How does a hope become a dream? A dream become a plan? A plan become a reality?

This academic year brings with it the culmination of dreaming, planning, and constructing into reality two magnificent academic buildings, one in the sciences and the other in the arts. These two buildings provide places for study and reflection, for teaching and research. They also offer the opportunity to observe the art in science and the science in art.

Taken together, the new buildings, located at diagonal corners of the campus and housing vastly different functions, share certain affinities. In both scientific and artistic endeavors, two impulses interact: the disciplined observation of reality—to discover the things of the world—and the wild unleashing of the imagination—to discover the things that might be or could have been. This kind of experimentation and exploration requires carefully designed laboratory and classroom spaces.

“Architecture,” according to Frank Lloyd Wright, “is the scientific art of making structure express ideas.” The great challenge facing all members of the design and planning team is to transform ideas into concrete reality where form and function become nearly indistinguishable. Musicians describe their artistic plans to acousticians, and mathematicians explain technical requirements to designers. Throughout this process, ideas become interpreted into drawings, and then blueprints transformed into bricks, mortar, limestone, and stucco. Scientific tools are as essential to the creation of a floor for a dance studio as aesthetic design is to the construction of a planetarium, each allowing for the observation of bodies through space.

Before construction even begins, projects such as these are years in the planning and require the steadfast engagement of trustees, volunteers, administrators, faculty, staff—and the generosity of donors. With such combined support, both the arts center and the science center grew from hope into reality after more than a decade of deliberations. They are parts of multi-phased projects that have included ren-

Imagination is the beginning of creation. You imagine what you desire, you will what you imagine and at last you create what you will.

—George Bernard Shaw
“This new Mathematics and Science Center will benefit the physics department and of course the College in many ways. The increased space will allow us to expand our faculty and thus grow and improve our research and teaching programs. For example, the new planetarium and rooftop observatory has afforded us the opportunity to begin a new undergraduate concentration in astrophysics and astronomy. In addition, the location of this new center brings chemistry, the Emerson Center, mathematics, environmental studies, and physics together for the first time and forms a science quadrangle that will foster new science and exciting interdisciplinary programs.”

RAY DUVARNEY
Chair of Physics

Unique teaching spaces such as the planetarium, observatory, roof patio laboratory, and data laboratory will allow majors and programs to expand. Large common spaces inspire interaction between scientific departments housed in the building.
“Creating the Mathematics and Science Center was a long, hard process which involved an amazing amount of work from everyone. From the initial proposals until the opening this July, the department chairs and the library met with Facilities Management every week for over two years. Our decisions ranged from how the building could be placed on the site, to where a department was located in the building, to the depth of a countertop—from the big picture down to the smallest detail. We are really pleased with how everything turned out—it was worth the effort.”

NANCY BAYLY
Associate Director of Capital Projects and Facility Planning for Emory College

“The new Mathematics and Science Center provides the department with teaching, research and office space designed specifically for the needs of a mathematics and computer science department. For the first time, we have space and infrastructure of excellent quality and in quantity sufficient to support our current teaching and research programs and our ambitions for further program and faculty development.”

DWIGHT DUFFUS
Chair of Mathematics and Computer Science

By combining efforts to increase energy efficiency, harness natural light, use environmentally friendly building materials, and decrease water consumption, the building is tracking for LEED (Leadership in Energy and Environmental Design) silver certification.

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NANCY BAYLY
Associate Director of Capital Projects and Facility Planning for Emory College

“The new Mathematics and Science Center will allow the environmental studies department to flourish. It provides us with exceptional teaching and research space. The presence of the physics and mathematics and computer science departments will nurture collaboration.”

JOHN WEGNER
Director of Undergraduate Studies, Environmental Studies
“It has been an incredible privilege to work with countless dedicated people inside and outside of the university on a project that celebrates the presence of art in our lives. We are extraordinarily grateful to all of our donors. The successful campaign to fund the $37 million Donna and Marvin Schwartz Center for Performing Arts has engaged a broad array of support across Atlanta and across the country. Of the more than 70 donors, approximately 25% had never made a gift to Emory before, and over 30% of all donors made their largest gift ever to the University through contributions to the Center. Gifts have come from alumni, foundations, corporations, and friends of Emory representing supporters of all ages: from current students to those who were Emory in the 1930s. In every gift, from 10 dollars to 8 million dollars, we have seen that people understand the centrality of the arts to the academic enterprise.”

Rosemary Mag
Executive Director of the Arts Center Project and Senior Associate Dean of Emory College

“The construction and utilization of the Donna and Marvin Schwartz Center for Performing Arts will be a monumental step for the presentation of dance on Emory’s campus. For the first time in Emory’s history the dance program will have a dedicated performance space and the appropriate support facilities to produce dance concerts. Sprung wooden floors tuned for dance, optimal sight lines, an expansive performance space, and a dance grid light system are just some of the tremendous features that will allow us to present dance in an uncompromised manner.”

Sally Radell
Director of Dance

“This building will serve first and foremost as an academic building for students, faculty, and staff. All of the major spaces will serve as classrooms for students as they develop their craft and also function as places where faculty can conduct research. Complementing the academic mission of the building will be its performance capabilities, which are first rate.”

Randy Fullerton
Managing Director of the Arts Center Project, Emory College
The Schwartz Center gives the theater studies department two valuable new teaching spaces, a set and costume design studio and the black box Theater Lab. The design studio provides a sunlit, expansive room for creativity and controlled chaos and the Lab will give our acting and directing classes a space to work and rehearse in that is more comparable to performance conditions than the typical Emory classroom. In addition, the Lab will be home for the Playwriting Center and site for the numerous readings that Theater Emory provides for both the campus and the community.

LESLEE TAYLOR
Chair of Theater

“The Schwartz Center will provide the music department with important new facilities for teaching and performance. The concert hall will host events ranging from senior recitals to concerts by renowned artists and for the first time, the Emory Wind Ensemble will have rehearsal space adjacent to storage facilities for instruments. There are also practice rooms for students and studios for our artist affiliates—it's a wonderful new space.”

STEVEN EVERETT
Chair of Music
No one better exemplifies the inherent crossover between the arts and sciences than Emory College alumnus Cherry Logan Emerson ’38C’39G whose career as a chemist was accompanied by a lifelong passion for music.

A third-generation scientist, Emerson broke with family tradition in 1934 by attending Emory instead of the Georgia Institute of Technology where his grandfather, William Henry Emerson, founded the chemistry and chemical engineering departments and served as the institute’s first dean and his father, Cherry Logan Emerson, Sr., was Dean of the School of Engineering. “I looked around, talked to people, and decided that the [chemistry] department at Emory was better than the one at Tech,” says Emerson.

After receiving his bachelor’s and master’s degrees in organic chemistry from Emory and his master’s in chemical engineering from the Massachusetts Institute of Technology, Emerson went to work for Monsanto Chemical Company supervising ethyl alcohol production for the U.S. Navy during World War II. In 1948, Emerson and his Monsanto colleague William Cuming began their own chemical and engineering consulting business in suburban Boston. Expanding into manufacturing in 1953, Emerson & Cuming, Inc. became a pioneer in the development of plastics and the nation’s first formulator of epoxy resins. Manufacturers used their products in everything from electric coffee pots to pumps for deep oil well drilling. “I made my living in material science, dealing with molecules which can be reformed and made into new material,” Emerson explains. “Our company had a very good and useful research division which did the material science research we needed to come up with new products.” Before its acquisition in 1978 by W.R. Grace Company, Emerson & Cuming owned eight manufacturing plants in locations all over the world. Their three most famous innovations were ceramic microballoons, the basic ingredient for NASA heat shields; microwave absorbing materials, used in the U.S. Air Force Stealth program; and the introduction of Teflon to the medical profession, used for continuous processing of human blood and the separation of plasma cells and particularly platelets (impossible previously).

A dedicated alumnus, Emerson has supported the sciences at Emory by helping to create the Cherry L. Emerson Center for Scientific Computation, Cherry Logan Emerson Hall, and the William Henry Emerson Chair in Chemistry currently held by world-renowned quantum chemist Keiji Morokuma. Emerson has faith that future generations will see returns on his investment. “There are many, many brilliant people who are inventing great science at Emory,” says Emerson.

The magnitude of music

Emerson’s passion for music began as a child. His grandparents traveled yearly to Bayreuth, Germany to the Richard Wagner opera festival. Emerson’s mother, Sina White Emerson, was a gifted pianist. Her childhood friend and neighbor, Louise Barili, was the daughter of Alfredo Barili, credited as one of the finest pianists, teachers, and musicians of his time and as the founder of Atlanta’s classical music scene in the 1880s. At the age of 77, Barili taught music to thirteen-year-old Cherry Emerson in 1931, and the two became “fast friends.” “He taught me a lot about...”
music, not only the piano, but about the history of music. He was like a third grandfather,” Emerson says fondly. “I owe a lot of my interests in the arts to his teachings.”

Their music lessons ended abruptly after Barili’s accidental death in 1935. For 13 more years, Emerson continued to practice the piano every day. “Until ’48, I really stuck with the piano. When I started a company and went to work, the piano started to slip away. You have to practice the piano every day of your life, and it was just impossible for me. I had to make the choice.” To this day, Emerson plays the same 1929 Steinway grand piano he bought at the age of 14 with Barili’s encouragement and the $685.02 he earned by selling bottles of Coca-Cola to neighborhood construction workers for three summers.

Emerson and his wife, Mary, frequently attend classical music concerts around Atlanta and, during the summers, in New England. Music is not considered a luxury by Emerson but a necessity. “I cannot imagine living without music,” he explains. “I don’t know how a person could really be successful in life without a deep interest in music. People who have succeeded in science and medicine and all the other important professions almost always are concerned with music in their lives as well.”

As a tribute to his friend Alfredo Barili, Emerson sponsored the highly successful Atlanta International Piano Competition, hosted this spring by Georgia State University. His contributions to Emory’s music department (which during Emerson’s college years consisted of one professor “in a small office with an upright piano”) include the endowment of the Emory Music Society of Atlanta’s annual Emerson Series and the Mary L. Emerson Chair of Piano Studies. The Emerson name will next appear in February 2003 at the Donna and Marvin Schwartz Center for Performing Arts by the entranceway of Cherry Logan Emerson Concert Hall.

“My desire to be intellectually associated with a great university and to make it even greater if possible has been a source of real enjoyment and happiness for me,” says Emerson. Through his enthusiasm and his generosity, Cherry Emerson has created numerous opportunities for Emory students and faculty to follow his lead and to pursue their own explorations of science and music. His contribution to the arts and sciences at Emory is immeasurable.

**Cherry Emerson’s Recommended Reading List**

An avid reader, Emerson punctuates his conversation with book references, pulling volumes from his library shelves as he speaks. “I have a lot left to learn, in spite of the fact that I am today 86 years old,” says Emerson. “I read extensively, I read almost anything I can get a hold of about either science or music. I try to learn something worthwhile every day.” The following is a list of books highly recommended by Emerson:

- **Warmth Disperses and Time Passes: The History of Heat** (previously published as *Maxwell's Demon*) by Hans Christian von Baeyer
- **Stages on Life’s Way: Kierkegaard’s Writings** by Søren Kierkegaard
- **Alfredo Barili and the Rise of Classical Music in Atlanta** by N. Lee Orr
- **Glenn Gould: The Ecstasy and Tragedy of Genius** by Peter F. Ostwald
- **Mozart** by Marcia Davenport
- **Mozart, His Character, His Work** by Alfred Einstein
- **Buildings for Music: The Architect, the Musician, and the Listener from the Seventeenth Century to the Present Day** by Michael Forsyth
- **The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge** by David McCullough
Unusual student-faculty collaboration creates dramatic results

By Amy Verner
Contributing Writer

On September 20th and 21st of 2002, Theater Emory staged an unusual pair of dramatic readings in the black box theater behind the Mary Gray Munroe Theater at the DUC. The plays, “Friedmann’s Balloon” and “Background,” were respectively written by the physics department’s Dr. Sidney Perkowitz and Lauren Gunderson, an Emory College junior, and are products of a unique collaboration across the traditional categories of science and art, professor and student, and research paper and play.

“Friedmann’s Balloon” by Perkowitz is set in WWI Russia and follows the life and career of Alexander Friedmann, a soldier, balloonist, and scientific peer of Albert Einstein. For Perkowitz, the “most interesting parts of this play are the conflicts between science and war and scientist and soldier.” The play is Perkowitz’s first dramatic endeavor, and although relatively unsophisticated in terms of dramatic devices or techniques, it offers audience members two treats. It explains in memorable laymen’s terms the science behind Einstein’s theory of relativity as well as the important contributions that Friedmann would make to the Big Bang theory. And artistically speaking, the play’s language paints a picturesque backdrop for the story that was only complemented by the visual sparseness of the black box theater.

“Background,” the second play read is by Gunderson, a celebrated young playwright whose first work “Parts They Call Deep” opened off-Broadway in New York in October 2002. “Background” focuses on the life and career of the physicist Ralph Alpher and uses the Big Bang theory as a metaphor for theater and dramatic action. Mirroring Alpher’s approach to pinpointing the creation of the universe and time, “Background” is preoccupied with time in a thematic and structural sense. Just as Alpher counted backwards from the present to discover the beginning of the universe, Gunderson’s play and characters also move backwards towards the genesis of the universe and of the dramatic moment.

This exciting collaboration between Perkowitz and Gunderson began when Gunderson enrolled in Perkowitz’s freshman seminar, “Envisioning Light.” The course introduced the physics of light through art and painting as well as through more conventional scientific methods. When Gunderson approached Perkowitz about turning in her final term paper as a play instead of the traditional research paper, his reply was “Sure, why not?” “His ready acceptance made me want to prove that it was a good decision,” said Gunderson. “His only stipulations were that it had to be about light, and the science had to be good.”

So Gunderson set about looking at theories of cosmology and discovered a minor character, Ralph Alpher, whom history had ignored. While writing, she focused on the shift from artistic thought to empirical thought. For her, the first was explosive but the second had steps, levels, and very concrete rules. Reading or watching Gunderson’s play unfold is an exercise in what happens when the structure of a play follows scientific rules. Her idea is that Alpher’s equations about time, and the origins of the universe “resonate through the play and expose the universal truths about life, humanity, science, and art. The science becomes a reverberating metaphor for the world.”

For both Gunderson and Perkowitz, it has been thrilling to realize that they’re thinking along the same lines but getting there from very different directions. “Collaboration is also an art,” said Perkowitz. “In the beginning, you don’t want to talk too much, but then later in the process you find yourself spinning in the vortex of your work, then spinning into and off of one

“Collaboration” continued on page 10
My Emory adventure in Scotland

By India Stanley

This October, I had an extraordinary adventure, full of exhausting journeys, towering heights, driving rain, and fattening sweets. But throughout, there was laughter, friendship, and fun.

In the spring, I was awarded one of two Dean’s Staff Travel Awards, an opportunity for College staff members to experience Emory’s international programs firsthand. My proposal was to meet with the Robert T. Jones Scholars during their year in St. Andrews, Scotland and to make a brief film for the College website about their experiences. To say I was nervous would be an understatement, having never shot a video or traveled to Scotland in my life.

The 2002-03 Robert T. Jones Scholars are a delight, both generous and encouraging, and even in unfortunate weather, you can’t go wrong with a romantic medieval setting like St. Andrews.

The Scholarship

A University-wide opportunity, the Robert T. Jones, Jr. Scholarship was established in 1976 to honor the late Robert Tyre “Bobby” Jones, Jr., an internationally renowned golfer and Emory alumus remembered best for his loyalty, compassion, and integrity. The scholarship provides a travel stipend and a year of study for four Emory students at the University of St. Andrews, the oldest university in Scotland, located next to 600-year-old golf courses known as the Links. The 2002-03 Scholars follow:

- Elizabeth “Lizzy” Barchas ’02C, Russian Language & Culture and English double-major who plans to attend law school
- William Leasure ’02C, religion major with a pre-medical concentration who will attend Emory School of Medicine next year
- Lauren Mayros ’02C, international studies major who plans to pursue a doctorate in political science
- David Roemer ’02B, business administration major who plans to continue working for Apple Computer, Inc., or to start his own company

Day One/Two Sunny

After eighteen hours of travel by buses, planes, and trains, my fiancé, Erik, and I made it to our lovely bed and breakfast in the small city of St. Andrews. The first scholar to arrive was Lauren with her bright smile and easy laugh. Next came Elizabeth, cheerful and energetic, and David, quiet and quite funny. William (friendly, thoughtful—and tall!), we found out later, slept through his alarm. They’d returned that morning from a weeklong trip to Dublin, Ireland with President Chace and his freshman seminar and had not slept the night before. So we discussed a game plan for the next day and said good night.

Day Three Cloudy and cold

All four students arrived in the car they share, and we rode up to the ruins of St. Andrews Cathedral, built in the 12th and 13th centuries. We were all shy about what to film, but we did some posed walking shots, some “looking off into the distance at St. Andrews Bay” shots, and some jiggly panorama shots. Then Lauren suggested we go to the top of St. Rule’s Tower. There’s nothing that plays havoc with your ego quite like climbing a 10-story, spiral staircase with students who are athletic and ten years your junior. The footage from the top of the tower shows a sweeping view of the town, cathedral, golf courses, and bay, the beauty of which is marred only by the background audio of my panting into the camera.

We traveled next across town to the Old Course, part of the Links and known as the “Home of Golf.” As a tribute to Bobby Jones, we filmed the students crossing the Swilken Bridge by the eighteenth hole and the classic “wave for the camera” by the Royal and Ancient Golf Club, founded in 1754.

Day Four Rainy, windy, and cold

That morning, we drove to Lauren and Elizabeth’s beginning golf lessons. A driving range in the driving rain, to be exact. In what looked to me like a horse stable, I filmed while they smacked golf balls into a wet field marked off in feet (as the sign reminded those unused to a non-metric system). After golf practice, everyone met for dinner at The Balaka for Bangladeshi cuisine, and we had a grand time talking about movies.

“Scotland” continued on next page
have Erik film my introductory speech by the bay was thwarted when the wind threatened to topple us over. Standing just outside our bed and breakfast with Erik precariously balancing the umbrella handle under his arm and trying to steady the camera, I did a fabulous job of tripping over my words through take after take. Once the drizzle turned into rain and the breeze into a gale, I decided that I would come up with something later through the magic of editing. And we dashed indoors.

Day Six  Drizzly and cold

After a day of shopping, Erik and I met with David, Elizabeth, and Lauren (William was in Glasgow for a swim meet) for one last on-camera question. Then David and Lauren took us to a fish & chips shop for a local specialty: freshly battered and fried candy bars. I learned that a) they taste better than you’d expect and b) I prefer a fried Mars Bar over a fried Snickers. After an evening of talking at a pub, it was time to say farewell. I hugged and thanked the students for being so welcoming.

In short, the Bobby Jones Scholars are great kids having a great time in a great place, and I wish them the best. To hear the scholars’ own words about their experience in Scotland, I invite you to view the movie on the College website at http://www.emory.edu/COLLEGE/alumni/
Over and new construction, creating campus hubs for the many activities that comprise the sciences and the arts. Such long-term, intricate work requires constant communication among people inside and outside the university. Given the difficulty of simply coordinating calendars to set up meetings, it is almost unfathomable to believe at the start that such creations can occur.

Each step of the process depends on trust and persistence—and ultimately what might be called “collaborative imagination.” No single mind, no one person’s work or effort will suffice. To be successful, many people located in a variety of places must believe in what they are doing, work together to accomplish goals, share knowledge and expertise, seek resources, assess priorities—and be creative. Assembly can then occur, with order emerging, as if by magic, out of an abundant array of committees and complicated dynamics. At the end of the process, the collective values become embedded in design and structure. Due to such commitment, the Mathematics and Science Center boasts the very highest environmental standards. The Donna and Marvin Schwartz Center for the Performing Arts is the centerpiece of an “arts village” concept that extends beyond its walls.

Today, at Emory University, we have much to celebrate with dramatically improved conditions for the sciences and the arts. These projects, however, are not so much about buildings as they are about teaching programs and research projects. Without appropriate and even inviting facilities, the main work of the university—the discovery and dissemination of ideas—becomes unworkable. More than stationary structures, buildings become organisms that take on a life of their own within the campus environment. What occurs around and within them, as with any life form, cannot be fully controlled by schedules, mandates, technology, or even intention. The daily work will be as much nourished by chance encounters in hallways and surprise discoveries in laboratories, by serendipity, as by design.

“The possible’s slow fuse,” writes Emily Dickinson, “is lit by imagination.” Through continued collaborative imaginings, hard work will provide the impetus, and creativity will explore the boundaries of art and science. New structures, representing the power of hope and the imagination, provide tangible testimony to the art of the possible.

Rosemary M. Magee, Senior Associate Dean of Emory College, has primary responsibility for the development and planning of new facilities in the Arts and Sciences.

Retiring Faculty

The College bids farewell and acknowledges the exemplary service of two faculty members who will retire this year.

Luigi Marzilli, 22 years of service

“Luigi Marzilli has been an internationally recognized scientist in synthetic chemistry for the past two decades at Emory. The stature of his program contributed significantly to the strength of the chemistry department.”—Jay Justice, Department of Chemistry

Donald Shure, 33 years of service

“Professor Shure’s research addressed fundamental questions of ecological biology. Two areas in particular are widely recognized as important: research on granite outcrops where he capitalized on a unique model system to elucidate patterns and processes, and his more recent research on the effects of size on Appalachian forest openings; this work is fundamental to the management of forests and has led to several ecological generalizations.”—John Lucchesi, Department of Biology

Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.

—Albert Einstein
2002 Awards of Distinction Recipients

The 2002 Arts & Sciences Awards of Distinction dinner was held Friday, September 20, 2002 at the Emory Conference Center. The Award of Distinction is given every year to alumni and emeritus faculty who have demonstrated an ongoing commitment to the arts and sciences at Emory and a lifetime of achievement in industry, community, and the world. This year’s alumni recipients were Amalia Amaki ’92G’94PhD, Ann Estes ’65C’76L, and Bill Cohen ’64C, and faculty recipients were John Howett, art history, and Garland Richmond, German studies.

http://www.emory.edu/COLLEGE
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(Left to right) Bill Cohen, Ann Estes, Amalia Amaki, John Howett, Garland Richmond