



Facing page: Nancy Bruns '84 (center) with her brother, Lewis Payne, and Lewis' wife, Paige Payne, in a J.Q. Dickinson greenhouse.

This page, left: The ruins of one of the original J.Q. Dickinson salt furnaces. Right: Artifacts from the family's 19th-century salt-making era.

EARNING THEIR SALT

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WITH J.Q. DICKINSON SALT-WORKS, NANCY PAYNE BRUNS '84, HER BROTHER LEWIS PAYNE P'18 AND HIS WIFE PAIGE HAVE RESURRECTED A 200-YEAR-OLD FAMILY BUSINESS AND GIVEN IT A MODERN AND DISTINCTIVE FLAVOR.

In the beginning, according to the Greek myths, were the primordial deities, Uranus and Gaea, Father Sky and Mother Earth, husband and wife. (Uranus was also Gaea's son, but that's for another story.) They had 12 children, and as with families everywhere, there were some troubles involving the children. Those troubles ended badly for Uranus (but that, too, is for another story).

Uranus and Gaea's offspring were the Titans, and they fell into a sort of second tier of deities. One of the Titans was called Iapetus. Iapetus had four sons, the best known of whom were Prometheus, who brought fire to the humans, and Atlas, who was tasked with holding up the sky. For his efforts, Atlas had a non-mythical ocean named after him: the Atlantic.

Like son, like father. Iapetus also had a non-mythical

ocean named after him, though few have heard of it. The Iapetus Ocean existed between 600 million and 400 million years ago, lying between three paleocontinents that later – much later – came together to form the land mass known as Euramerica, part of the supercontinent Pangaea, which broke up still more millions of years later to form the seven continents we know today. The Iapetus Ocean lay between landmasses that would eventually more or less form the eastern and western shores of the Atlantic Ocean, making the Iapetus Ocean the Atlantic's "father" and explaining how it got its name.

This is a roundabout way of making the point, as Nancy Bruns '84 would tell you, that ancestry is important. It was an exploration of her own ancestry, after all, that put her where she is today – as head of J.Q. Dickinson

Salt-Works, the latest incarnation of a West Virginia salt-making business that started on her paternal grandmother's side of the family seven generations ago. The salt that J.Q. Dickinson makes is no ordinary salt – it's a much-coveted artisanal variety that's sold to some 600 clients across more than 40 states, including fine restaurants like The French Laundry, in the Napa Valley of California, and Baltimore's Woodberry Kitchen.

The source of J.Q. Dickinson salt is an underground aquifer that turns briny as it runs through salt deposits hundreds of feet beneath the family's land in West Virginia's Kanawha River Valley. And the source of those salt deposits was the Iapetus Ocean.

Nancy grew up in Charleston, West Virginia, a few miles from the town of Malden, where the family's salt

operation began in the early 1800s. As a girl she was unaware of that salt-making heritage. She learned about it only seven years ago when her husband, Carter Bruns, came upon it as part of research he was doing for a graduate degree in American history. (The couple has since divorced.) The discovery left Nancy intrigued: “I just all of a sudden had an ‘Aha’ moment,” she says.

Few natural resources have played as pivotal a role in world history as salt. Salt has started wars, dictated trade routes, fomented civil unrest, inspired religious rites, shaped migration patterns, motivated public-works projects and influenced everything from the way we eat to the way we talk. It has throughout history been critical to processes as disparate as meat preservation and mummy-making (though one could argue that those processes really aren’t all that different). Salt production is thought to have financed Christopher Columbus’ voyage to the New World. A salt tax was one of the causes of the French Revolution. For thousands of years, salt helped determine which cultures became dynasties and which ones were forgotten.

In the early 1800s, West Virginia’s Kanawha River Valley was one of the most important salt-producing regions in the United States, thanks in large part to two strokes of geographical good fortune. One was the existence of a huge brine reservoir hundreds of feet below ground, where that underground aquifer flowed through salt deposits left there millions of years ago. The other was the Kanawha River itself, which flows into the Ohio River, which flows past Cincinnati, which in the early 1800s was one of the country’s leading meatpacking centers. Salt, as it had been for centuries, was essential for preserving meat. In fact, it was salt’s historical connection to meat preservation that inspired Carter Bruns to choose it as a research topic. He came upon a letter written out-

side of Philadelphia during the Revolutionary War by one of George Washington’s adjutants to a regional quartermaster, in which the adjutant clarified his needs for provisions. The message, in effect, Bruns says, was, “Stop sending me cattle. I’m surrounded by 5,000 head of cattle. But we can’t kill them because we don’t have any salt. Send salt.”

By 1809 some 50 salt producers had set up operation along the Kanawha River’s banks. William Dickinson, Nancy’s great-great-great-great grandfather, started making salt there in 1817.

Another factor that contributed to the region’s success was that the Kanawha salt makers could undersell their competitors because their labor costs were lower, and that was because many of their workers were slaves. By 1850 there were more than 3,000 slaves in the Kanawha Valley, most of them working for salt-makers. Some 200 worked at the Dickinson salt-works.

Nancy is not proud of this part of her family’s legacy, but she is transparent about it, and always mentions it when she gives visitors tours. “I think that’s important to talk about,” she says. “It was the south. It was at the time part of Virginia. It was built on the backs of slaves.”

The Kanawha salt industry thrived throughout the first half of the 19th century, with more than a hundred wells along a 10-mile stretch of river producing over three million bushels of salt a year. Then a number of factors conspired to undermine Kanawha salt. One was the opening of the Erie Canal, which by mid-century created a convenient pathway to the Midwest for salt-makers in upstate New York. Other canal projects followed. As access to the Great Lakes expanded, the meatpacking industry migrated from Cincinnati to Chicago, on Lake Michigan. Also around this time, tariffs imposed on

imported salt were removed, which further stiffened the competition.

Then in 1861 the Kanawha salt industry suffered two huge blows. A massive flood sent the Kanawha River 16 feet above flood stage and wreaked havoc on operations along its banks. Also that year, the Civil War began.

“Salt,” wrote Union General William Tecumseh Sherman in 1862, “is eminently contraband, because of its use in curing meats, without which armies cannot be subsisted.” As the Union army had a strong interest in curtailing the subsistence of the Confederate army, it destroyed southern salt-works wherever it found them.

J.Q. Dickinson was one of a handful of Kanawha Valley salt producers that started up again after war. By 1892, it was the sole producer in the region. As refrigeration transformed the meat industry, the company diversified, manufacturing different kinds of salt for different purposes. It moved into dust control and ice melting, made agricultural salts, and sold minerals that could be separated out of the brine to chemical companies that had moved into the state. Then in 1945, after a fire broke out in one of the company’s coal furnaces, the family stopped making salt, and at some point family members stopped discussing it as well.

“It wasn’t going on while I was younger, and it wasn’t really going on while my father was growing up here, so nobody talked about it,” Nancy says. “My third cousin owned the property. I didn’t know there was salt-making here. It was a nice farm, pretty much.”

“I knew from afar that the family was involved in salt,” says her brother, Lewis Payne. “But when I learned the details – that they had one of the biggest and longest-running salt-making businesses – it was just surreal.”

As Nancy neared high school age, she and her parents explored options for her to go away to school. They

looked at a number of schools, eventually settling on St. Timothy’s. There was a distant family connection – a Dickinson cousin had gone to St. Timothy’s in the 1950s.

“It’s an adjustment, boarding school,” Nancy says of St. Timothy’s. “It definitely gave me a foundation for learning and understanding about the world and how to be a critical thinker.”

The family connection to the School is stronger now. Nancy’s niece, Cameron Payne, is a St. Timothy’s senior, and Cameron’s mother, Paige Payne, is on the Board of Trustees. Paige is married to Nancy’s brother Lewis, and works full time at J.Q. Dickinson.

After St. Timothy’s, Nancy went to Bucknell University. She had planned on majoring in engineering, but changed her mind and switched to a political science major with an art history minor. After graduating from Bucknell in the spring of 1988, she enrolled in the New England Culinary Institute in Montpelier, Vermont, intending to become a chef. She traces her love of cooking back to her childhood, all the way to her first experience as a cook, making scrambled eggs with her parents. The various things that can be made with an egg – everything from soufflés and omelets to hollandaise sauce and mayonnaise – continue to amaze her.

After culinary school Nancy married Carter Bruns and the couple moved to Charlotte, North Carolina, where she worked first making charcuterie and later in catering. Then the couple moved west, to Denver and then to Laramie, Wyoming, a place that Nancy, having grown up surrounded by the mountains of West Virginia, found to be disconcertingly flat and wind-swept. Two children came along, a girl and a boy, and Nancy became a stay-at-home mom. In 1999 they moved to Highlands, North Carolina, where she bought and ran a restaurant called the Wild Thyme Gourmet.



Salt-making has been in Nancy Bruns’ family since the early 1800s, when the Kanawha River Valley was one of nation’s leading regions for salt production.





Facing page: How salt happens: Brine gets pumped up through a modest blue pipe into evaporation beds inside greenhouses, where the sun takes over, with a little help from humans (photo, bottom left: Lauren Stonestreet).

This page, left: After it's harvested, the salt gets dried in rolls of cloth and meticulously hand-cleaned. Right: An old barn on the J.Q. Dickinson property.

It was around this time that Carter Bruns was learning more about West Virginia's salt heritage, and about the connection of Nancy's family to it. Salt was the focus of research he was doing for his master's and doctoral degrees in American history, and, he says, "You can't do salt in America for very long before you come to the Kanawha Valley."

Nancy began thinking about resurrecting the family business. "I put the idea on the back burner, but it wouldn't go away," she says. So she started writing a business plan.

The timing was right. There was growing awareness that there was more to salt than what came in the blue cardboard cylinders on grocery-store shelves. Gourmet salt was a \$1 billion industry in 2016, and it's projected

to grow by 50 percent by 2024. The local-food movement was underway, and chefs and consumers were moving toward regionally made, high-quality products they could buy from people they knew personally and could trust.

Nancy and Lewis had an abundant salt source, at least in theory, flowing underneath their land. They ran projections on labor costs and other factors. The prospects looked promising. So, building on a hundred years of history, in 2012 she and her brother cofounded J.Q. Dickinson Salt Works.

Most of the salt produced in the U.S. is rock salt, which is mined in underground caves where oceans have dried up and left huge salt deposits. Mining rock salt involves using big machines, explosives that blast salt from cave walls, crushers, conveyors to haul salt to the surface and

other equipment. Almost half of the 42 million tons of salt produced in the U.S. in 2016 was made in this way.

By contrast, the salt-making process outlined in Nancy's business plan sounded refreshingly low-tech and simple. They would pump the brine from the earth, move it onto polyethylene-lined evaporation beds inside greenhouses and let the sun take over. Bingo – solar salt.

Using old family maps and well-logs as guides, they figured out where they wanted to drill, and hired a well driller to bore a hole down toward where they hoped they'd find brine. At 40 feet they hit fresh water. Farther down came rock. Then more fresh water, followed by more rock. The going was slow. More than once the well driller had to be coaxed and bribed into not walking away from the job. Then, good news – at 300 feet, they

hit brine. They dug some more, down to 350 feet, to add what Lewis calls a little "insurance padding," and up came more brine, this slightly more concentrated than what they'd found earlier. "We were all pretty excited," Paige says.

But with the good news came some not-so-good news – the brine that came out of the ground wasn't clear. Iron caused it to turn red. At first they thought they'd just make red salt, the color lending it a certain distinctiveness. But the iron gave the salt a metallic taste. Their solution was to let the iron oxidize and settle in two 2,500-gallon tanks, after which the purer brine could be poured off. The process took two weeks.

Then they discovered a calcium precipitant that was discoloring the salt and making it taste bitter. The brine

had to be moved off the calcium as it precipitated out. They didn't want to remove all traces of all minerals from the salt – it's those minerals that give salts a unique regional flavor. So they hired an intern from the chemistry department at nearby University of Charleston, who set up a lab in one of the greenhouses and helped them experiment with different mineral contents, tastes, crystallization methods and salt-crystal sizes. Meanwhile, they also ran experiments to find the most efficient ways to harvest and dry the salt.

"My brother wanted to change the name of the company to Trial and Error," Nancy says. "It sounds simple – you just pump brine up and dry it and harvest it and you have salt. And that's true. But to have good-tasting salt you have to manipulate it a little more. There's no book that tells you how to do this. So we had to figure it out."

"The salt-making process is simple, but complex," Lewis says in a video on the company's website. That process involves pumping brine from the ground to the storage tanks to the greenhouses, straining the brine, moving it from one polyethylene-lined bed to another, allowing crystals to form, drying and cleaning the salt, sifting it into different crystal sizes – coarse for use in salt grinders; a medium-crystal finishing salt, to be added at the table; and a fine-grained cooking salt, or what they call their popcorn salt. From there it's packaged into different size containers for shipping, or for sale in the company's store in Malden. J.Q. Dickinson produces around 16,000 pounds of salt a year, a figure Nancy hopes to double.

Humans need salt – it's essential for regulating body fluids – though there are debates about how much. The Food and Drug Administration recommends consuming no more than 2,300 milligrams a day (about a teaspoon

of table salt). The Salt Institute, citing a 2014 study in the *New England Journal of Medicine*, identifies the range of healthy salt intake to be 3,000 to 6,000 milligrams daily. Consume too much and you risk dying. Consume too little and you run the same risk.

Salt also has plenty of other uses. A 1920 booklet listed a hundred and one, including freezing ice cream, removing rust, putting out grease fires and cleaning bamboo furniture. And that booklet just touched the tip of the iceberg, which salt, of course, would be capable of melting – one of its most common uses is de-icing wintry roads.

You can buy a 26-ounce container of table salt at Safeway for about a dollar and a half. So why would anyone bother to pay \$25 for a one-pound bag of J.Q. Dickinson salt?

"It's a big, bold, bright-tasting salt that's been protected for 400 million years," says Paige. Protected, she explains, by sandstone that surrounds the salt deposits left there back in Paleozoic times by that ocean nobody has heard of. "When I tell people that on tours, they get the funniest looks on their faces, like they're waiting for me to say, Just joking."

J.Q. Dickinson salt is 94 percent sodium chloride and six percent trace minerals, which include calcium, magnesium and potassium. The trace minerals help give it a distinctiveness that won't be found in other salts.

In J.Q. Dickinson's first year of business, they sold a lot of salt in one-ounce jars, as if people were curious, but didn't want to commit too deeply. The second year the three-and-a-half ounce jars grew in popularity. Now they struggle to keep one-pound bags in stock. "Our story gets us in the kitchen, and then our product keeps us there," Paige says.

In addition to their three grades of unflavored salt, they sell a smoked salt, a spiced-up smoked salt variation

that's good in Bloody Marys and a salt that's ramp-flavored. They also sell a liquid called nigari, a salt-making byproduct that's a natural coagulant and can be used to make tofu or cheese.

Spike Gjerde, a Baltimore-area chef who runs Woodberry Kitchen and several other restaurants in Baltimore and Washington, D.C., uses J.Q. Dickinson salt almost exclusively. "It has a very pure flavor," he says. "It isn't aggressive or cutting. It doesn't have a bite. And I love the texture."

Gjerde's also a fan of the philosophy behind J.Q. Dickinson, which connects closely to the ethos he seeks to impart at his restaurants. "Woodberry is a restaurant that's made a commitment to sourcing locally, and salt was the one thing I never thought I'd be able to find a viable local source for," he says. When he heard about J.Q. Dickinson, he drove to West Virginia to see for himself. "I like that Nancy's salt comes out of the ground from a protected source that's been there for a couple hundred million years. And there's this mindset that I really admire and want to support."

On an afternoon in late January, the slate-green water of the Kanawha River flows beneath leaden skies past J.Q. Dickinson Salt-Works, and wind gusts from down-river bring with them the occasional flurry of snow. It is at least a month before the weather will warm enough for the 2018 salt-making season to begin, with brine being pumped out of an unprepossessing blue pipe, around eight inches in diameter, that pokes out of the ground just north of the greenhouses.

Malden, West Virginia, is in the heart of Appalachia. Nancy, Lewis and Paige are fully aware of the unfortunate stereotypes that get associated with the region, and derive pride from running a successful business here. "I think it makes it that much more rewarding that we're able to

start a business and create jobs in Malden, which is part of Appalachia, which has been depressed for a hundred years," Lewis says. "To make something in a sustainable, environmentally friendly way, I feel like we're setting an example."

That's not the only example that's being set. Another, and this too is a stereotype-shatterer in this part of the country, has to do with a business being run successfully by a woman. Nancy and Lewis cofounded J.Q. Dickinson, but Lewis no longer works there full time, having turned his attention to other business interests. It is all but certain that Nancy Bruns is the first and only woman to head a salt-making operation in what was once one of the country's leading salt-producing regions. This is another source of pride, though one that comes with challenges.

"I live in a man's world," Nancy says. Her family has extensive investments in the natural resource industry, and those investments have long been managed by men. When one relative fathered five daughters, it was their husbands who wound up in control of family business interests, and after them it was the male grandchildren. As successful as J.Q. Dickinson has been, it's been tough for her to command respect. She's succeeding in a billion-dollar industry, but some in the area still regard J.Q. Dickinson as little more than a quaint hobby, albeit one requiring 16-hour work days during peak salt-making season. "My parents' generation was not used to strong women," she says. "It's more work for a woman to be listened to and taken seriously."

But maybe that too is beginning to change. Of the eight full-time employees at J.Q. Dickinson, six are women, and most are young. "I like having these young girls seeing this company run by women," Paige says.

Somewhere out there, Gaea, the Mother Earth, is smiling. ♦



J.Q. Dickinson salt is sold to some 600 clients in the U.S., including fine restaurants like Napa Valley's The French Laundry and Baltimore's Woodberry Kitchen (photo, right: Lauren Stonestreet).

Salt: Adding Flavor to World Culture

The Great Wall of China – Salt revenues amassed during the Qin dynasty helped finance the Wall, built to keep out the Huns and other invaders.

The roads of Rome – Italy's ancient Via Salaria (Salt Road) was built to transport salt. It is one of many salt roads that date back to the Bronze Age.

Mummies – A kind of salt called natron was important in mummification. Mummies brought into Cairo were once taxed as salted fish.

Civil disobedience – In 1930, Mahatma Gandhi led a 240-mile march in India to protest the British salt monopoly. Thousands of Indians participated. The Salt

March helped spark India's independence movement, and became a hallmark of nonviolent protest.

Language – Salt has flavored such words and expressions as:

- **Salacious** – To the Romans, a man in love was *salax*, which gives us *salacious*. The expression "salty language" has a similar origin.

- **Salad** – The Romans salted their greens, which is where we get the word *salad*. An ancient Egyptian papyrus bears the sentence: "There is no better food than salted vegetables."

- **Salary** – *Salary* comes from the allowance paid to soldiers to buy salt.

- **Taken with a grain of salt** – Rome's Pliny the Elder is believed to have translated an ancient antidote for poison thusly: "Be taken fasting, plus a grain of salt." In the 17th century the expression came to mean that certain ideas shouldn't be "swallowed" (believed) without a grain of salt.