicists in my career, David DeMille, who is now at Yale University. David is the ultimate physicist, combining mathematical rigor with keen insight. To top it off, he is the most natural and wonderful teacher of physics I have ever known and he stinks at golf just like me. It is thanks to Dave that I am able to think about and share physics beyond the standard model with students here at BSC.

The Standard Model (SM) is the most successful theory ever known. Although it has been tremendously successful, there are questions and experiments that we foresee being able to do shortly that the SM cannot answer adequately or simply has no answer for at all. These questions and experiments constitute physics beyond the SM.

The ambition of the SM is to understand the known diversity of the universe, four fundamental forces (gravitational, electromagnetic, strong nuclear and weak nuclear) and lots of different subatomic particles, in terms of common first principles or mechanisms. The underlying idea of the SM is that perhaps everything is explainable as an inevitable consequence of understandable principles or laws of physics. The list of characters in the SM include fermions (things we recognize or think of as particles such as electrons) and bosons (particles or fields that mediate or carry the four known forces). The SM’s greatest achievement is that it houses under one theoretical roof the mechanisms and reason for three of the four known forces. Gravity is the odd ball out. GUTs (grand unification theories) are a higher order of unifications of three of the fundamental forces under one guise and a TOE (theories of everything) would finally show gravity in the same vein as the other three forces. GUTs and TOEs have yet to be fully developed. Crazy as it seems, a happy dog – its biology, its chemistry, the cosmos that he chases cats in for all of eternity – is consistent with the standard model.

A well-known experimental measurement for physics beyond the standard model is called the electron electric dipole moment (eEDM). The SM is relatively silent about what the eEDM should be, it could be zero, but some of the new theories currently challenging the SM do say something about the eEDM. Supersymmetric theories, for example superstrings, do say something about the eEDM and that it is non zero. Thus if there is an eEDM and it can measured (it should be small, very small, very very small) the measurement will be the head line judge with the authority to label the new theory out of bounds or a winner. I have to add that if supersymmetry is right, there will be a doubling of known particles that have been given the class name of sparticles. If you find a sparticle, you’ll be collecting a Nobel Prize in the upcoming year.

Dave’s unique idea is to take high precision measurements of an induced Stark shift in a paramagnetic metastable excited state of PbO molecule to make an experimental measurement of the EDM that can made with a sensitivity $10^{-16} - 10^{-15}$ times better than any existing experiment. Thus definitive experimental evidence on the validity of the SM, physics "beyond the SM" will be achieved.

I have been trying to enter BSC into this exciting game by proposing to build what I have called the Large Spectral Range Laser Laboratory (LSRLL). Simply stated, Dave needs to know everything about this molecule, PbO, in order to do his eEDM experiment. This means the electronic molecular structure of the molecule has to be identified, mapped and understood. Laser spectroscopy provides the tool to do this. However, traditionally the lasers that are needed to do this have been costly and space consuming two-laser (pump and dye) systems. With the advent of inexpensive, extremely stable, narrow bandwidth, and large spectral range diode laser systems it has become possible to do this type of research program at BSC.

Our first effort in the proposed LSRLL will be to study the PbO molecule needed for Dave’s e-EDM measurement. Professor Noda in the chemistry department has teamed up with me on this proposal so that in addition to physics experiments that include Doppler and Doppler-free saturated absorption spectroscopy, nonlinear optics and magneto optics, and laser cooling and trapping, we will also be able to do chemistry studies including overtone spectroscopy, Curriculum development, research and educational programs from biology, environmental studies and earth sciences at BSC as...
well as 'reach out' programs to local colleges, community colleges and high schools targeting underprivileged and minority groups will also be developed thus making the LSRLL a fundamental tool for all of the science programs at BSC and the community at large.

In the mean time, I have secured funding to construct a research-grade tunable diode laser here on campus to begin some of the research and curriculum development. One of our current physics majors and promising experimentalist, Petr Liska, has experience building a similar laser. Petr won a prestigious NSF sponsored REU (research experience for undergraduates) fellowship to study atomic-molecular and optical physics and to build this laser at Stony Brook University in New York this past summer. Figure 2 on page 22 shows Petr's hand holding the nifty, research grade and revolutionary diode laser we will soon be working with at BSC.

**MAPLE:**

As a physicist today, you must be very computer literate, using computers for everything from data acquisition, to data analysis, and theoretical simulations. I have spearheaded a physics curriculum development to teach some of these skills in the undergraduate physics curriculum using a powerful, but not easy, symbolic mathematics computer code called Maple. Maple understands more than just numbers, it understands (at some level) the symbols, logic and concepts of mathematics.

The ability to communicate with a software package like Maple that recognizes symbolic mathematics affords the user the power and versatility of the computer along with a full programming language that can be used for theoretical as well as numerical calculations. Philosophically this is much different from the number-crunching routines your calculator uses or that computer code is typically written to do. Even when you do have to crunch numbers, symbolic codes are inherently more precise and accurate.

My goals for the implementation of Maple cover pedagogy and research. Teachers, students and researchers will be able to effortlessly incorporate mathematical modeling and computing into all aspects of their work. For pedagogy, symbolic algebraic software allows the teacher and the student the ability to 'see' beyond the mathematics with state of the art numerical, symbolic, statistical, graphical and animation capabilities. I am fortunate to have won a BSC CART award to pursue these goals. With this award, I created A Maple Symbolic Algebra Software Primer for BSC Scientists this past summer (2000). I have made this manual available to my PH438 class, Electrodynamics, and plan on making it available on the web for all. I have asked students to use Maple in their homework and on exams to help facilitate the visualization of vector fields and the three dimensional vector calculus operations that they perform mathematically on these fields. For example, Figure 3 on page 24 is the graphical representation of how the Pauli Exclusion Principle is manifested for the complex quantum mechanical solution for 2 electrons in a box. The reviews have so far been very positive. One of our physics majors, Lisa DeFalco, who is a promising theorist, and I are currently studying several published papers on Maple.

**RLC CIRCUITS IN A HORSE:**

Last but not least, is one of my pet research projects called an RLC electronic circuit in a horse. For physicists, this is a huge step, but my wife, who knows what she is doing, uses this technique at the Tufts University School of Veterinary Medicine Lung Function Laboratory. Melissa's goal is to help diagnose, test, and fix the lungs of sick horses and to improve the function of the equine (horse) athlete using a non-invasive technique called forced oscillatory mechanics (FOM) which is based on the resistor inductor capacitor (RLC) electronic model.

Where is the RLC circuit in a horse? To see, you must start what I call the art of the approximation, which is a technique employed when faced with needed insight into a tough problem. The complete physical and mathematical description of a horse's pulmonary system certainly meets this criteria. I like to tell students that an approximation isn't necessarily right or wrong but often good or bad. So the idea is to recognize the similarities between a pulmonary system and what is called a Helmholtz oscillator which consists of a small tube or neck attached to a larger volume. When air, is pushed from the neck into the volume, the number of particles inside the volume is increased and subsequently the pressure inside increases pushing air back into the neck. As an excess of particles begins to be pushed out of the volume, negative pressure or a vacuum is created within the volume and air from the neck is now pulled back. Eventually an oscillation is set up with a quantifiable and measurable frequency that depends on the physical parameters of the oscillator including the size and restrictions of the neck, the mass of the fluid, and the size and elasticity of the larger volume. Approximating the biological pulmonary system as a Helmholtz oscillator is now not much of a stretch; the lung is equivalent to the larger volume, the neck is, well the neck and the fluid is air. Oscillation are set up in the horse's airways by using small pressure waves, which set up inaudible sound waves of known frequencies, inside a mask that the horse wears very comfortably and while he gets the royal head scratching treatment. The measurable characteristics of the oscillations set up in the mask and the horse's airways then yield specific physical information on the horse's biology and well being.

The final piece of the puzzle is that the physics and mathematics of the Helmholtz oscillator, and now our
horse, is exactly the same as the mathematics used to analyze an RLC electrical system. Historically, these systems have been studied to the greatest extent so analogies are made directly from the horse to the Helmholtz oscillator to the electrical components. The medical and biological communities are actually quite familiar with this idea and the field is mature and covered in many texts and journals. My goal is to make physicists aware of this work and to bridge the gap between medicine, biology and physics and of course to make new contributions in collaboration with Melissa and students from both Tufts and BSC.

To wrap it all up, I hope that it is now clear to see that in both my classroom and in my laboratory I strive with my students for clarity and understanding of physical concepts, always stressing critical thinking using the scientific method and having fun. With each new problem, we question whether the theories, ideas and laws we examine make sense and if they are consistent with experiment and reality. In learning to do physics, I believe that my students take away useful problem-solving skills that they will use in critical thinking and solution-finding in realms far separated from classroom physics. It is clear that the trends and advances in medicine-related fields have been and will be done by those with strong physics backgrounds as evidenced by the recent Nobel Prizes in medicine and in chemistry which were both shared by physicists. I also believe my responsibilities as a physics professor extend into many of the social and economic issues and questions leaders of today and tomorrow face that increasingly require a solid knowledge of physics.

I haven’t mentioned it yet, but on my path from high school, to undergrad, to Ph.D., to post-doc and CERN, to the speed of light and to supersymmetric theories beyond the Standard model, and finally here to BSC, my net displacement has only been about 8 miles. I grew up with the best parents, family and friends, and was educated in sports and academics in Brockton. Some of my most influential teachers at Brockton High were BSC graduates such as Antonio Cabral, Carol Vecchi and Doug Mildram. I haven’t changed much. I still play basketball and tennis as often as possible; I get a huge kick from teaching and learning; my mom still makes me brownies (to the delight of my colleagues in the department), and I always hope I don’t have to mow the lawn tomorrow so that I can think about physics for a while, and maybe talk to my daughter Rae about fermions and bosons.

Edward Deveney is Assistant Professor of Physics.
Center for the Advancement of Research and Teaching

By Ann Brunjes

"Pocket Diaries"

During a trip to the Antarctic, funded by CART in March 1996, Associate Professor of Art Mercedes Nunez began thinking about the possibilities of what she calls the artist's book, or "pocket diary." During her 16 days on the Antarctic peninsula, Professor Nunez kept what she describes as an extensive expedition journal, with sketches, photographs, drawings, and other visual forms. While traveling in the Pacific Northwest, her artist's books went with her and became miniature art pieces. Similarly, she has taken her diaries on trips to the Berkshires this summer; many of the books that will be photographed and exhibited for next year's exhibition were created in the Berkshires.

According to Professor Nunez, the pocket diaries are functional as well as creative, because "they have a way of communicating themselves." Furthermore, they become visual memoir. Their forms vary. Some contain, for example, mostly collage or ink, others color pencil or water color. Professor Nunez makes the books herself, with pre-cut accordion folds, and takes them with her wherever she goes. This is part of the charm, for the artist, of the pocket diary: unlike more familiar art forms, the artist's books go anywhere. Whenever the artists wants, she can open her book and start creating.

According to Professor Nunez, the "artist's book" is a discipline, genre, or creative process that has gained increasing attention among artists in the past 5 to 7 years. Visual artists have always kept sketchbooks, similar to a writer's notepad or journal – a place to store jottings, sketches, visions, little bits of the artistic process as they occur to the artist throughout his or her day. Ms. Nunez, like most artists, keeps and has always kept sketchbooks where she develops ideas and keeps notes on pieces while she works; she also keeps a studio journal where she documents her studio work. Her current work is an outgrowth of this "natural" artist's process, for the artist's book is like an opportunity for artist to make a memoir – tied, according to Prof. Nunez, to contemporary poetry in its explorations and self-revelations. The intimacy and revelatory aspects of the artist's book bring it to a different level than the sketchbook or studio journal.

The story of Professor Nunez's involvement with one of her pocket diaries, "Postcards to Mary," is typical of the serendipitous process she enjoys in this work. About two years ago, Professor Nunez was walking in Providence near Thayer Street; a collection of postcards in a small bookstore caught her eye. She soon found that they dated from the as early as the late 1920s, and ran through the 1940s. All the cards were addressed to a woman named Mary Mitchell, sent to her by friends on their travels. Prof. Nunez immediately bought the collection, and as she pored over it, began to feel that she knew Mary Mitchell. The result is still in process, an artist's book inspired by the postcards to Mary. Ms. Nunez arranges the postcards, photographs them, enlarges the photos, and fashions collages - a process that varies in order depending on the artist's inspiration. These photographic sheets, arranged in such a way that viewers can walk through them, not just view them from their fixed position, are the outgrowth of this work.

Professor Nunez is now in the midst of photographing pages from her books and grouping them together. She then takes one photo (black and white), tapes various photos together and hangs them. When the viewer enters the gallery, he or she will see enlargements of the "original" work, approximately 5 x 6" or 5 x 7". Interestingly, once these photographs are enlarged, a new visual element – the grain and texture of the photograph – is added. Prof. Nunez also selects segments of her books, photographing and rearranging them to create wholly new forms like collages. She is now envisioning three-dimensional pieces, hoping with the aid of a colleague in her department, to be able to construct steel-welded pedestals to hold the books.

Professor Nunez's installation, entitled "Pocket Diaries," will be on display in the Wallace C. Anderson Gallery, on the main floor of the Art Center, from March 19 to April 13, 2001.

Female Writers and Inquisitorial Repression in Colonial Latin America of the 17th Century

This past summer, funded by a CART Faculty and Librarian Research Grant, Dr. Duilio Ayalamacedo of the Foreign Languages Department traveled to Peru to pursue his research project, "Female Writers and Inquisitorial Repression in Colonial Latin America of the 17th Century." Dr. Ayalamacedo studies the mechanisms adopted by the Spanish colonial system specifically, the Inquisition to create new "types" of colonial subjects. Through the story
of Angela de Carranza, a seventeenth-century woman, Dr. Ayalamacedo seeks to understand how "unruly women" like Carranza lived and expressed themselves inside the official cultural, political, and economic systems of seventeenth-century Peru, only to fall afoul of the Inquisition.

The Inquisition — in Roman Catholicism, a papal judicial institution that fought heresy and such things as alchemy, witchcraft, and sorcery — wielded considerable power in medieval and early modern times. Though it had operated in other parts of Europe since the mid-thirteenth century, it came into full force in Spain late in the 16th century and was used throughout the colonies (including Peru) until the early 19th century. In 17th-century Peru, as elsewhere, the Inquisitorial system sought to turn those disorderly, potentiallyetical voices into obedient, submissive subjects.

Angela de Carranza herself is a fascinating subject. Born in Cordoba, Argentina (1641) Carranza appears in Lima 1665. She was a “beata” — pious woman — who dressed using the habit of the Augustinian religious order. According to many accounts, she was a powerful woman, possessed of the ability to perform “miracles.” Carranza became a commanding presence in the society through the good deeds, or in some instances “miracles,” she performed for those who appealed to her for help. For these works, Angela received financial compensation, thereby adding an economic component to a situation already smelling of dissent.

Still, the Inquisition showed little interest in Carranza until her power openly exceeded sanctioned social and religious boundaries. Soon, people began fighting for bits of her clothing, her shoes, nail parings, strands of hair; in short, they begin to venerate her possessions, and in effect her body. Perhaps emboldened by this open worship, Carranza’s behavior became increasingly defiant of the Colonial system and more bizarre in forcing the Inquisition to intervene. From 1689 to 1694, Carranza was subjected to a long legal process, including torture, in which, based on the interpretations or her manuscript, she was accused of lying, blasphemy, heresy, and making a secret pact with Satan.

Carranza’s case is particularly impressive because within 15 years she was able to write 7,500 folios. She wrote in a compulsive way between 1673 and 1688, when she was between 30 and 45 years old. Her text — or the court’s interpretation of it, since the original was burned by the Inquisition — allows us to glance at the feminine literary activity of the epoch with a clear predominance of mystical lyric. The manuscript shows mystical revelations, a strong criticism of the colonial society, and a constant desire to escape from the masculine-dominated colonial culture. Perhaps not surprisingly, she was a vitriolic critic of the entire colonial society. Carranza even dared to attack the Inquisition, calling this fearsome institution a “cave full of thieves.”

In Colonial Lima, as elsewhere, female writers were singled out when they were not behaving in their traditional roles as wife, mother, prostitute or nun of the church, but as a subject of their own free will. The female writers that did not follow the authority’s mandate paid dearly, and Carranza was no exception. She was judged by the Inquisition; the sentence was to burn all her belongings and to confine her to a convent where she could neither talk nor write. This order was used to silence one of the most interesting female writers of Colonial Lima.

Dr. Ayalamacedo’s research problem is complex, and includes consideration of literary and cultural questions arising from the study of Angela de Carranza and the texts which document her history. The first, literary task involves sorting through the multiple narrative “voices” in the texts of Carranza’s encounter with the Inquisition. Because we do not have Carranza’s own writings, Dr. Ayalamacedo studies the summaries of the legal process through which Carranza passed. The question, then is a difficult one: in essence, who in these documents is talking? Is Carranza speaking, or do we hear the voice of the secretary who transcribes her testimony? Are we encountering the judge? The prosecutor? Unraveling these narrative strands to “hear” Carranza’s voice is a major focus of Dr. Ayalamacedo’s project.

Coexistent with these questions of voice is the problem of contextualization. Dr. Ayalamacedo must accurately situate these documents, in their appropriate political, social, cultural and economic contexts. In addition, he must consider the colonial subject — specifically the female, Creole subject. What does it mean to be a “subject” in Colonial Peruvian society? A last task arises from this question. What does it mean to be a female subject who escapes from the customary way, the accepted way, of being a “good” female subject of the Spanish Empire?

The final research stage of Dr. Ayalamacedo’s project is a trip to Madrid and Seville, Spain, scheduled for this winter. Dr. Ayalamacedo will read some of these legal documents similar to Carranza’s case that will help him to analyze better Angela de Carranza and the production of female “unruly discourse” in a patriarchal and colonial society. For this reason he hopes also to explore three or four other texts detailing parallel situations: other women and men who, like Carranza, incurred the wrath of the Inquisition and felt the power of its gaze.
Professor James Quinn may be another example at Bridgewater of a “local boy” going off to pursue his career, only to return home to become a highly respected member of the faculty. Professor Quinn was born and raised in Rockland, Massachusetts. His mother was a proud graduate of Bridgewater State College and a long-time classroom teacher. While attending Boston University Professor Quinn began to follow his dream of acting. During the 1980s he balanced his day job at John Hancock Insurance with a range of acting roles in the Boston theater scene. His acting talents were recognized with three Boston Critic Awards for *A Midsummer Night's Dream*, *The Fifth of July* and *Guys and Dolls*.

After graduating from Boston University Professor Quinn switched his attention to directing and developing new works. He was accepted into the prestigious Yale Drama School, where he received a Master in Fine Arts while working at the Yale Repertory Theater. It was at this stage in his life that fate turned him back to his roots. Professor Quinn saw a job opening at Bridgewater State College for the Children’s Theater Director and decided that working with young people and for young people was an opportunity that he could not pass up. Ever since Professor Quinn made that decision, Bridgewater State College has been the richer.

In the seven years that Professor Quinn has been at Bridgewater he has become a driving force for Children’s Theater not just at the College but also throughout southeastern Massachusetts. During the year, besides his normal teaching responsibilities, Professor Quinn conceives and co-authors one original Children’s Theater play. Beginning in the Fall term Professor Quinn asks his students to work with him to do the research and formulate a concept around which the play will develop. He then collaborates with a local writer and a musician to develop the dialogue and the music of the play based on this research. This process has led to six plays that have brought thousands of young people to the College in March of each year. Professor Quinn is currently working on a Children’s Theater production using Homer’s Odyssey as the basic concept and theme.

The children’s plays that Professor Quinn puts on at Bridgewater are not just for entertainment purposes. With elementary teachers in Massachusetts ever conscious of testing and teaching in light of established content frameworks, Professor Quinn develops his Children’s Theater plays with the instructional needs of the school systems in the region in mind. Moreover, Professor Quinn is at work as the arts consultant to local school systems (with the North River Collaborative) to help teachers improve their offerings and bring more arts programming into the schools. His work with local school systems evolved out of a summer program called Arts for Youth that he founded and now runs, which brings young people to the College for two three-week sessions for a range of multi-arts classes. As a result of his commitment to producing art for young people, Professor Quinn has become an invaluable resource in southeastern Massachusetts for the arts, especially at a time when schools are cutting back on such programs and concentrating on core subject matter.

Despite an ambitious list of accomplishments, Professor Quinn has new dreams for theater at Bridgewater. As Chair of the Youth Division of the New England Theater Conference, Professor Quinn would like to present the winning play of the NETC’s annual children’s playwriting contest, here at Bridgewater State. He would also like to produce a more ambitious schedule of plays for young audiences by developing a subscription series that would utilize the College as a center of theater in the southeastern Massachusetts. Professor Quinn envisions bringing companies such as The Theater of the Deaf and other well known touring groups to Bridgewater, and continuing his successful collaboration with other artists/teachers interested in working with young people.

Professor Quinn is clearly a visionary who sees his position as Children’s Theater Director as a means of building new arts “bridges” to the communities that the College serves. Not only the College but the region is fortunate that Professor Quinn decided to come home to provide the energy and the skill for an ever-growing number of children’s arts programs.
FACULTY PROFILE
SAM BAUMGARTEN

Professor Sam Baumgarten's academic title is Associate Professor of Movement Arts. To many outside of academia the definition of Movement Arts may be a bit esoteric. One might legitimately ask, what is Movement Arts and what does a professor of Movement Arts teach? In the case of Sam Baumgarten, the answer to those questions can be found both at the College and at the Burnell Campus School in Bridgewater.

Over a career that has spanned twenty-two years Professor Baumgarten has been a highly respected instructor at the Burnell Campus Elementary school. He is currently a member of the Movement Arts, Health Promotion and Leisure Studies Department. His general professional specialty is physical education with emphasis on dance. As part of his regular teaching load at the College, Professor Baumgarten works closely with prospective teachers advising them on how they can incorporate dance into the physical education curriculum. In his years as a dance specialist, Professor Baumgarten has used Rudolf Laban's analysis of movement as a foundation for developing units and lessons. As Professor Baumgarten describes his Laban-based approach to dance, "Rather than being asked to focus on precise steps and techniques (not that these are not important or taught at appropriate times), students respond to open-ended tasks, selected from various movement themes, and create their own sequences or sentences. These sequences are practiced and refined so that children can polish their skills, and then the sequences are shared with the class. This process of dance-making and sharing helps children feel that the dance is something that all can do and allows them to experience dance as participants, creators, performers and observers."

Professor Baumgarten's passion for dance and enhancing the creative talents of his students at the Burnell School has been linked to programs offered by the College. Since 1984, when Professor Cora Wells ran the program, Burnell students have been given the opportunity to dance with the BSC Dance Company, and they now participate annually in the Winterdance concert. Professor Baumgarten feels strongly that participation by the young people in programs such as Winterdance deepens their knowledge of dance and allows them to understand the benefits of an "on-stage" experience. One student from the Burnell School continued on with Winterdance until he completed high school and then went to college on a dance scholarship.

One of the key philosophical foundations of the dance program at Bridgewater State College that Professor Baumgarten emphasizes is "dance for all." He believes that the dance experience should be open to all ages and to all levels of talent from elementary school up through older adults. Baumgarten is the first to admit that his dance experience came as a result of Professor Wells' encouraging him to join the performing group. As he proudly says, "With little technique training, but with the ability to improvise and create movement, I became a performer — something I never expected in my lifetime." Since that initial performance Professor Baumgarten has participated in numerous Winterdance events and also the Dance Kaleidoscope concerts put on by Professor Nancy Moses. Professor Baumgarten is certainly a visible example of someone who practices what he preaches.

Although Professor Baumgarten spends most his time in the classroom, he is actively involved in a number of community-based programs. He just completed the 21st Bridgewater Kids Road Race, a one mile event for k-8 students and their parents. This year there were 253 runners. In the Spring, Professor Baumgarten heads the Youth Track Program in Bridgewater for 8-14 year olds. A few years ago, the program was expanded to include 30 special needs children from the area. And for twenty years he has been principal organizer of the Jump Rope for Heart event that has raised over $80,000 for the American Heart Association. As to the future, Professor Baumgarten is working with an international children's dance association to organize its first United States conference at the University of Massachusetts, Amherst.

Professor Baumgarten is thoroughly committed to children's physical education. He has dedicated his professional life to ensuring that young people have a full range of opportunities to become physically fit. He sees dance, in particular, as a means for all boys and girls to enhance their motor skills, strengthen cardio-vascular capabilities, increase muscle development and learn to express themselves through creative movement. If you meet Professor Baumgarten, he is likely to greet you with the following observation — "If, somewhere inside you, there is a dancer waiting to emerge, come to BSC. I think you'll find a place to let it out!
n the last thirty years computers have changed the lives of academics so much that it is difficult to remember back to a time when they were not influential. To illustrate the point, I went back to my appointment books and a personal journal I kept as a graduate student in 1973 and tried to reconstruct how I did the research for my dissertation on family conflict. I was able to find descriptions of some of the dates and places of my work in Boston libraries, and much of the original material that I collected and read to form the literature chapter. What I discovered made clear to me how much things have changed.

Beginning in September of 1973 I spent approximately eight months working several days a week in three different libraries in Boston (Boston University, Harvard and Boston College) searching indexes such as the Social Sciences and Humanities Index for journal articles on the subject of my research. Typically the articles were to be found in journals in storage in “closed stacks”, so I had to give a reference staff member a citation for the article and wait for it to be brought to me. Then I had to read it in the library and, if I thought it might be useful for my work, either take detailed notes or copy the article on a machine in the library. (I carried a special bag of change for the purpose.) In many cases the journal article had to be ordered through inter-library loan from a remote library, and my wait was sometimes measured in weeks. The end result of all this was a collection of three boxes of notes and copies of articles.

Now, things have changed so much that twenty-seven years later I was able to essentially reproduce my earlier literature search in less than an afternoon. I never had to leave the desk in my office and, in fact, I was able to find many more citations than I had originally. For anyone who has conducted a literature search using computerized sources, there is no magic in this. There is a wide range of library collections available at Bridgewater, and many more from the great research universities in the world through a variety of computer connections. For those who have not had reason to do such a literature search, I can easily illustrate the process. I took a few moments from writing this article to connect to Maxwell Library’s electronic databases and conducted a search using something called “Academic Search Elite” which describes itself as “An index, with abstracts, to 3000+ publications, many of which are in the social sciences. Over 1000 of the periodicals covered here are available in full text.” I typed in the search words “family conflict” and within a few seconds found that a search of the journals included in this particular index contained 158 articles related to the subject of family conflict. Many of these could be read on screen and printed in on my office printer or on a faster, remote printer. Similar sorts of searches using other indexes that covered other journals could have been conducted as easily and almost as quickly. And electronic searches are not limited to journals. Recently, Maxwell Library obtained access to NetLibrary, a shared collection of approximately 7400 electronic books.

Obviously our jobs as teachers and researchers are changed greatly by such technology. But other jobs are changed even more. Consider the work of librarians, especially those who work in the area of reference. There are still paper resources to deal with and buildings to house them. We read books and journals in the old fashioned ways, especially if we are, in fact, old fashioned. (I still prefer paper journals to electronic for some purposes. For example I like to skim the last few years of some of the journals in my field to get a sense of what is generally going on beyond my relatively narrow areas of interest.) But most of the work of reference librarians is in the electronic area. In Maxwell Library, for example, Sarah Nesbeitt is one of a number of reference librarians who support the electronic reference needs of the college community. Her job did not exist twenty years ago because the technology did not exist. Here is what her job looks like today.

Sarah Nesbeitt’s job is roughly divided in halves between her responsibilities to users of the library, and to the operation of the library’s automated systems. Let’s begin with the user-oriented part of her job. When a student, faculty member or staff member needs to find some library resource he or she may go to a reference librarian for help. The range of questions is a broad as the range of forms in which our information is available today. For example, a library patron typically wants information on a particular topic, and the information may be found in any of a variety of forms, including books, journals, films, videos, government documents, audio tapes, databases, web sites or other...
electronic publications. Before electronic search technologies existed, a good reference librarian could answer patron questions with a knowledge of the holdings of their own library, or by use of guides to the holdings of other libraries with which they formed consortiums (usually regional) for the sharing of materials. This is still very much true - it's just that the ways of searching these other libraries' databases is easier now. Before, too, librarians, particularly in academic libraries, spent a lot of time showing patrons how to do searches, but the catalog medium was different then. But now a reference librarian spends a good deal of time showing patrons how to search the materials in their own library, and the seemingly infinite number of other libraries and information resources for answers to their research questions.

Many of the sources of information are not in physical library buildings, but in virtual libraries or library collections that maintain information in electronic form alone. Sarah's knowledge of the techniques for finding these sources must keep up with both the newly available materials that are coming on line every day, but also with those that were in traditional printed form, but are now being republished in electronic form. Classic texts (both fiction and non-fiction) and old journals are daily translated into electronic form and made available on on-line searches. I learned my academic search skills thirty years ago and used them happily until a few years ago. I had no reason to complain about days spent in the stacks until I asked a reference librarian (not Sarah, actually, but Cynthia Svoboda, who also does this work in Maxwell Library) for help in finding some arcane bit of information. Expecting to be directed to an on-line version of my old search indexes, I was surprised to see Cynthia conduct the equivalent of a week's worth of search in a few minutes work at a library computer terminal. Sarah and the other reference librarians spend a great deal of time helping patrons conduct such searches for their specific needs.

Needless to say, no college library can afford to hire enough reference librarians to answer all the reference questions that students and teachers can ask of them. So another large part of Sarah's job is to teach patrons how to do such searches themselves. For students learning these skills is a required part of their curriculum and a natural extension of the computer world in which they were raised. But for older teachers like me, learning computer skills is neither easy nor natural. Part of Sarah's job is to help people like me to gain the search skills so we don't have to ask for reference help for each of our unique searches for classes and for research. Eventually, we should actually be able to teach these skills in our own classes. As part of this process publishes printed and electronic guides to inform library users of new resources as they become available. She and the other reference librarians also assist faculty with class-related assignments by teaching library instruction sessions for students.

The other half of Sarah's time is devoted to the information system itself. The physical computers, the software that runs them, and the information services and databases to which the library subscribes must be installed and maintained. New products must be evaluated and integrated into the system, and the system must also be evaluated in terms of its efficacy for users. These are primary responsibilities that Sarah Nesbeitt deals with daily. None of them existed even twenty years ago. She designed the Library's web site and maintains it, working from decisions made by a web committee she chaired. Anyone who calls up the college web site can get into the library web site and, depending on their location (on-campus or off campus) use a range of the library resources and search capabilities. For example, Webster, the electronic catalog of the holdings of the Maxwell Library, went online in June of 1999. Sarah later designed the interface and many of the graphics that made it a Bridgewater site. The paper card catalog is ancient history already. Also on the library web page are links for other library resources and services. These include:

1) Electronic resources including databases and search guides, internet resources by subject, a database of the full-text journal titles owned by the library, and online indexes and abstracts
2) Library Services including library hours, descriptions of library service units, floor plans, circulation and reserves, and off-campus access information
3) Library Collections including guides to library resources, a periodical list, and the library's list of recent acquisitions
4) Electronic Forms, which allow members of the Bridgewater community to suggest books for purchase, place interlibrary loan requests, request a library instruction session, and place books on reserve.

Lastly, Sarah's work in electronic library resources has, naturally, spilled over into her research interests. She is, for example, the regional editor (North America) for Reference Reviews, a journal that reviews reference materials, including electronic reference resources. When new reference resources are marketed, such as an online version of the Oxford English Dictionary, Sarah has a list of about fifty reviewers available to evaluate them. Reference librarians can then read these reviews for help in deciding whether to acquire them for their libraries. In addition, Sarah designed and runs a web site that posts library jobs on the Internet, and is co-authoring a book to be titled The Information Professional's Guide to Career Development Online. It will focus on the ways in which people in jobs like a librarian's can use online resources to develop professionally.
Earlier this fall term a writing student handed me a xeroxed copy of Spencer Johnson’s *Who Moved My Cheese?*, saying only that the book might interest me. I gave the sheets a cursory glance, set them aside, and didn’t recall them until a month or so later when, at a meeting, someone mentioned that the organization was using *Cheese* to foster ‘imagineering’ among its employees and volunteers. Curiosity aroused, I went websurfing to learn what I could about *Who Moved My Cheese?*, and discovered the book occupying first position—as of 11-8-2000—on USA Today’s bestseller list of business books and second place among its general trade book bestsellers, bested only by the latest Harry Potter. In second position on the business list appeared *Rich Dad, Poor Dad*. Clearly I was missing a popular phenomenon that demanded closer attention.

In the tradition of the first shall be last, I’ll commence with Kiyosaki’s *Rich Dad, Poor Dad*, a manual designed to teach ‘financial literacy.’ “Money,” Kiyosaki tells us, “is not taught in schools. Schools focus on scholastic and professional skills, but not on financial skills. ... Our [America’s] staggering national debt is due in large part to highly educated politicians making financial decisions with little or no training on the subject of money.” *Rich Dad, Poor Dad* promises to correct this intellectual deficit, though not the logical one, by teaching how we can make our money work for us instead of our working always for money.

Kiyosaki’s ‘Poor Dad,’ and presumably author of his being, held a Ph. D. and became Hawaii’s superintendent of education. He, according to his son, taught the conventional value of a thorough education as preparation for a good job and a useful role in society. He wouldn’t permit discussions of money at the dinner table. Rich Dad, father of a boyhood friend, owner of restaurants and a construction company, taught that life pushes people around in an attempt to make them learn something. A few, according to Rich Dad, “welcome life pushing them around. To these few people, it means they need and want to learn something. They learn and move on.” Learning to move on requires mastering fear of not having enough money and greed for wanting more money to enjoy ever greater material benefits. Most people, Rich Dad claims, use these emotions against themselves and, because they never question where fear and greed are leading them, trap themselves in what he calls the ‘rat race.’

*Rich Dad, Poor Dad* is a manual for wannabe plutocrats. It teaches that money is an ‘illusion’—I’d say an abstraction—that the knowledgeable can manipulate. Many people, obsessed with chasing a weekly paycheck, don’t comprehend this lesson and remain benighted. Kiyosaki learned early, he tells us, when while working with Rich Dad’s son Mike in Rich Dad’s convenience store, they discovered that the store manager was returning to the distributor for credit the covers from outdated comic books and throwing the comic books away. The boys made a deal with the distributor not to resell the comics, then opened a library in Mike’s cellar where for ten cents admission the neighborhood children could spend afternoons reading up on Mickey Mouse and Felix the Cat. This Horatio Alger pluck and ingenuity has its charm when practiced by boys, but, as *Rich Dad, Poor Dad* develops, Kiyosaki assumes something of a conman, opportunist tinge. He observes that, contrary to popular belief, viewing home ownership as an investment rather than as an expense blinds those in the ‘rat race’ to the opportunities provided by real estate investment, especially if one can frequent the bankruptcy court. Kiyosaki, when he relocated to Phoenix, picked up foreclosed houses at bargain basement prices only to resell them at triple profits. He concluded his first such deal quickly and profitably. The friend who had loaned him the $2000 down payment “was happy, the home buyer was happy, the attorney was happy, and I was happy.” We’re never told the bankrupt’s emotions.

Kiyosaki blurs the line between investing and speculating. "It's not gambling if you know what you're doing. It is gambling if you're just throwing money into a deal and praying." He possesses a very western U. S. mistrust of government interference in the market, though he urges incorporation as a means of insulating business transactions from taxation and litigation, and, in fact, understands the fine points of the Internal Revenue code. He makes frequent disclaimers that his examples are meant only as advice and are not for emulation.

Kiyosaki is insightful, inquisitive, and intrepid. The reader can't help but applaud his willingness to take risks. He depicts himself as the American entrepreneur in the tradition of an ingenious Tom Sawyer convincing the neighborhood gang how whitewashing the fence can be fun, a gambit Rich Dad would approve. He bills himself as a teacher — "the millionaire school teacher" the end cover calls him — who can ignite the entrepreneurial fire in anyone, in which endeavor, he resembles an Elmer Gantry, calling his flock to the marketplace of their dreams, a seduction that likely made Poor Dad squirm.

Poor Dad perhaps consoled himself with George Eliot's remark that "a nag got must be born i' the rotten cheese to like it." If Rich Dad, Poor Dad offers practical how-to advice for those who want to be millionaires, Who Moved My Cheese? provides the philosophical underpinning, the fontina of wisdom, so to speak. Spencer Johnson, M. D., in the words of Kenneth Blanchard's introduction, tells us how "it would be to our advantage to do the simple things that work when things change."

For those unfamiliar with Who Moved My Cheese? (a Velveeta slice sized book with a Camembert price) the allegory concerns (quoting again from Blanchard's introduction) "change that takes place in a Maze where four amusing characters look for 'Cheese'-cheese being a metaphor for what we want to have in life, whether it is a job, a relationship, money, a big house, freedom, health, recognition, spiritual peace, or even an activity like jogging or golf" — almost the whole dairy counter. We meet the principals, two intuitive mice named Sniff and Scurry, and two lilliputian humans named Hem and Haw. They reside in the Maze and search for cheese, the mice employing their instincts and the humans their complex brains. They find cheese and locate their cheese cottages near this Bel Paese, thinking the fromage will last forever. "Having Cheese makes you happy" we're told in big, bold letters superimposed on a wedge of Swiss. Inevitably, one day the parmesan goes missing. "The mice did not overanalyze things" or yield to the bleus but, quicker than Monterey Jack, scurry off to sniff out more mozzarella. The "littlepeople" realize they're in a not so gouda situation but have grown arrogant—cheese is an entitlement, American cheese anyway—and complacent—cheese is forever. They decry whatever boor sinned against them: "We've lost our way," they moan. The intuitive mice, unhindered by any sense of feta accompli, quickly find their new Edam while the "littlepeople" sit around like a pair of sages wondering what to do. They stay on the long horns of their dilemma until Haw recognizes that the muenster is within and resolves to explore the Maze. "Oh, do not ask what is it," he decides, "let me go and find my Tilsit." Haw's willingness to enter the Derby leads him finally to his new coeur a la creme. He sits, savoring his Derby, and wonders whether Hem will ever work up the allegro con brio to enter the Maze and find his own abbey of T'eleme.

The story's auditors hold a discussion about its significance and decide essentially that Who Moved My Cheese? teaches that one should move with the times. Create enough pressure for change, move the cheese, and change will occur. Don't be trapped by fixed beliefs and outmoded customs. Whatever's useful is good so long as it keeps people running about in the maze looking for cheese. "Simple things that work when things change" does however verge on simplenessedness, a near dumbing down of Thoreau's "simplify, simplify." While I sometimes find myself half agreeing that we live our existence in a maze, I fear that in my search for some Neuchatelll, I'll encounter the Minotaur on one of his bad days. Forgive me then for continuing to believe that malt does more than Stilton can to justify the wheys of God to man.

Postscript. Both Rich Dad, Poor Dad and Who Moved My Cheese? offer elaborate web sites, the latter purveying a complete line of products and links. And, yes, someone has already written a satire of Who Moved My Cheese?, the title of which any adolescent boy can guess.

Charles F Angell is Professor of English.
Green Vase Circa 2000
- Robert A. Daniel
Watercolor Collé 18 1/2” x 29 1/2”
mounted on Rues BEK 120 lb. Paper

This work was made almost entirely from shapes cut from some of my old watercolors. These shapes were glued into place only where their arrangement was found satisfactory. In some instances additional paint was added to some shapes and other papers such as tissue and magazine papers were used.