With Milk, Mark Kurlansky proves that, under intense scrutiny, almost any subject seems extraordinary

David Hayes: Kurlansky and Mary Roach dominate the sub-genre that has covered everything from the banana, butter, garlic, chocolate and coffee to coal, dust, jeans, you name it

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Mark Kurlansky is the master of the modern microhistory, those epic cultural and social investigations into a single, often quotidian, topic. His 1997 book, *Cod: A Biography of the Fish That Changed the World*, became an international bestseller translated into more than 15 languages, and his second, *Salt: A World History*, had similar success. Since then, his award-winning books have included studies of paper, the oyster, the year 1968, America's oldest fishing port (Gloucester, Mass), the city of Havana, and a pop song (2013's *Ready For a Brand New Beat: How Dancing in the Street Became an Anthem for a Changing America*).

This sub-genre has a history. The first use of the term was in the title of a 1959 book by U.S. scholar George R. Stewart, whose *Pickett's Charge: A Microhistory of the Final Charge at Gettysburg, July 3, 1863*, devoted 400 pages to a 15-hour battle. (Pickett's charge itself lasted 20 minutes.) But at first, these were mainly a phenomenon within academic publishing. Commercial books appeared from time to time – like anthropologist Sidney Mintz's 1985 book on sugar; Canadian architect Witold Rybczynski's *Home: A Short History of an Idea* (1986); and, three years later, engineer and academic Henry Petroski's *The Pencil: A History of Design and Circumstances*. But it didn't take off as a publishing phenomenon until the '90s with Kurlansky and fellow writer, Mary Roach, whose one-word microhistories of cadavers (*Stiff*), the afterlife (*Spook*), the science of sexuality (*Bonk*), and the passage of food from the mouth through the gastrointestinal tract (*Gulp*), rival Kurlansky's output. Together, they dominate the sub-genre that has covered everything from the banana, butter, garlic, nutmeg, chocolate and coffee to coal, dust, genes, jeans, the zipper, the colours indigo and mauve and human waste.

It's a crowded field, and Kurlansky's latest, *Milk: A 10,000 Food Fracas*, is the third on the subject, coming after Anne Mendelson's *Milk: The Surprising Story of Milk Through the Ages* (2008) and Deborah Valenze's *Milk: A Local and Global History* (2012). Frankly, Kurlansky covers much of the same territory but for those readers who haven't been keeping up on their dairy histories, he's written an accessible account that draws parallels and makes connections about what he calls "the most argued-over food in human history."

MILK: A 10,000 YEAR FRACAS
BY MARK KURLANSKY
BLOOMSBURY (384 PP)
$29

Kurlansky begins by explaining that only about 40 per cent of the world's humans can digest milk, and they live in North America, Europe, the Middle East, North Africa and the Indian subcontinent. For those in the rest of the world, the enzyme that digests the main sugar in milk (lactose) stops being produced when children are between two and four. (As is the case for anyone who is lactose intolerant.)

On a micro level, our origin stories are connected to milk so it's amusing that milk plays a role in the world's origin stories as well. A Norse legend describes a cow with four teats pouring rivers of milk to feed an emerging world; the Greeks believed the Milky Way was formed when Hera, goddess of motherhood, spilled milk while breastfeeding Heracles, each drop becoming a star. Dairy farming is as old as the fields: early cultures took milk from whichever animals could be most easily domesticated, such as goats, donkeys, sheep, camels, yaks, reindeers, buffalos and mares (only popular in Italy). Cows, though, which are relatively easy to manage and produce a lot of milk, became dominant. Because milk spoiled quickly in centuries before refrigeration, at first it was mainly used to make cheese, yogurt, kefir, and other products. But from the beginning, dairy use wasn't always accepted. Ancient Greeks thought milk drinkers were barbarians and Romans viewed it as a low-status food. The Japanese called Europeans "butter stinkers."

Kurlansky devotes considerable space to health issues, of which there were many, mostly involving the well-being of children. Throughout history, some women, by choice or circumstance, didn't nurse. While "artificial feeding" — giving babies animal milk — was practiced in the Middle Ages, it became more common in the 18th century. A theory held that children would grow up stronger and healthier, yet infant mortality rates were high because of milk tainted from sitting unrefrigerated for too long or because pails and bottles were contaminated after being washed in unclean water. (One answer was to nurse babies directly on the teat of an animal.) Wet nurses became common, although there was debate about whether the personality of a wet nurse would be passed along to a baby. (No hysterical, hot-headed redheads need apply.) Kurlansky cites historians who believe decisions about breastfeeding were often made by men, an early version of "men trying to make decisions about what women should do with their bodies."

Things get horrific in crowded 19th century cities. For example, nearly half of all babies in New York died in infancy, usually from cholera. Why? Large stables housing hundreds of cows were built adjacent to breweries. The material left over after making beer — known as mash, slop, or swill — flowed directly into the stables. Cows fed on swill produced watery milk that was low in fat and tinged blue. (Producers added chalk and food colouring.) The stables had no cleaning facilities or ventilation so bacteria flourished. Citing an investigation conducted in 1857, Kurlansky writes: "Cows were brought to dairies and tied in one spot. … Steaming brewery slop flowed past them in troughs three times a day while they stood in their filth and waited for the slop to cool enough to eat. … Since they were given no solid food on which to chew, they often lost their teeth. … Cows frequently came down with tuberculosis, but still they were milked."

Eventually, the dairy business was cleaned up and purity laws passed. In 1860, American Gail Borden marketed a safe product: condensed milk in cans. Seven years later, in Switzerland, Henri Nestlé created the world's first bottled infant formula. But it wasn't until the early 20th

century that the world began adopting French chemist Louis Pasteur's method of heating milk to kill bacteria, known as pasteurization.

In the final third of the book, Kurlansky brings readers to the present. He explores why China, a culture in which milk consumption was rare, has become the world's third largest milk producer after India and the U.S. In a nod to the past, he visits nomadic yak herdsmen milking their beasts in rural Tibet. Finally, he addresses biotechnology (GMOs, in particular); mad cow disease; factory farms versus small organic ones; government-run supply-management systems; commercial animal milk versus organic raw milk versus plant-based milks (soy, almond, rice, coconut, hemp, etc.); as well as the rising use of robotics that will one day mechanize the entire commercial dairy industry.

Oddly, Kurlanksy devotes only one sentence to genetics programs. The United Nations estimates that nearly one-billion people are chronically malnourished and the world's population is about to grow from seven billion today to nine billion by 2050. One solution is embryo transfers and, especially, in-vitro fertilisation. (Prices for females from top cows can range from $10,000 to $30,000.) High-production Western cows can provide more milk while using less land and where once herds of calves from dairy-producing nations had to be shipped in cargo planes to developing countries (where many didn't do well in dramatically different climates), today a herd of embryos could be sent for the price of an economy seat.

For all its charms — *Milk* is filled with dairy-based recipes (Kurlansky's favourite: vichyssoise) and amusing digressions (a CIA plot to kill Fidel Castro by poisoning his favourite chocolate milkshake) — it is sometimes confusing. Details are repeated in various places throughout the book and, as a writer, Kurlansky will never be confused with stylists like Michael Lewis or John McPhee, but he's produced another valuable history of an ordinary thing which remains the appeal of the subgenre it represents: under intense scrutiny, almost any subject can seem extraordinary.