

textiles to technology

WRITTEN BY MICHAEL GRAFF

A scientific facility unlike anything else in the world, the North Carolina Research Campus in Kannapolis masterminds a new future for the former mill town.

BEFORE HE STARTED WORKING IN GENETIC SEQUENCING, RANDY CROWELL DROPPED OUT OF HIGH SCHOOL.

He went down to the mill in Kannapolis, 16 years old, and got a job opening bales of cotton. He made a couple of bucks an hour. He got married a year later, at 17. It was the 1970s, and around these parts, about that time, that was life.

Cannon Mills was the provider for a region, the provider for generations, the largest producer of sheets and towels in the world, the daily home to some 22,000

employees. Around here, about then, good hands got you a job and a diploma got you a pat on the back. Crowell, raised in nearby Salisbury, was destined to work in the mill. When he first stepped inside that 6 million-square-foot titan of textiles just outside downtown Kannapolis, he figured he'd work there forever.

That was just the way it was.

PHOTOGRAPHY BY PATRICK CAVAN BROWN



Randy Crowell is one of the faces of change in Kannapolis. After 30 years as a millworker, he went back to school to earn a degree in biotechnology to complete his transformation, he says, from “lint head to lab tech.”

It's only a piece of land, underneath it all. Three hundred and fifty acres of land, to be exact. Bordered by Main Street and a railroad track and a three-block downtown. In that downtown is the oldest single-screen movie theater in the country still in operation today. The theater might be the most notable thing here, **if not for the land.**

Rising from it now is the North Carolina Research Campus, a place where geniuses have come to get smarter. It is now a piece of land that employs one scientist who was a leader in sequencing human chromosome 1 in the Human Genome Project and another scientist who is a world leader in studying choline's effect on the human brain. It is now a piece of land with toys such as a nuclear magnetic resonance machine that, when powered up at 950 megahertz, is the world's most powerful superconducting magnet. It is now a piece of land where super fruits such as the blueberry are about to become even more super.

The campus that rises from this land comprises three buildings, scientists from eight universities, a core lab, and room to grow. It is 350 acres with a vision.

Six years ago, it was just that piece of land, saddled with a 6 million-square-foot elephant decorated in weeds and broken windows — the remnant of the dying American textile industry, shuttered with ghosts inside, ghosts of those generations of people who

looked to Cannon Mills as the provider.

Now, it's filled with a new generation, people who believe more in facts and data than ghosts, people who spend more time thinking about the way it will be than the way it was.

It's only a piece of land. But it's been transformed. And Kannapolis is transforming with it.

BEFORE HE DROPPED OUT OF HIGH SCHOOL, Crowell looked under a microscope. He was in his doctor's office, and he was 5. He even remembers the doctor's name — Dr. Eddinger.

A love for science grew from there. Crowell took things apart all around the house, wanting to see the smaller pieces, to see how things were made. He was 12 when he got spanked for dismantling the television. But he put it back together.

Then, a year later, he was 13 when he found something he couldn't break down and fix. His mom had cancer. He stood by her bedside in Chapel Hill when the doctors told



The centerpiece of the North Carolina Research Campus, the David H. Murdock Research Institute building (opposite) sits on a spot of land that was once a fire-protection pond for the old Cannon Mills.



PHOTOGRAPH COURTESY OF NORTH CAROLINA RESEARCH CAMPUS

David Murdock owns Dole Foods Company, Castle & Cooke, and his own Hawaiian island. In 2004, though, he embarked on a project that had more to do with advancing human health than his own personal wealth — starting the North Carolina Research Campus, bringing together scientists from all over the world.

him and his dad they didn't know any way to cure it.

"You're doctors," Crowell protested. "Why don't you know?"

IN A SCIENCE-THEMED RESTAURANT IN DOWNTOWN Kannapolis, next door to the one-screen movie theater, David Murdock is talking about food.

The 186th-richest man in the world and the founder of the Research Campus, Murdock is eating a shrimp salad at a table with a family that just donated \$2 million. He's explaining his theory on meat. Now 87, Murdock has been a "fish vegetarian" since his wife died of cancer and other illnesses about 20 years ago. He believes, without question, that poor eating helped cause the problems that caused her death. And he believes eating red meat is the root of many diseases and ailments.

Murdock is a small man with a tiny waist. But his voice booms like a general.

"Everybody around this table has a bunch of bad

habits," Murdock says. "If you've got a belly, you've got a problem. You've got to make an effort in order to be healthy. I'm 87 years old, and I'm as healthy as anyone in this room."

Nobody dares argue. After all, this is his restaurant. It's named "46," after the number of human chromosomes. Nothing on the menu comes with mayonnaise. On the walls are quotes from scientists past and present, including one from him: "In order to do the impossible, you must see the invisible."

Few people have vision to match Murdock's. When he was a kid, teachers berated him for his slow learning, not knowing he had dyslexia. So he dropped out in the ninth grade. He went into the United States Army during World War II, came home, and spent a short amount of time homeless. Then, with a little help, he bought a diner. Then he sold it and made \$700. That was the start.

Now, he owns Dole Foods Company, Castle & Cooke, and even Lana'i — his own Hawaiian island.



As he built his fortune, in 1982, Murdock purchased a textile mill in Kannapolis. He sold it four years later. And then, in 2003, Pillowtex Corporation announced it would close the doors on the old Cannon Mills facility for good. That's when Murdock came back, bought the 6 million-square-foot elephant, and soon developed a plan for the land it rose from.

AFTER HE DROPPED OUT OF HIGH SCHOOL, Crowell passed his GED. The boy who looked through microscopes and loved science was no fool. He knew he'd never get more than a couple of bucks an hour at the mill with no education.

With the degree, he was promoted to mechanic at Cannon Mills and his salary doubled, to \$4 an hour. He had his first child when he was 22.

Then, in the late 1970s, he enrolled at Rowan-Cabarrus Community College and trained in electronics. He came out as an electronics specialist, making more money than he thought he could ever make.

He was well on his way to working there forever.

LYNN SCOTT SAFRIT LOOKS AT HER BLACKBERRY and realizes she's late. She piles books into her arms, books she needs tonight for school; she's working toward her doctorate.

"Alright, I'm headed to the airport," Safrit says. "I have to pick up Mr. Murdock."

Safrit has been by Murdock's side for nearly 30 years, back to the mill days.

Safrit's parents worked in Cannon Mills. And, in 1982, when Murdock's company bought the mills and land, Safrit became, "kind of his personal assistant." After several promotions and a move over to the real estate side of Murdock's business arsenal, Safrit became president of Castle & Cooke North Carolina, a position she's held for 15 years.

When Murdock bought the vacant mills again in 2004, a year after Pillowtex shut down, Safrit was one of the main people he enlisted to help him decide what to do with the place.

"He said to me, 'I don't know what I want to do here yet, but I want to put people back to work,'" Safrit recalls.

EVERYTHING CHANGED ON A WEDNESDAY in 2003. Randy Crowell was working at the Pillowtex plant in China Grove. He was the only one there, with his supervisor. It was the supervisor who told him the mill was closing.

Eight miles away, at the main plant in Kannapolis, everyone gathered for the news. Nearly 7,000 people lost their jobs that day. More than 4,300 lived in Kannapolis and the surrounding areas. It was the largest layoff in state history.

Crowell stayed on staff for a while longer, helping clean out the machinery. He went to work at Duracell. After 18 months there, that, too, closed. Crowell had been laid off twice in two years.

So he moved to Texas, where his daughter worked as a member of the United States Air Force. She'd just given birth to a son with birth defects, and Crowell figured he'd help by being closer. On one of his first visits to see his daughter, Crowell drove past the Southwest Foundation for Biomedical Research. When he got back to the hotel, he pulled out a phone book and started dialing.

Eventually, he reached a scientist. And he asked for a tour.

"Are you a doctor?" the scientist asked.



Researchers from North Carolina State University such as Flaubert Mbeunkui (opposite) are working to develop the perfect blueberry. The resources to explore exist because of the vision of people like Lynn Scott Safrit (right), president of Castle & Cooke North Carolina and a former millworker herself.



Walk inside the main lobby of the David H. Murdock Research Institute building and look up. The mural in the dome features an eagle that represents Murdock and fruit that represents his passion — healthy eating.

“No,” Crowell said.

“Are you a scientist?”

“No, but I’m an amateur scientist.”

“What the heck is that?”

“It’s somebody that does it because they love it.”

That day, the scientist gave Crowell a four-hour tour of the facility. Soon, at 48 years old, Crowell was enrolled at Northwest Vista College in San Antonio, working toward a degree in biotechnology.

IT WAS THE SECOND-LARGEST IMPLOSION IN THE country’s history, just behind the World Trade Center implosion following September 11. The demolition of Cannon Mills in 2006 drew spectators from all over. Videos from the day feature sounds of people cheering in the background.

It was more of a beginning than an end.

Nearby, construction had already begun on the David H. Murdock Research Institute. Murdock, still craving answers to human health questions after his wife’s death, was about to change Kannapolis from a town that worked with hands to a town that worked with brains.

Today, the DHMRI building, built on the spot where the old fire-protection pond that serviced the mills once was, is the centerpiece of that knowledge-based world. The main lobby glistens with marble floors and walls. Ninety feet up above is a dome with a staggeringly colorful mural that features an eagle with an 18-foot wing span surrounded by fruits and vegetables. The eagle symbolizes Murdock. The fruits and vegetables symbolize his belief that we are what we eat.

And behind the key-entry doors are the people with the brains, the ones that Murdock believes will change the world and help answer his questions.

Every day, on a piece of property where people once sewed together pillows, Leung goes to work trying to cure cancer.

BEFORE HE MOVED BACK TO NORTH CAROLINA from Texas, Randy Crowell looked under a microscope again.

He was an intern at the University of Texas at San Antonio. Under the lens was a cancer cell. Crowell thought of his mother, who died of cancer. And his father, who died of cancer. And his uncle, who died of cancer. And his brother, who died of cancer.

“My emotion shocked me,” Crowell says. “It was rage. I wanted to throw the slide off the screen.”

ON THE LAND WHERE THE MILLS ONCE STOOD, they all want to talk about what they’re doing. They can’t wait to see what happens next, can’t wait to see what will be.

Upstairs in one of those three brick buildings, a scientist from North Carolina Central University named Tinchung Leung has a room full of zebra fish. Leung and his staff inject the fish with cancer cells almost daily, and watch as the cells grow, based on various stimulants and starvations. He can see results in 24 to 48 hours, much faster than with mice. So every day, on a piece of property where people once sewed together pillows, Leung goes to work trying to cure cancer.

In a nearby office, researchers from North Carolina State University keep blueberries stored in freezers set at negative-80 degrees Celsius. They look for ways to breed better blueberries by breaking down the fruit’s compounds. Then, when they’re done, they can send the results across campus to the genomics lab for further studying. This is how the campus works, with smart people communicating and sharing information.

In another building, researchers from the University

of North Carolina at Chapel Hill work closely with those from Appalachian State University to study metabolism. Jointly, they place test individuals in a small room called a metabolic chamber — one of only 12 in the country — that sucks carbon dioxide through a series of tubes. The test individuals stay in the chamber for two 24-hour periods. They exercise in one period. They don’t in the other. The chamber shoots out data throughout the day.

These, and many more, are the geniuses. And these, and many more, are their toys. They can’t wait to talk about it.

You don’t need to understand the details of what they’re saying to understand what they’re doing: On the land where the mills once stood, they’re trying to solve the world’s ills, one fish, one berry, one study at a time.

Dr. Karen Corbin, who works in the UNC lab, was once a dietician. She came here because she knew it was a place where she could do more.

“I found I was able to help a lot of people with the treatment I gave them,” she says. “But there were other people I tried to help, and it didn’t work for them. We have to understand that better, why something works for one person and doesn’t work for another.”

“We have to understand that better, why something works for one person and doesn’t work for another.”



In the North Carolina Central University laboratory, scientists such as Cheyenne McKibbin inject zebra fish with cancer, hoping to find more answers to the elusive disease.



After starting his career unloading bales of cotton in the mill, Randy Crowell now works in genetic sequencing under the direction of Duke University's Dr. Simon Gregory, who worked on the Human Genome Project.

AFTER HE SAW THE SLIDE WITH THE CANCER cell, Randy Crowell knew it: He was born in an area where Cannon Mills was king of a small world. But that didn't mean he was destined to work there. He was destined to work in medical research.

"I didn't care if I was just washing test tubes," he says. "I just wanted to be in a lab. I probably won't see the results in my lifetime, but we're working toward this."

At nearly 50 years old, Crowell finally was the boy looking under the microscope again.

JUST OFF THE MAIN LOBBY OF THE DHMRI building, underneath the big mural with the eagle, the elevator door is closing.

"Wait! Wait!" a voice hollers.

Dr. Sarah Schwartz studies proteomics. She's coming back from lunch with a bag full of Wendy's fast food in one hand and a Frosty in the other.

"I love a Frosty," she says. "Who doesn't?"

Even some of the smartest people in the world, even those who study the effects of sugar on human health, need a break every now and then. They're regular people,

but they've learned how to do extraordinary work.

Schwartz had a physics background, coming to the campus from the Midwest Research Institute in Missouri. She studies how proteins fall apart. She moved here in 2008, when the campus opened, and now feels at home in Kannapolis.

"Part of [Mr. Murdock's] vision is, 'Let's get a city full of really smart people,'" she says.

INSIDE A LAB DOWN THE HALL FROM SCHWARTZ, across the keypad-entry doors from Safrit, across campus from Corbin and the metabolic chamber and Leung and the zebra fish, underneath the mural of the eagle and the fruit, on top of the old fire-protection pond, on a piece of land he knew he'd work on forever, a high school dropout opens a box of chemicals he'll use for another run of DNA.

"We got some new toys," the twang-toned man from Salisbury says.

Crowell works as a lab technician in the genomics lab at the David H. Murdock Research Institute on the North Carolina Research Campus. He's 53 years old. And he's looking under microscopes again.

"I took 50 years of detours," Crowell says after pulling off his lab coat to reveal jeans and a button-down shirt. "And I still ended up where I wanted to be. No matter what I did in my life, I was destined for this place. From the time I was looking into that microscope as a boy until I was 50 years old, it's like a funnel that brought me here."

There was a time, in Kannapolis, when hands got you a job and knowledge got you a pat on the back. That was the way it was.

On a Wednesday in 2003, when Cannon Mills closed, the way it was died.

And what could be was born. 

Michael Graff is the associate editor of Our State magazine.



THE BRYAN SERIES
Guilford

2010-11: Sustaining Community
Economy • Environment • Society


Majora Carter
Sept. 28


David Brooks
Oct. 26


President Bill Clinton
Nov. 30

www.guilford.edu/BryanSeries