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Salt

A World History

Mark Kurlansky



PENGUIN BOOKS

Contents



INTRODUCTION The Rock 1

PART ONE

A Discourse on Salt, Cadavers, and Pungent Sauces

CHAPTER ONE	A Mandate of Salt	17
CHAPTER TWO	Fish, Fowl, and Pharoahs	36
CHAPTER THREE	Saltmen Hard as Codfish	52
CHAPTER FOUR	Salt's Salad Days	61
CHAPTER FIVE	Salting It Away in the Adriatic	80
CHAPTER SIX	Two Ports and the Prosciutto in Between	91

PART TWO

The Glow of Herring and the
Scent of Conquest

CHAPTER SEVEN	Friday's Salt	109
CHAPTER EIGHT	A Nordic Dream	129
CHAPTER NINE	A Well-Salted Hexagon	144
CHAPTER TEN	The Hapsburg Pickle	162
CHAPTER ELEVEN	The Leaving of Liverpool	179
CHAPTER TWELVE	American Salt Wars	200
CHAPTER THIRTEEN	Salt and Independence	214
CHAPTER FOURTEEN	Liberté, Egalité, Tax Breaks	225
CHAPTER FIFTEEN	Preserving Independence	238
CHAPTER SIXTEEN	The War Between the Salts	257
CHAPTER SEVENTEEN	Red Salt	276

PART THREE

Sodium's Perfect Marriage

CHAPTER EIGHTEEN	The Odium of Sodium	291
CHAPTER NINETEEN	The Mythology of Geology	303
CHAPTER TWENTY	The Soil Never Sets On . . .	318
CHAPTER TWENTY-ONE	Salt and the Great Soul	333
CHAPTER TWENTY-TWO	Not Looking Back	355
CHAPTER TWENTY-THREE	The Last Salt Days of Zigong	369
CHAPTER TWENTY-FOUR	Ma, La, and Mao	388
CHAPTER TWENTY-FIVE	More Salt than Fish	399
CHAPTER TWENTY-SIX	Big Salt, Little Salt	426

ACKNOWLEDGMENTS	451
BIBLIOGRAPHY	453
INDEX	467

INTRODUCTION

The Rock

I BOUGHT THE rock in Spanish Catalonia, in the rundown hillside mining town of Cardona. An irregular pink trapezoid with elongated, curved indentations etched on its surface by raindrops, it had an odd translucence and appeared to be a cross between rose quartz and soap. The resemblance to soap came from the fact that it dissolved in water and its edges were worn smooth like a used soap bar.

I paid too much for it—nearly fifteen dollars. But it was, after all, despite a rosy blush of magnesium, almost pure salt, a piece of the famous salt mountain of Cardona. The various families that had occupied the castle atop the next mountain had garnered centuries of wealth from such rock.

I took it home and kept it on a windowsill. One day it got rained on, and white salt crystals started appearing on the pink. My rock was starting to look like salt, which would ruin its mystique. So I rinsed off the crystals with water. Then I spent fifteen

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PART ONE

A Discourse on Salt, Cadavers, and Pungent Sauces

*A country is never as poor as when it seems
filled with riches.*

—Laozi quoted in the *Yan tie lun*,
A Discourse on Salt and Iron, 81 B.C.

CHAPTER ONE



A Mandate of Salt

ONCE I STOOD on the bank of a rice paddy in rural Sichuan Province, and a lean and aging Chinese peasant, wearing a faded forty-year-old blue jacket issued by the Mao government in the early years of the Revolution, stood knee deep in water and apropos of absolutely nothing shouted defiantly at me, "We Chinese invented many things!"

The Chinese are proud of their inventions. All Chinese leaders, including Mao Zedong, sooner or later give a speech listing the many Chinese firsts. Though rural China these days seems in need of a new round of inventions, it is irrefutably true that the Chinese originated many of the pivotal creations of history, including papermaking, printing, gunpowder, and the compass.

China is the oldest literate society still in existence, and its 4,000 years of written history begin as a history of inventions. It is no longer clear when legends were made into men and when living historic figures were turned into legends. Chinese history

starts in the same manner as Old Testament history. In the Book of Genesis, first come the legends, the story of the Creation, mythical figures such as Adam and Eve and Noah, generations of people who may or may not have lived, and gradually the generations are followed to Abraham, the beginning of documented Hebrew history.

In Chinese history, first was Pangu, the creator, who made humans from parasites on his body. He died but was followed by wise rulers, who invented the things that made China the first civilization. Fuxi was first to domesticate animals. Apparently an enthusiast for domesticity, he is also credited with inventing marriage. Next came Shennong, who invented medicine, agriculture, and trade. He is credited with the plow and the hoe. Then came Huangdi, the Yellow Emperor, who invented writing, the bow and arrow, the cart, and ceramics. Several centuries after Huangdi came Emperor Yao, a wise ruler who passed over his unqualified son and named a modest sage, Shun, his successor. Shun chose his minister, Yu, to succeed him. In 2205 B.C., according to tradition, Yu founded the Xia dynasty, and this dynasty, which lasted until 1766 B.C., enters into documented history.

CHINESE SALT HISTORY begins with the mythical Huangdi, who invented writing, weaponry, and transportation. According to the legends, he also had the distinction of presiding over the first war ever fought over salt.

One of the earliest verifiable saltworks in prehistoric China was in the northern province of Shanxi. In this arid region of dry yellow earth and desert mountains is a lake of salty water, Lake Yuncheng. This area was known for constant warfare, and all of the wars were over control of the lake. Chinese historians are certain that by 6000 B.C., each year, when the lake's waters evapo-

rated in the summer sun, people harvested the square crystals on the surface of the water, a system the Chinese referred to as "dragging and gathering." Human bones found around the lake have been dated much earlier, and some historians speculate that these inhabitants may also have gathered salt from the lake.

The earliest written record of salt production in China dates to around 800 B.C. and tells of production and trade of sea salt a millennium before, during the Xia dynasty. It is not known if the techniques described in this account were actually used during the Xia dynasty, but they were considered old ways by the time of this account, which describes putting ocean water in clay vessels and boiling it until reduced to pots of salt crystals. This was the technique that was spread through southern Europe by the Roman Empire, 1,000 years after the Chinese account was written.

About 1000 B.C., iron first came into use in China, though the first evidence of it being used in salt making is not until 450 B.C. by a man named Yi Dun. According to a passage written in 129 B.C., "Yi Dun rose to prominence by producing salt in pans." Yi Dun is believed to have made salt by boiling brine in iron pans, an innovation which would become one of the leading techniques for salt making for the next 2,000 years. The legend says that he worked with an ironmaster named Guo Zong and was also friendly with an enterprising wealthy bureaucrat named Fan Li. Fan Li is credited with inventing fish farming, which for centuries after was associated with salt-producing areas. The Chinese, like later Europeans, saw that salt and fish were partners. Many Chinese, including Mencius, the famous Confucian thinker who lived from 372 to 289 B.C., were said to have worked selling both fish and salt.

THROUGHOUT THE LONG history of China, sprinkling salt directly on food has been a rarity. Usually it has been added during

cooking by means of various condiments—salt-based sauces and pastes. The usual explanation is that salt was expensive and it was stretched by these condiments. A recurring idea throughout the ancient world from the Mediterranean to Southeast Asia, fish fermented in salt was one of the most popular salt condiments in ancient China. It was called *jiang*. But in China soybeans were added to ferment with the fish, and in time the fish was dropped altogether from the recipe and *jiang* became *jiangyou*, or, as it is called in the West, soy sauce.

Soy is a legume that produces beans, two or three in a two-inch-long furry pod. The beans can be yellow, green, brown, purple, black, or spotted, and Chinese cooking makes a great distinction among these varieties. *Jiangyou* is made from yellow



beans, but other types are also fermented with salt to produce different pastes and condiments. In China, the earliest written mention of soy is in the sixth century B.C., describing the plant as a 700-year-old crop from the north. Soy was brought to Japan from China in the sixth century A.D. by Chinese Buddhist missionaries.

Both the religion and the bean were successfully implanted. But the Japanese did not make soy sauce until the tenth century. Once they did learn, they called it *shoyu* and industrialized it and sold it around the world.

Though *jiangyou* and *shoyu* are pronounced very differently and appear to be very different words in Western writing, the two words are written with the same character in Japanese and Chinese. Mao's 1950s literacy campaign simplified the language to some 40,000 characters, but a pre-Mao character for the soy plant, *su*, depicts little roots at the bottom which revive the soil.

Soy puts nutrients back into the soil and can restore fields that have been exhausted by other crops. The bean is so nutritious that a person could be sustained for a considerable period on nothing but water, soy, and salt.

THE PROCESS BY which the Chinese, and later the Japanese, fermented beans in earthen pots is today known as lactic acid fermentation, or, in more common jargon, pickling. Optimum lactic fermentation takes place between sixty-four and seventy-one degrees Fahrenheit, which in most of the world is an easily achieved environment.

As vegetables begin to rot, the sugars break down and produce lactic acid, which serves as a preservative. Theoretically, pickling can be accomplished without salt, but the carbohydrates and proteins in the vegetables tend to putrefy too quickly to be saved by the emerging lactic acid. Without salt, yeast forms, and the fermentation process leads to alcohol rather than pickles.

Between .8 and 1.5 percent of the vegetable's weight in salt holds off the rotting process until the lactic acid can take over. Excluding oxygen, either by sealing the jar or, more usually, by weighting the vegetables so that they remain immersed in liquid, is necessary for successful lactic fermentation.

The ancient Chinese pickled in earthen jars, which caused a white film called kahm yeast, harmless but unpleasant tasting, to form on the top. Every two weeks the cloth, board, and stone weighting the vegetables had to be washed or even boiled to remove the film. This added work is why pickling in earthen jars has not remained popular.

In Sichuan, pickled vegetables are still a staple. They are served with rice, which is never salted. The salty vegetables con-