



Chapel Hill Becomes Home

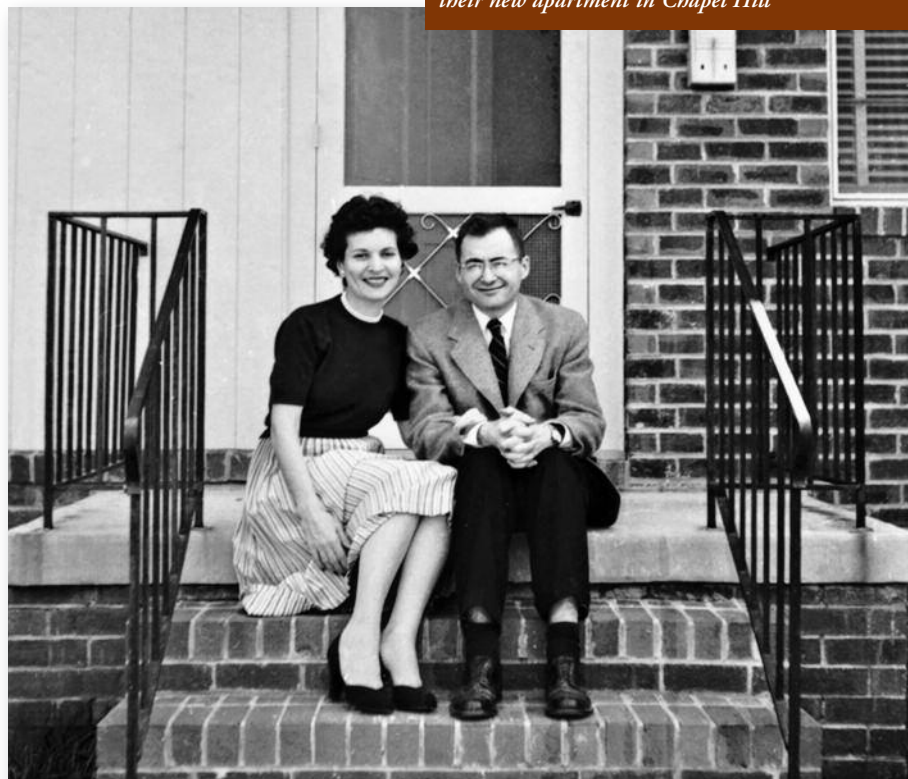
Charles and Shirley arrived in Chapel Hill on Saturday, January 7, 1956, after driving seven hours from Baltimore. Though they had secured an apartment at the new Glen Lennox development near the University, their furniture would not arrive for another several days. So Charles and Shirley checked into the Carolina Inn for a few days of comfort and waited for their furniture to arrive.¹

When the moving van with their furniture arrived a few days later, Charles and Shirley set about moving into their one-bedroom apartment on Brandon Road. They felt very fortunate to have gotten an apartment in the development: Glen Lennox was affordable and close to UNC, having recently been built to provide housing for the expanding University and its hospital staff.²

Just after their furniture had been unloaded into the new apartment, a knock came to their back door. When Shirley answered, she found several members of the Glen Lennox women's club standing on the back stoop, there to invite Shirley to a club meeting.

"They were so surprised because I was dressed properly!" remembered Shirley, who always dressed to a T. "They expected people moving in to be—well, I was ready for tea, so to speak.

*Shirley and Charles at 8 Brandon Road,
their new apartment in Chapel Hill*



“And that was our start in Chapel Hill!”³

The Weisses’ arrival in Chapel Hill came at the end of a whirlwind holiday season. After Charles had accepted Daniel Okun’s job offer, he and Shirley drove back to Chapel Hill over the long Thanksgiving weekend to look for an apartment.⁴ They found nothing suitable, but the manager at Glen Lennox Apartments advised them that apartments often came available just before the spring semester. On December 7—Charles’ birthday—the manager called Charles at his laboratory and let him know that 8 Brandon Road was available.

With an apartment secured, the Weisses stayed in Baltimore for another few weeks

wrapping up their affairs. They then boarded a plane bound for Panama to visit one of Charles’ boyhood friends, Harold Trapido, over Christmas. Like Charles, Harold was also a biologist, and he was on staff with the International Health Division of the Rockefeller Foundation in Panama.⁵ The Weisses visited Harold and his family through New Year’s Day, and then flew back to Baltimore to start packing. One week later, they were unpacking in their new home in Chapel Hill.

When Charles came on board at the Department of Sanitary Engineering in the UNC School of Public Health, he became the department’s fifth faculty member. The faculty took turns teaching all the courses that were offered on a rotating, 10-term cycle. Charles recalled that teaching every laboratory course in the department was “a good learning experience; you quickly caught up with the contemporary techniques.”⁶

None of the other four faculty members specialized in aquatic biology, so Charles quickly became the go-to man in the department for water biology questions. His first teaching assignment, *Limnology*[†] and *Water Quality*, soon became a required course. Using nearby University Lake as a standard sampling

"Dr. Charles Weiss can measure the water temperature of 10 different areas of Chapel Hill's University Lake at one time with the temperature scanner, which reads more than 20 probes in the lake. Dr. Weiss is head of a new project on water quality management."

Perspective

ures, Editorials, Opinions, Books, and Business

Section IV



Dr. Charles M. Weiss of the UNC-Chapel Hill Department of Environmental Sciences and Engineering can measure the water temperature at 10 different areas of Chapel Hill's University Lake at one time with the temperature scanner, which reads more than 20 probes in the lake. Dr. Weiss is head of a new project on water quality management.

[†] Limnology is the study of inland surface waters—lakes, streams, and rivers—as distinct from oceanography, the study of oceans.

point, he taught students field techniques such as how to sample water, how to measure physical and chemical parameters in the field, and what to measure in the laboratory.⁷

In addition to teaching, Okun's initial recruitment letter to Charles had made it clear that Charles would be able to conduct his own research.⁸ Charles wasted no time in setting up a laboratory and extending the research he had started at the Army Chemical Center.

"I worked with organo-phosphorous pesticides, which were beginning to come into use, and people were using them rather haphazardly," Charles said. With a lab at his disposal, he began refining his bioassay technique that used fish tissues to detect the presence of specific organo-phosphorous pesticides in water.⁹

Charles began seeing that his professional future in North Carolina could be quite rich. Most of the local water supplies depended on man-made lakes—an area that was ripe for exploration and research.

"I could see my future here," Charles said.¹⁰

While Charles was digging into his new job, Shirley was concerned with finding a job of her own. She approached John A. Parker, head of the UNC Department of City and Regional Planning, and told him of her experience as a consultant and planning economist. Did he have any job openings for a person with her experience?

"We only have two kinds of jobs," Parker replied. "As a teacher, or as a student. Which do you want?"

Though Shirley had lots of relevant experience in the planning field, she knew she needed an advanced degree to teach in an academic setting. She had a few other job leads from conversations with people at the UNC Institute of Government, but her desire to expand her education had been on hold for seven years. Why not take the plunge?

With the challenge—and the opportunity—in front of her, Shirley told Parker that she wanted to enroll in master's courses in his department.

"Then he asked me what courses I would want to take—thinking I would want one or two," Shirley recalled. "I said, 'No, I want the whole program!'"

"I decided I wanted an education, and I never regretted that for a moment."

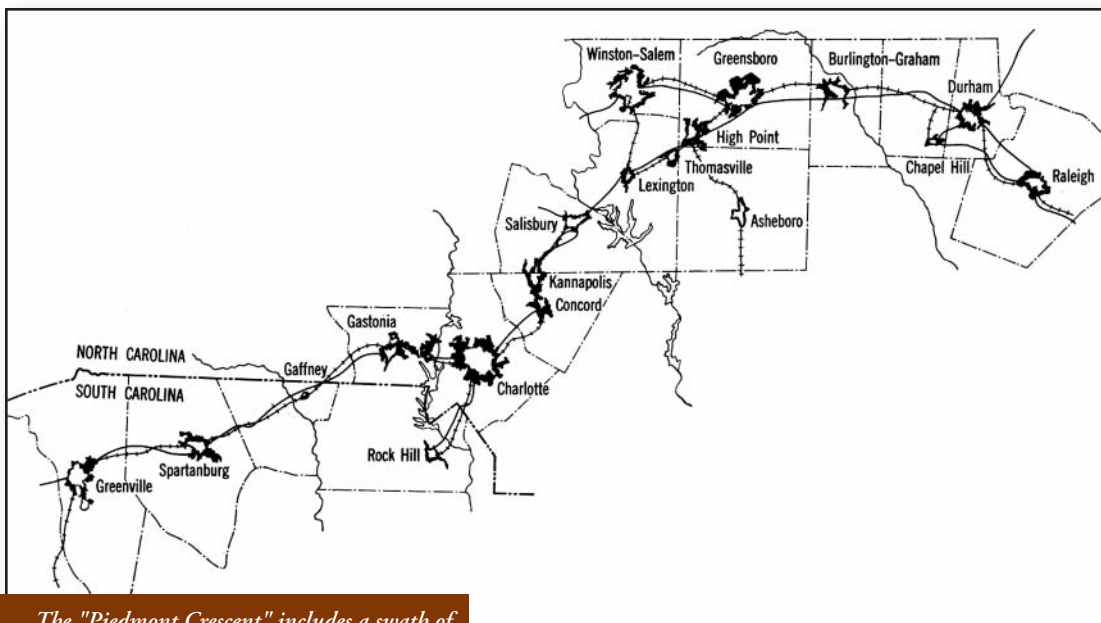
Shirley enrolled in graduate courses in the Department of City and Regional Planning in the fall of 1956. Her intelligence, drive, and experience soon caught the eye of Professor F. Stuart Chapin. Chapin, like Shirley, had strong professional training, and he recognized her experience as a valuable asset.



Charles used this automatic temperature profiler to monitor temperatures in University Lake, a standard sampling point for his classes.

"I decided I wanted an education, and I never regretted that for a moment."

—Shirley Weiss



The "Piedmont Crescent" includes a swath of North Carolina cities from Raleigh to Charlotte.

Chapin asked Shirley if she would work with him at UNC's Institute for Research in Social Science, where he was a researcher.¹¹ Shirley agreed, and in 1957, she and Chapin secured a million-dollar grant from the Ford Foundation for a study of urban development in the Piedmont Crescent, a swath of North Carolina cities from Charlotte to Raleigh.

The five-year study employed a multitude of academics: sociologists,

political scientists, economists, and others. With her collaborator's heart and economist's mind, Shirley was a natural to co-lead the study.¹² She became the coordinator who "brought people together and made sure everybody was on target and on pace," said former colleague Ray Burby. "She made sure the work got done."¹³

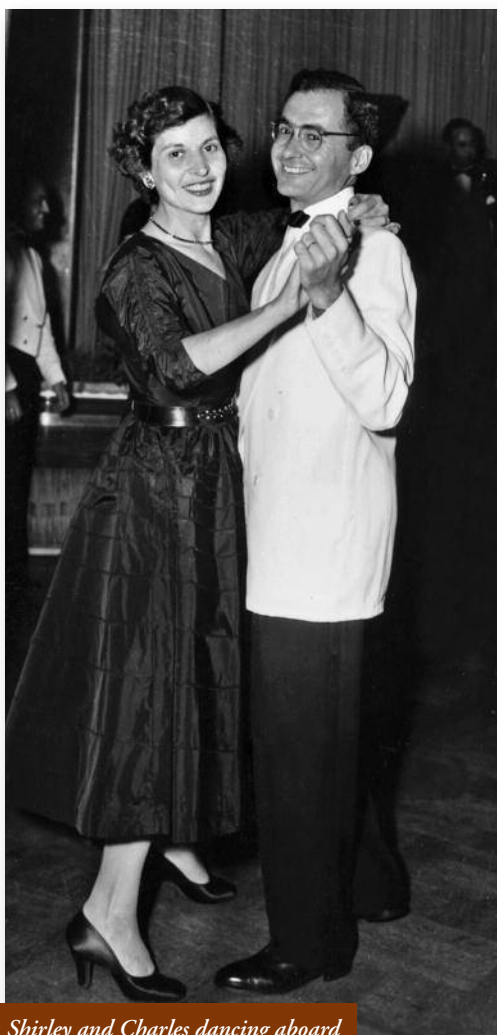
Led by Shirley and Chapin, the team set about studying the ways developers thought about urban development, specifically looking at developers' business decision-making processes: What caused developers to build in the places they chose to build? How could urban planners better influence those decisions?

As the Piedmont Crescent Study got under way, Shirley's intelligence and drive were apparent to all around her. Later that same year, the Institute launched its Urban Studies Program, and though she was still a master's student, Shirley was hired as the program's associate program director.¹⁴

When Charles was first hired to provide teaching and research support, his position was temporary, a two-year contract. But by 1957 Okun had extended his contract to a third year, and by 1958 the faculty members were realizing what a valuable asset Charles was. Okun had originally told Charles that he would not get to teach in the department's outreach program in Peru. But as the summer of 1958 approached, Charles was invited to teach the department's special short courses in sanitary chemistry and biology at the National University of Engineering in Lima.

The offer was wonderful news for the Weisses. Not only was it a clear indication of Charles' rising status in the department—but for travel enthusiasts Charles and Shirley, a fully funded summer trip was just the ticket. Just after the end of the spring semester, Shirley and Charles packed their bags and happily flew to Peru, where they spent three months teaching, learning, and exploring. Shirley brought along her Olivetti typewriter and finished typing her master's thesis in their hotel room that summer.

"We had a wonderful summer in Lima," Charles said. "I gave lectures, did evaluations,



Shirley and Charles dancing aboard the RMS Queen Mary in the '50s

and traveled all over the country to see what the circumstances of water supply and pollution were in the Andes, the coastal plain, and the Amazon drainage basin in Peru. It was a great experience, and a great summer.”¹⁵

When Charles and Shirley returned to Chapel Hill in late August, they both returned to excellent job situations. By the fall of 1958, Charles had secured a \$95,000 research grant from the National Institutes of Health to extend his research using fish to detect insecticides in water supplies. It was his first major research grant, and he moved rapidly into the five-year study that fall.¹⁶

Shirley handed in her master’s thesis on “Central business districts in transition”¹⁷ and defended it soon afterward, finishing her two-year master of regional planning degree in only a year and a half—even with a research study to co-direct and a new academic program to help oversee.

Having put in her time as a student, Shirley now amended her answer to John Parker’s question from two years before and applied for the other job his department offered: teacher. Shirley was hired as a lecturer in the Department of City and Regional Planning and began teaching planning classes in the spring of 1958—the first female instructor hired in the department.

A natural teacher, Shirley was thrilled that her life-long dream of teaching was finally being realized.

Shirley also continued working with Stu Chapin on the Piedmont Crescent Study, which was now supporting students and researchers in the Urban Studies Program. The program was run on grant money awarded for specific research projects—and Shirley and Chapin realized that at some point the Crescent Study money would run out. In 1959, they began looking for other grant opportunities.¹⁸

Meanwhile, Charles’ skill at water research was becoming well known in the field by both academics and professionals. In 1959, the Duke Power Company contacted the UNC Department of



Charles and Shirley explore the fabled lost Incan city of Machu Picchu, August 1958.



Shirley in their Peru hotel room, where she finished typing her master’s thesis, 1958

“Now a lot of people really stress working across disciplines that are multi-faceted. Shirley really figured that out in the late ‘50s. Her real strength was in building teams that integrated the ideas of a lot of people and her own, so the sum was greater than the individual parts.”

—Ray Burby¹⁹



Charles taking a water sample from the Río Ingenio in Peru, 1958

Sanitary Engineering. The company had several water impoundments that needed monitoring for thermal pollution: Could one of their professors organize the research? Charles agreed to the job, and thus began the first of several such projects with Duke Power—projects that always included support for his graduate students.

His reputation was also becoming more and more respected within his department. Though he still technically held a temporary position, in 1960 Daniel Okun asked Charles to serve as acting department head for one year while Okun went on sabbatical. Charles accepted, and he served as acting head until 1961, when



In the summer of 1959, Charles and Shirley visited their friends Jacqueline and Charles Varga and their family in Portland, Oregon.

he commenced yet another research grant—a seven-year, \$45,000 grant from the National Science Foundation to study the impact of temperature fluctuations in small lakes. That same year he also undertook a research consulting position with the Research Triangle Regional Planning Commission, a group formed to help the newly conceived Research Triangle Park plan its water supplies.²⁰

“I was always impressed with and admired Charlie for his ability to balance all of the balls in the air that were necessary for an academic faculty member,” recalled Charles’ colleague Donald Fox. “Charles was highly organized ... and it allowed him and Shirley to do so many things that they wanted to do.”²¹

During this time, Shirley was also hard at work teaching, researching, and applying for grants. In July 1960, she and Stu Chapin won another five-year grant from the U.S.

Life at Glen Lennox

In the fall of 1961, Charles and Shirley somehow found time to move their home yet again—though not so far as any of their previous moves. In September, Charles and Shirley moved around the corner from Brandon Road to a larger Glen Lennox apartment at 155 Hamilton Road. The two apartments’ lawns were diagonally across from each other, “so the move was very easy,” Charles recalled.

There, they lived simply and comfortably for the next 42 years. Glen Lennox was conveniently located near the University, allowing Charles and Shirley to drive home for lunch most days. Their two-bedroom apartment was just the right size for them, and the apartment management took care of lawn

maintenance—a plus for the frequently traveling Weisses.

“The only problem we really faced was that eventually we would fill up all the space with the stuff we collected on our travels!” laughed Charles.

During their 47 years at Glen Lennox, the Weisses met some notable personalities. Their next-door neighbor in their early years was Chris Fordham, a doctor in the School of Medicine who would go on to become dean of the School of Medicine, vice chancellor of health affairs, and finally the Chancellor of UNC. They also met astronaut Neil Armstrong, who stayed in a Glen Lennox apartment a few doors down from the Weisses when he came to train at Morehead Planetarium during the ‘60s.

Balancing Work with Pleasure

Charles and Shirley worked hard, but they also took time to enjoy music and the performing arts. Even during their busy early years at UNC, they made sure to attend many of the performances and lectures available at UNC and at Duke University, which was just 12 miles down the road. With two excellent universities in the area, there were opportunities for music, theater, art, and lectures several times a week.

"It was sort of a natural thing to do," said Charles. "We knew that there's more to life than studies".²²

Department of Commerce's Bureau of Public Roads to study land development. Then two years later, Shirley won her first grant as the principal investigator: an eight-year U.S. Department of Health, Education, and Welfare grant to study environmental engineering policies' impact on urban development.²³

Through Shirley and Chapin's hard work, the Urban Studies Program had begun to grow. By 1963, the program had enough grant money to launch as an independent center. No longer a program within the Institute for Research in Social Science, the Urban Studies Program became UNC's Center for Urban and Regional Studies. Chapin became its first director, and Shirley became the center's assistant director.²⁴

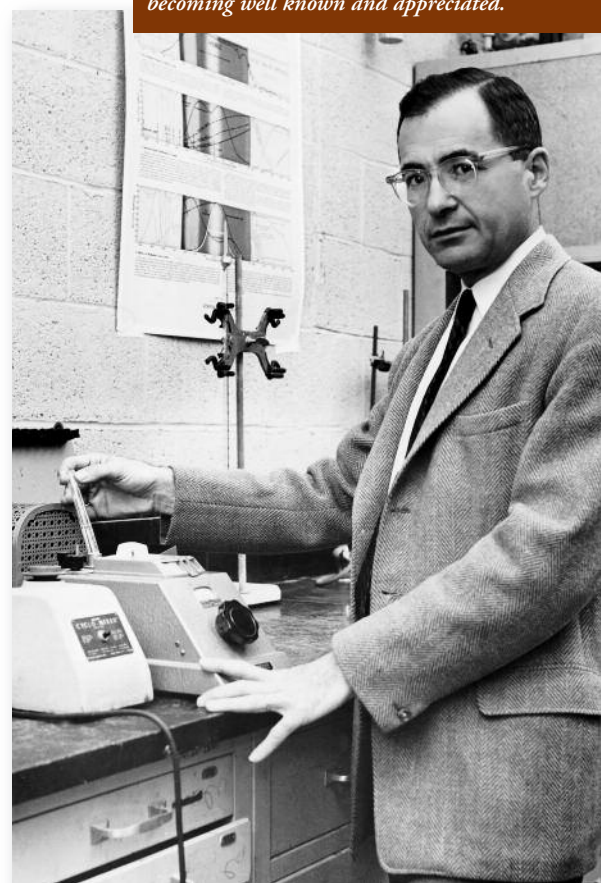
And as the Center for Urban and Regional Studies grew, so did Shirley's research reputation. When Shirley and Stu Chapin's book on the Piedmont Crescent Study, *Urban Growth Dynamics in a Regional Cluster of Cities*, was published near the end of 1962, other researchers and academics quickly recognized it as groundbreaking work. As one of the first urban planning studies to ask broad multidisciplinary questions, the Piedmont Crescent Study quickly became a benchmark for other studies. In addition, the study's excellent reception "occasioned some very good reviews and made us eligible for more grants," Shirley recalled.²⁵

Charles' research as well was also being recognized for its excellence. In 1961 he had

"The Piedmont Crescent Study was very important, because it was one of the earliest studies to look at a whole economic region. Not only was it regional, but it was also very multi-disciplinary: So they were looking at the economics, the sociology, the politics of the region. It wasn't narrow, it wasn't reductionist. It was more comprehensive." —Bill Rohe²⁶



Charles guest conducting the ship's band aboard a cruise ship



Charles' skill at water research was becoming well known and appreciated.



Charles at the 1965 Water Pollution Control Federation conference in Atlantic City, New Jersey

Ideas Co-mingling

When two professors live together, they are bound to talk about their research ideas and flip through each other's research journals left lying around the house. Charles and Shirley were well-versed in each other's research and interests—so much so that they even substituted for each other in class. Charles recalled that, "We were so close in our interests that on occasion when Shirley had to take a short sick leave, I would do her lecture. I would come in and show the class some relevant pictures that I had taken for Shirley's course."

published a paper in *Transactions of the American Fisheries Society* about the bioassay he was developing that could detect organo-phosphorous pesticides in water. In 1962, the American Fisheries Society awarded Charles their annual "best paper" prize for the paper, with an award of \$50.

Beginning to take on more responsibilities within his department, in 1962 Charles also became the project director of two substantial federal training grants for the department: a \$177,000 grant from the U.S. Public Health Service for "Graduate Training in Environmental Chemistry and Biology," and a \$180,471 grant from the Federal Water Pollution Control Administration, for "Graduate Training in Water Supply and Pollution Control."

With such impressive research credentials piling up, Charles and Shirley's departments could not help but notice their value and potential. By the end of 1962, both Charles and Shirley had been promoted: Charles from associate professor to full professor, and Shirley from lecturer to associate professor.

Over the next two and a half years, Shirley and Charles continued working hard at teaching and research. Shirley published several articles with Chapin

and others based on their land development research grant;²⁷ Charles published a number of articles on water pollution in reservoirs and also procured another research grant from the Public Health Service to study “Direct Gas Chromatography of Organics in Water.”²⁸

Charles also began monitoring local discussions about a proposed new reservoir, New Hope Lake, that was planned as a means for flood control on the Haw River.* Other projected uses included recreation and water supply for the surrounding municipalities—but with factories and farm run-off upstream of the proposed lake, would the water also be clean enough to drink? Charles sensed an issue that he could contribute to, and he began paying attention.²⁹

Shirley, too, continued researching, writing articles, and teaching. A natural and supportive teacher, she was loved by her students, and her classes were quite popular, being frequently illustrated with photos and stories from her and Charles’ travels.³⁰ Between her excellent teaching skills and her growing research record, she felt she was ripe for advancement within the Department of City and Regional Planning. But though Shirley had substantial professional and academic experience, she lacked one thing vital in academia.

“In order to get my promotion to full professor, it was made clear that I needed to have a Ph.D.,” Shirley remembered.³¹

Shirley wanted to advance in her career. But she also wanted to continue teaching in the department and conduct research at the Center for Urban and Regional Studies while she worked toward her doctorate—something she could not do if she enrolled in the doctoral program within the UNC Department of City and Regional Planning.

The solution to her dilemma lay just 12 miles down the road, at Duke University. In 1965, Shirley enrolled in Duke’s doctoral economics program and began studies there. She continued her work at UNC, scheduling her classes at Duke around her work schedule at UNC.

The challenge and the opportunity of education were once again confronting Shirley. Once again, she accepted both.



Charles (not pictured) and Shirley (right) enjoyed Christmas with Gary and her family in France in the winter of 1963.

A Habit of Giving

Early in their careers, Shirley and Charles formed a habit of giving. Shirley’s godmother, Gary, had set a lasting example of generosity; Charles and Shirley learned through her that giving was good for the soul. Once on faculty at UNC, they set up payroll deductions to contribute to a student aid fund, and they began making annual gifts to support music, drama, art, the library, and their respective departments.³²

* Originally authorized in 1963 as a flood control project, the New Hope Lake Project was renamed Jordan Lake in 1974 in memory of B. Everett Jordan, a former U.S. Senator from North Carolina.



A Trip Around the World

In the summer of 1964, the Weisses took their world travels to a new level with a trip around the world. Charles had been invited to Tokyo to give a paper on his bioassay research. Rather than go directly there, he and Shirley joined a tour group heading east to Tokyo. With a group of 15 couples all heading to the Tokyo meeting, they visited Athens, Cairo, Beirut, New Delhi, Bangkok, and Hong Kong before arriving in Japan. In Tokyo, Charles gave his paper, "and everyone rooted for him," Shirley remembered. They then went on to Honolulu and Chicago before finally arriving home in time to start the fall 1964 semester.³³



*Shirley and Charles
in Hong Kong*