#### Salt: A World History Study Guide

**Salt: A World History by Mark Kurlansky** 

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#### **Plot Summary**

Salt is the history of the world told from the point of view of the only rock that we eat, which is salt. The scope of this book is epic in that it starts at the beginning of recorded world history and ends at roughly present day times.

The first several chapters in the first section of the book deal with the procurement and use of salt in the ancient world. The Chinese and the Egyptians were the first to use salt on a large scale. The Egyptians collected evaporated salt from the sea and the Nile and they used the salt in their food as well as an essential ingredient in preserving the body during mummification. The Chinese used evaporated salt to salt fish and to create a condiment that we still use, soy sauce. It was the Romans though, with their fish based diet that really used salt extensively in their cuisine. One of the most popular Roman sauces, garum, was made from fermented fish in a brine sauce. They used this sauce on everything and salt became an important resource. Our words "salary" and "salad" are both derived from Latin words. Sometimes Roman soldiers were paid in salt, hence "salary" and a "salad" is a collection of vegetables that is doused in a brine sauce before eating.

The next several chapters deal with the importance of salt in Christian Europe during the middle Ages and into the Early Modern period. Salt was important to the early Gauls and Celts who lived in Europe before the Roman conquests and these people found and worked elaborate salt mines. In Catholic Europe, the church had placed certain dietary restriction forbidding meat on Fridays and church holidays. This created an enormous market for fish. Before refrigeration, the only way to package and transport fish was through salting. Cod, the perfect fish for salting, was discovered around this time and became an enormous culinary hit in Europe. The cod trade powered the English and northern European economies and it was the search for cod that eventually led explorers to North America.

In America, the cod industry put strains on the relationship of the colonists to Britain, leading to the American Revolution. The revolution itself was endangered by the shortages of salt in the colonies. In France, the hated "gabelle" tax on salt put pressures on the people and symbolized the injustice of the French government, eventually leading to the French Revolution. In India, in the early 20th century, a reformer named Gandhi led his followers on a long march across the country to protest the oppressive British salt restrictions. This march was the spark that led to Indian independence.

In the 18th and 19th centuries as chemical and technical expertise increased, scientist eventually discovered how to synthesize salt and to improve the technique of making salt. Eventually, American manufacturer Morton's began producing and transporting salt at a rate almost no one could compete with making them the largest salt manufacturers in the world. Much of the historic struggle to find salt is no reduced to a cheap trip to the supermarket.



# Section 1 Summary (Introduction The Rock, Chapter 1 A Mandate of Salt, Chapter 2 Fish, Fowl, and Pharaohs)

#### Section 1 Summary (Introduction The Rock, Chapter 1 A Mandate of Salt, Chapter 2 Fish, Fowl, and Pharaohs) Summary and Analysis

The introduction begins with a description of a large salt rock that the author bought in a Spanish Catalonian town of Cardona. The rock was a large pink trapezoid that looked a little like soap. The author kept the soap on the window and after he found the rock a little wet, salt crystal began to form on the surface of the rock. The rock was mysterious and fascinating and helped to spark the author's deep interest in salt.

Salt has always been important, but many psychologist have believed that salt is somehow deeply connected with sex in our subconscious minds. The psychologists, however, are not the only ones who have thought that salt has great importance. Both Homer and Plato believed that salt was especially important to the gods and there are many religions that use salt in their rituals. Both the Romans and the Egyptians believed that salt would excite sexual desire. To the Hebrews, salt is the symbol of their covenant with god. The Japanese believed that evil spirits despise salt and so they would sprinkle salt before plays and wrestling matches.

The ancients were right to respect the power of salt, modern industry suggest that there are at least 14,000 known uses for salt, from salting food to melting ice. Salt is the result of a chemical reaction of two harmful substances, sodium and chlorine. It is the only rock that we eat and it is absolutely essential for our survival. Salt is also essential to preserve food and other items. Scientist disagree about he exact amount, but they agree that the average human needs from 2/3 of a pound to 16 pounds of salt every year. Our early ancestors relied, primarily on a vegetable diet that did not include much salt. To fill this need they began searching out salt and trading it. Salt was one of the first items traded by early humans and one of the first mediums of exchange.

Chapter 1 begins with a history of early China and a description of Huangdi, a mythical inventor and early Chinese hero who, supposedly, fought the first war over salt. Some of the earliest salt mines are found in Europe. There are records of the Chinese extracting salt from the ocean and trading it as early as 800 B.C. They would take ocean water in clay pots and boil the water off until there were only salt crystals.

The Chinese, realizing that salt was rare, would tend to include salt in sauce or paste condiments rather than adding it directly to the food. The most popular was a mixture of soybeans and sauce that we still use as soy sauce. The Chinese also pioneered the art



of preserving vegetables and even eggs by pickling them with a solution of salt and water. Li Bing, Chinese governor and engineer discovered while building a dam that the salt that caused some water in streams to turn briny seeped up from underground sources. In 252 B.C. he drilled the world's first brine well. From this, they also learned how to use salt to insulate bamboo pipes against rot and they used these pipes to create vast plumbing systems. The Chinese also learned how to make gunpowder out of salt mixed with sulfur and carbon.

Salt was also instrumental as a source of revenue that led to the centralization of the Chinese state and the construction of the Great Wall under the Qin dynasty. It was the state monopoly of the production of salt and Iron that led to the great debate between the Confucianist and Legalist philosophies in China over how the state should be run.

Chapter 2 begins with a description of the ancient Egyptian practice of burying rich and powerful people with food and other valuable items. From this, we know that the Egyptians relied on salted fish and vegetables for a large part of their diet. They were, perhaps, the first civilization to realize that salting fish or meat would preserve it. The Egyptians go their salt from letting water form the Nile evaporate. The Egyptians and the Phoenicians also used salty brine to make the native olives edible. To the Egyptians, salt was less valuable than natron and only the poor used salt for preserving bodies. This was reversed in the rst of the world, where salt was used by the rich and natron was used by the poor.



# Section 2 Summary (Chapter 3 Saltmen Hard as Codfish, Chapter 4 Salt's Salad Days)

## Section 2 Summary (Chapter 3 Saltmen Hard as Codfish, Chapter 4 Salt's Salad Days) Summary and Analysis

Chapter 3 begins with a story of a man found in a salt-mine in 1573 in Saltzburg, which means "salt town," perfectly preserved from around 400 B.C. The man was a Celt, a race of people who lived in northern and Eastern Europe until they were subjugated by the Romans. They built their empire partly on salt and discovered many salt mines in Europe. These salt mines were so important that they traded salt with people all over Europe and some of their bodies have been found with goods from as far away as Turkey and the Mediterranean. The body of a Celtic worker was also found in the deserts of Asia near China, mining for salt. The Celts were also known for their ham, which they prized and salted. Their salted fish was also well known in Europe.

The Celts, however, were not only known for their salt and salted meats, they were also fearsome warriors. They would fight naked and paint their entire bodies blue. The terrorized the Romans, even sacking Rome itself in the 4th century B.C. The meat of the back of the pig and the legs of the pig were so prized by the Celts that if two warrior disagreed abut who should get that part of the pig, they would fight in single combat to decide the issue. Despite their wealth in salt and their fearsomeness in war, the Romans under Julius Caesar eventually subdued the Celts. The Celts never learned or cared much for the art of statecraft and they valued their individual liberty over the power that a united Celtic nation would have provided. This, it seems, was their downfall.

Chapter 4 begins with a discussion of Roman democracy. Rome was divided between two groups, the patricians and the plebeians. The patricians were descended from the original founders of Rome and were the primary landowners in the Republic, basically they were the ruling class and the rich of Rome. The plebeians were poor Romans who didn't own much property and made their money laboring. The patricians kept many of the important rights and privileges for themselves, but one important concession that they made to the plebeians was in terms of salt. Each man was entitled to a certain amount of salt by right. This became known as the "common salt." The Romans did not enforce a monopoly on salt like the Chinese, but they did impose price controls on salt when the governors believed salt prices had climbed too high. The government and emperors would subsidize salt for the poor, often giving out salt as gift to the lower classes to curry favor.



Most Romans cities in Italy were build near to salt works, including Rome herself. The first great road in Rome was known as the Via Salaria, or "salt road." At certain times, Roman soldiers were even paid in salt, which is the origin of the word "salary." The Romans salted their greens to eliminate their bitterness, hence the term "salad." The Romans harvested and salted olives in abundance, but it was their salted fish, most notably the sardine, that were extremely popular inside of Rome as well as abroad. The Romans also used a fish sauce made from fish and salt, Garum, as a medicine to cure several different kinds of ailments. The Vietnamese developed a similar kind of fish sauce that is common in Vietnamese cuisine even to this day. The Garum, or salty fish sauce was used much the same way that the Chinese use soy sauce as a way to salt their food with a condiment. The Garum and salted fish trade was one of the major cornerstones of the Roman economy. It was also the source, along with a special mollusk the Murex, of their famous purple dye. The purple dye was used to represent royalty and was worn by high ranking patricians and the emperors. After the fall of the Roman Empire, the use of Garum declined until it was officially banned at one point. The only residue of the salted fish industry that remained was the eating of sardines, which are still a delicacy around the Mediterranean today.



## Section 3 Summary (Chapter 5 Salting it Away in the Adriatic, Chapter 6, Two Ports and the Prosciutto in Between)

## Section 3 Summary (Chapter 5 Salting it Away in the Adriatic, Chapter 6, Two Ports and the Prosciutto in Between) Summary and Analysis

Chapter 5 begins after the fall of the Roman Empire. In Europe there is no clear successor to Rome's power and many smaller countries begin to flourish. One of these is the city-state of Venice. Venice was built on islands in a lagoon in the Adriatic Sea. Originally, vacationing Roman tourists used the lidi or sand dunes in the lagoon as getaway location. When Germans invaded the nearby town of Veneto, however, the townspeople fled to the sand dunes for refuge and build the city of Venice there. Salt, extracted from the lagoon became, over the next couple of hundred years, the foundation of a commercial empire in Venice. In 1281, however, the Ventian government discovered that it would be more profitable to subsidize the salt trade and to make money off of buying and selling salt from other places rather than making it themselves. This discovery led to the creation of a vast Venetian trading and banking empire that lasted for several centuries. During this time, the Venetians ruthlessly controlled the salt price and used their vast navy to enforce their salt related economic policy throughout the world.

One Venetian, Marco Polo traveled with his father and uncle to the Mongol empire. Marco Polo spend 25 years in the empire of Kublai Khan, studying their culture and language before returning back to Venice. He served on a Venetian naval vessel and was captured. In prison he dictated his story to a fellow prisoner. Though some of the details of his story may not be correct, it is widely thought that Macro Polo introduced pasta, a dish that was and is common in China to Italy, however some believe that it was really introduced by Muslim invaders.

Chapter 6 expands the narrative out from Venice into medieval Italy itself. Most Roman and later Italian towns were built near the main road or near a water source. One town, though, named Veleia was built near none of these things. One thing it did have, however, was n underground brine spring that was used to mine huge amounts of salt. In the 1200's, one family controlled this important salt producing town, but the nearby town of Parma eventually conquered it. Parma was a producer of ham, most notably their salted ham Prosciutto di Parma. The pigs of Parma were fed local cheese and the dry air and nearby salt mines allowed the salted meat to cure easily and create the sweet tasting ham that is still eaten today. The cheese of the region, also famous throughout Italy is made from combining milk curds with salt. The most famous cheese from the area around Parma is Parmigiano-Reggiano, or Parmesan cheese. This



cheese was so well known and desirable that Thomas Jefferson even had the cheese shipped to Virginia.

Another town that developed around the same time was the Catalonian town of Cardona in Spain. The castle of Cardona was built on a large mountainside so that it could overlook its main treasure, the mountain of salt that stood underneath the castle. This salt was of a higher quality than the salt that the Italian Genoese were used to, but it cost more for the merchants in Cardona to transport the salt the 50 miles to nearby Barcelona than it would be for the Barcelonans to buy imported salt from Genoa. The Cardonans did find a ready market for salt in the Genoese traders themselves. It was a Genoese sailor, Christopher Columbus whose voyages to America for Spain spelled the death of Venice. The Atlantic Ocean and not the Mediterranean Sea became the main trade route now and the Italian merchant republics of Venice and Genoa declined.



## Section 4 Summary (Chapter 7 Friday's Salt, Chapter 8 A Nordic Dream, Chapter 9 A Nordic Dream)

## Section 4 Summary (Chapter 7 Friday's Salt, Chapter 8 A Nordic Dream, Chapter 9 A Nordic Dream) Summary and Analysis

Chapter 7 begins with the Basque. The Basque lived in a mountainous region partly in Spain, partly in France that border on the Atlantic coast. They speak a special and unique language that is not related to any other European languages. They were also different in that they hunted whales. The Basque made fortunes selling the whale oil and the tons of whale meat that they would catch. In Catholic Europe, the church outlawed eating meat on Friday. Some parts of the whale, like the tongue and lean blubber were allowed. French peasants ate the lean blubber cooker in water and served with peas. The Basque developed a strong whaling business until the arrival of the Vikings in the ninth century. The Vikings came to Europe in search of treasure and kidnapping victims. They would raid a costal town kill or enslave the people and then leave. The Vikings eventually left Europe for their Scandinavian homes, but the Basque learned shipbuilding techniques from them and became the best ship builders in Europe. With their improved ships, the Basque were able to hunt whale further and further from their ports. It was while hunting whale in the Atlantic that the Basque discovered something more valuable than whale, cod.

Cod is particularly well suited to preserving with salt since it is mostly white meat without much fat. Fat prevents salt from absorbing into the meat and hence, retards preservation. Oily and fatty fish must also be kept out of the air so that their fat doesn't turn rancid, whereas cod may be air dried. The dried and cured cod could be transported all over Europe at cheap prices and since it was a fish, it could be eaten on Fridays. The salted fish, known as "salt cod" was used all over Europe and the salt quantities needed to keep up with demand led to the creation of new evaporation salt works in northern France. We know that the Vikings eventually made it to North America in search of Cod and it is suspected that the Basque also fished the waters off of Canada before North America was discovered, but there is not enough proof at this point to support that idea. Overtime, even the British and the Irish began using French salt to preserve their food. The most notable dish preserved in this way is Irish corned beef. Since it was heavily salted, it traveled well and became the official meat of the British navy. In fact, salted meat was so important to European navies during this period that standard procedure before a war was to import as much salt as possible.

Chapter 8 begins with a discussion of the Swedes. The Swedes, like most of the Scandinavians had plenty of fish but no salt. In the 13th and 14th century, this situation



began to change and the Scandinavians began to get more salt. This allowed them to start to fish and trade in herring. Herring, fatter than cod, needs to be salted immediately after it is caught or it will go bad. A new technique of putting herring directly into brine, thereby reducing the exposure of the herring's fat to air, also greatly increased the herring trade. Between the 16th and 18th century, 60% of all fish eaten in Europe was cod and most of the remaining 40% was herring. One solution to the lack of salt in the northern countries was to smoke their fish. Smoking requires some salt, but considerably less than the traditional method of being soaked in salt and it will effectively preserve the food. Still, there was always more salt and herring demanded than could be supplied. Some of the nations involved in the herring trade even went to war over the fish.

Chapter 9 begins with a discussion of the variety of cheeses that France has to offer. But France wasn't always France. At one time it was just a hexagonal shaped area made up of many different ethnic groups and principalities. One thing all of these groups did have was salt. In France as in the rest of Europe elaborate salt containers and saltcellars were the norm. Even the poor were able to eat salted foods, but it was the province of the rich to have actual salt on the table. One salted dish that became popular throughout Europe was sauerkraut or Choucroute, salted and fermented cabbage. With the different traditions and climates, not to mention the different types of salt, the simple process of making cheese created over 256 different kinds of French cheese. One of the most famous is the Roquefort blue cheese. Originally the monks cut off the blue part, believing it was bad, but eventually they tasted it and realized the blue part of the cheese was the tastiest. The cheese is then aged in barrels in a cellar to develop its flavor.



# Section 5 Summary (Chapter 10 The Hapsburg Pickle, Chapter 11 The Leaving of Liverpool, Chapter 12 American Salt Wars)

## Section 5 Summary (Chapter 10 The Hapsburg Pickle, Chapter 11 The Leaving of Liverpool, Chapter 12 American Salt Wars) Summary and Analysis

Chapter 10 begins with a discussion of the wealth of the German salt mines. One rich area of salt deposits was in southern Germany on the Austrian border. Some towns even shared salt deposits that spanned the border, causing constant strife. One of these towns was Saltzburg, originally independent and later part of Austria. Some of its salt mines were shared with neighboring Bavarian towns and in the 17th century when Saltzburg tried to undercut the price of salt, leading to the "salt war."

Originally, the salt was mined in Germany by pumping water into the mine and then boiling the resulting brine to release the salt. The Saltzburg and Hallein salt mines are on the Danube river which allowed for easy transportation of salt for trade. Rivers became increasingly important for transporting salt. Saint Barbara became the patron saint of the German salt miners and they celebrated her holiday. Eventually the salt of the central Europe fell under the control of the Hapsburg family of Austria. The Hapsburgs ruled Austria, Bohemia (modern day Czech Republic), Poland, and Hungary. Many of these regions were salt poor. In those days, wealth could be measured by the amount of fat that one consumed. For instance, European city-dwellers in the 19th century ate 56 pounds of fat per person, mostly pig fat whereas Hungarians at the time only ate around 40 pounds per person. Most of this fat was stored in fat cubes rather than as melted fat like butter, and hence it needed salt as a preservative. The most important vegetables in Central Europe at this time were sauerkraut and pickles, both heavily salted. The Polish national dish is bigos or a mixture of meats and sauerkraut.

Chapter 11 begins with a discussion of the great rivers of the world. Each river is important to the trade and navigation of the country where it is. One lesser-known river that runs through England that is no less important is the Mersey. The Mersey facilitated the Cheshire salt trade through the port town of Liverpool. The Britons originally made salt by boiling water over charcoal, but the Romans taught them the roman method of evaporating sea water in earthen pots and then smashing the pots. The British set up salt works all over their island. Any town with a "wich" at the end of the name, such as Middlewich, was a salt producing town. By the 9th century, Cheshire, a town at the mouth of the Mersey, became the most important salt producing town in England. The demand for salt in England was huge because of the culinary reliance on salted fish and



salted meat. The English Bacon was so heavily salted that it needed to be soaked in water before cooking. Another English staple was butter, which needed to be heavily salted otherwise it would turn rancid quickly. Another sauce, similar to garum, made from salted anchovies was a popular seasoning that was called "English Ketchup." Ketchup is named after an Indonesian fish and salt sauce because the English liked to imitate Asian seasoning; Worcestershire sauce is also based on an Asian sauce. Eventually, after the tomato had been imported from America to Europe, Ketchup, as we know it, "tomato ketchup" was invented in the 19th century. British salt combined with the cod fisheries in North America that they had acquired through colonization contributed to the dominance of the British Economy.

Chapter 12 begins with a discussion of the seemingly random placement of small American towns. Many of the roads that connect these towns were originally footpaths made from animal tracks that were looking for salt. Many towns were started at the end of these roads where animals would go to find salt licks. Salt was so important in the early history of America that many Native American groups had a god of salt. Much of American history can be explained as a constant struggle over salt. The Mayans, Incas, and Aztecs all grew in power because of their control of salt resources. Later, the revolutionary war and the civil war in America would all revolve to a large extent around salt.



# Section 6 Summary (Chapter 13 Salt and Independence, Chapter 14 Liberte, Egalite, Tax Breaks, Chapter 15 Preserving Independence)

# Section 6 Summary (Chapter 13 Salt and Independence, Chapter 14 Liberte, Egalite, Tax Breaks, Chapter 15 Preserving Independence) Summary and Analysis

In the 17th Century, the English, the French and the Dutch all looked for salt in North America to preserve the massive fish supplies they found off the Atlantic coast. The pilgrims, settling in New England required salt for the cod they caught off of the aptly named "Cape Cod" and for their diet of heavily salted meats in the cold New England winters and salted turnips and cabbage throughout the year. Overtime the colonies of Massachusetts and Virgina began producing large amounts of salted meat, cod in the north, ham in the south. Both were colonies of Britain and were required to follow exclusivity agreements with their mother country. While both colonies may have been able to go their own way in trading their meat, they still relied on Britain for salt. Eventually this desire for economic independence led to clashes with the British who increased tariffs on the Americans to punish them. This only escalated the situation, which eventually led to outright rebellion and war. The British blockaded American ports during the war, leading to serious salt shortages. The Continental Congress encouraged salt production in the colonies by giving subsidies to the production of salt works and exempting salt workers from military service. Whatever solution they devised, however, there was not enough salt in the colonies to meet their needs.

Chapter 14 continues this theme with a discussion of salt taxes. A German botanist named Matthias Schleiden wrote a book in 1875 claiming that a mark of all tyrannies was a salt tax and that the French salt tax showed what was wrong with the French monarchy. The salt tax or the gabelle, was a tax on every Frenchman and was deeply hated. One of the worst parts of the salt tax was the sel du devoir or a law that stated every person over eight must by 15.4 pounds of salt a year, far more than anyone could reasonably use. Salting fish or meat with the salt was also illegal. The finance minister under Louis XIV, Jean Baptiste Colbert reformed the salt tax so that different parts of France would pay unequal amounts of the tax, with residents of Paris and the surrounding areas paying two-thirds of the total tax. This outraged Parisians. Especially since other parts of France were exempted totally from paying the salt tax. The price of salt was so high in some areas that salt smuggling became common. By the late 1700s, more than 3,000 people had been sentenced to death for breaking the salt tax laws



either by smuggling or in some other way. The tyranny and injustice of the salt tax became a symbol of the injustice of the French government. In 1789, the French revolution began, overthrowing the French monarchy. One of the first laws overturned was the salt tax. Napoleon Bonaparte, who became dictator of France during the revolution, reinstated the salt tax.

Chapter 15 begins at the end of the American Revolution. After the Treaty of Paris that ended the Revolutionary War, British colonies were forbidden from trading with the United States. Salt in Cape Cod rose in price because of this from \$.50 a bushel to \$8.00 a bushel. In Cape Cod, some local entrepreneurs developed a new method to create salt that was cost efficient and the salt industry on Cape Cod exploded.

During this time, the British were still located along the Great Lakes in Canada and suspicion of the British in America was high. British ships would stop and then kidnap American sailors claiming that they had deserted from the British Navy. Eventually things got so bad with the British that there was another war called the War of 1812. During the war, Cape Cod successfully defended her salt works, but the need for more reliable salt processing became apparent. After the war, New York began building the Erie Canal to transport salt. With the canal and improved salt making techniques, New York could now make and transport huge amounts of salt. Midwestern salt also began to boom after the war. The pork-producing town of Cincinnati, known as "porkopolis" because it produced so much pork, needed salt for its pig meat. Fortunately a great salt lick existed just down the river in West Virginia. Eventually another canal, that connected the Ohio River to Cleveland and the Erie Canal allowed Liverpool Salt from New York to overtake the West Virginia salt in Ohio.



### Section 7( Chapter 16 The War between the Salts, Chapter 17 Red Salt)

### Section 7( Chapter 16 The War between the Salts, Chapter 17 Red Salt) Summary and Analysis

Chapter 16 begins just before the American Civil War. Aside form their other deficiencies, the south lacked adequate salt supplies for a prolonged war against the north. At this time, America was also consuming huge amounts of salt, much more per capita than Europe. Most of the salt used in the South was imported. Salt is needed not only for medicines and disinfectants but also to preserve meat and for the rations of both soldiers and horses. After the start of the war between the north and south, the north would blockade southern salt imports. With the outbreak of hostilities, Virginia split into West Virginia and Virginia with West Virginia siding with the Union. Immediately after this, southern troops marched in a captured the West Virginia salt works. In 1862, the Union forces recaptured and then destroyed the West Virginia sat works. During the war, the salt shortage in the south became extreme and smugglers would try to run the Union blockade or import salt up through Mexico and Texas. Vven this was not enough however and southerners looked for alternatives to salt, which were hard to come by. Suddenly, a group of speculators found huge salt deposits underground in Louisiana and began selling salt to the south. This salt work was eventually taken by the Union, as were all other major salt works in the south.

Chapter 17 begins after the final defeat of the south. The family that owned the Louisiana salt works went back after the war and bought the island with the salt on it, Avery Island. A friend joined him on the island, bringing with him small Mexican chili peppers to farm. Using the salt on the island with his peppers and vinegar, McIlhenny invented a hot sauce that later became known as Tabasco. It would be years, however, before his product would become as popular as it is today.

Another huge salt deposit found after the war was the Great Salt Lake in Utah. After the Mormons left the Midwest to settle in Utah, the salt deposits north of the lake became a staple of the Mormon economy. Settlers in the San Francisco area also began making salt form the sea. Their brine, before the salt formed, was a reddish hue, caused by the prevalence of brine shrimp and bacteria in the brine at certain densities.



# Section 8(Chapter 18 The Odium of Sodium, Chapter 19 The Mythology of Geology, Chapter 20 The Soil Never Sets On)

## Section 8(Chapter 18 The Odium of Sodium, Chapter 19 The Mythology of Geology, Chapter 20 The Soil Never Sets On) Summary and Analysis

Chapter 18 begins with a discussion of Sir Humphry Davy, the inventor of Sodium. Davy was an experimenter with laughing gas, Nitrous Oxide, and with breaking down chemical compounds through the process of electrolysis. In 1807, he isolated the element Sodium, an important step on the road to understanding the chemical makeup of salt. For centuries it was known that different salts could be used in different ways and that salts from different location even had different tastes, but it was not known why. The chemistry behind some types of salt was being unraveled in the 18th and 19th century, but Sodium Chloride, table salt, was still a mystery. In 1810, though, Davy isolated the chemical chlorine, noting that it could be used as bleach. Eventually they discovered that the acidic chlorine, and the base sodium would bond in appropriate amounts to form common table salt. This discovery revived the salt industry but made it much more dangerous because the use of chlorine was somewhat dangerous and created pollution.

Chapter 19 switches from discussing the importance of chemistry in the history of salt to the discussion of the importance of geology and other sciences in the history of salt. Geology began to grow in prominence, as the skill was required for finding salt deposits. Some of these geological explorations led to the discovery of coal in England and oil in the western United States.

The new chemical production of salt created the opportunities for industrial uses of salt like never before. A Frenchman named Appert discovered that if food was sealed in cans and heated, the food would no longer rot. He sold his canned vegetables to the Navy and the idea caught on well. The ability to get vegetables and meat to last for such a long time in cans all but destroyed the salted fish industries in Europe. Later Sarah Hale and others discovered that icing fish would also preserve the fish and hence the need for salted fish completely disappeared. It was no possible to get basically fresh fish and vegetables either frozen or in cans. A man named Birdseye also discovered that by using a brine, a fan, and ice, fish could be frozen so quickly that no bacteria would form and the meat would not be harmed. His company later went on to form the basis of General Foods.



Chapter 20 takes the story of salt back to the English salt mines in Cheshire. In those salt mines during the 19th century, conditions were bad with men, women, and children working the mines form morning to night. Laws were eventually introduced to limit hours and child labor, but at the same time a bigger problem began to appear. Sinkholes all over England started developing and there seemed to be a connection between brine production and the sinkholes. Entrepreneurial salt mines were pumping brine out of the ground at an increasing rate causing freshwater to move into the areas underneath the salt pillars. The freshwater would erode the salt and cause the pillar to collapse, creating the sinkholes. Government regulation eventually made unauthorized pumping of brine illegal. With technological innovations, Cheshire salt eventually became inefficient and obsolete and, in 1986, it shut down for good.



# Section 9(Chapter 21 Salt and the Great Soul, Chapter 22 Not Looking Back, Chapter 23 The Last Day of Zigong)

## Section 9(Chapter 21 Salt and the Great Soul, Chapter 22 Not Looking Back, Chapter 23 The Last Day of Zigong) Summary and Analysis

Chapter 24 begins in India. For hundreds of years, India had been the colonial province of Great Britain. Originally the country was governed primarily by the East India Company and after the 1857 Indian uprising, it was governed directly by the British government. Before British rule and the trade restrictions that the British imposed on India, there was a long history of salt production in India. The most famous brand was a sea salt from Orissa. The British, though, looking to use India as a market for Liverpool salt, banned the use of Orissa salt. The ban was not effective until the British actually invaded and militarily occupied Orissa. The British took over the Orissa salt works and the private sale of salt became illegal. At one point in the 19th century, enforcement of the salt laws required 12,000 people. Throughout the late 19th and early 20th century, opposition to the British salt policies started to grow into a popular movement that would eventually be led by Mohandas Gandhi. After reading Thoreau in a jail cell in Africa, Gandhi developed his form of non-violent resistance and used that method to protest the British policies in India. In 1930, Gandhi led a group into Dandi to illegally scrape up sea salt. Gandhi's refusal to obey the oppressive British salt laws sparked a nation wide revolt against the salt tax. The movement grew and in 1947, India gained its independence.

Chapter 22 moves from India to the Middle East. Running along the border of Jordan and Israel is the Dead Sea, a vast sea of salt. The water is so briny that a man will float if he lies in it. This feature has led the Dead Sea to become a popular tourist resort. Nearby is Mount Sodom, a mountain made almost entirely of rock salt. For centuries, many have wondered why the Dead Sea and the surrounding area are so salty. Some believe that the Dead Sea was originally part of the Mediterranean that was cut off due to a geological shift. The seawater continues to evaporate making it saltier and saltier every year.

Early Zionists believed that the Dead Sea would be a source of mineral wealth. After the 1948 war of independence, Israel set up their salt works on the southern side of the sea. Some of the salt workers and soldiers decided to set up a kibbutz next to the salt works near a freshwater spring and begin irrigation and farming. That Kibbutz eventually became a Dead Sea health spa. The problem is that the water recedes 50 yards a year due to evaporation. There are many plans to replenish the water, but right now, it is only a matter of time until the Dead Sea evaporates completely.



In Chapter 23, we return to China. In 1912, the Chinese ceased to be governed by an emperor and they struggled to figure out how to govern their nation. They fell back on one of the oldest resources in China, salt. With the help of the British, the new Chinese republic began to develop its salt industry. For a long time, the Japanese, said to be the largest consumers of salt in the world, decided to stop importing salt and to set up their own salt works on Seto inland sea. In China, salt production was centered on the town of Zigong. In Zigong, they used percussive drilling and in 1943 when rotary drilling became common, the Sichuan salt industry started to become obsolete. A harsher blow was knelt when in 1995 the government prevented mining salt because of the lack of lodine in the salt. International heath groups were worried about lodine deficiencies, which cause thyroid problems in the Chinese and recommended that they begin to use lodized salt. Although probably better for the health of the Chinese, this has led to the destruction of salt production in Zigong and surrounding Sichuan province.



#### Section 10(Chapter 24 Ma, La, and Mao, Chapter 25 More Salt Than Fish, Chapter 26 Big Lake, Little Salt)

## Section 10(Chapter 24 Ma, La, and Mao, Chapter 25 More Salt Than Fish, Chapter 26 Big Lake, Little Salt) Summary and Analysis

Chapter 24 continues the story of salt in China. The Chinese are a culture obsessed with food in all of its varieties. For most of Chinese history, southern Chinese or Cantonese food was considered the best type of Chinese cuisine. After Deng Xiaoping became leader of the communist party in the later part of the 20th century, his home cuisine, Sichuan or la, also became popular. Sichuan cooking uses six traditional flavors in a spicy mix to create a balance of all the elements. The Chinese get most of their salt through the use of sauces and tend to consume large amounts of pork. In many Chinese dishes, saltiness is combined with sweetness to create unique tastes.

Chapter 25 continues with the connection of saltiness and sweetness in the history of food. Most snack foods use the technique of combining salt to bring out the sweetness of the dish. Even butter is often sweetened to counteract the saltiness. In Sweden they eat salted licorice candies in the shape of herring. Even to this day herring is an important part of the Scandinavian economy and culture. But in Sweden, as in the rest of the world, salt consumption is dropping. In Europe salt consumption has halved over the last hundred years. One place salted meats have survived is in Jewish Delis, especially in the popular salted salmon dish, lox. Another salted fish that remains is anchovies. Capers and Tuna also survive, though tuna is not as salty as it once was.

Chapter 26 introduces us to the most common salt producer, Morton's salt. Morton's began when in the late 19th century, Joy Morton created a shipping business between the salt producing regions in upstate New York and Midwestern cities like Chicago across the great lakes. In 1910, Morton's also began producing salt as well as shipping it. Morton developed a chemical process to produce uniform salt and was also the first to lodize salt. Morton's improved advertising and dispensing and, in 1996, became the largest salt producer in the world. They not only produce table salt and cooking salt, but from their base in the Bahamas, deicing and water softening salt. The United States produces and consumes the most salt in the world. Only a small percentage of this salt, however, is used for eating, most is used for deicing roads in the winter. Recently, though, health concerns about the consumption of salt leading to cardiovascular problems has caused some to decrease their salt consumption. Rich westerners are also seeking out salt produced in the old ways with imperfection because of the flavor. This may seem strange give the lengths that people throughout history have gone to



purifying salt, but as with everything related to salt, it is hard to predict what the future will bring.



#### **Characters**

#### salt

Salt is the main character and narrative anchor to this sprawling world history. Salt is a mineral and the only rock that we eat. While there are many different types of salts, the salt that figures most prominently in this book is table salt or sodium chloride. Humans and animals need salt to live and we even have a specific taste receptor to pick up salty flavors. On food, salt makes, in smaller quantities, the food taste better, while in larger quantities, the flavor of salt itself is appealing. Salt also has the property of preserving meats when salt is concentrated in the meat at appropriate levels. Vegetables can also be preserved in a similar way by pickling.

Humans have been seeking out salt deposits and figuring out ways to mine salt since our early beginnings. Animals instinctively seek out salt and early humans followed their animals to salt deposits. Often these salt deposits were in the form of brine springs that had bubbled up from underground salt reserves. In other cases the salt deposit itself might have peaked above the ground into a visible formation. As humans became more and more sophisticated, they would collect salt water from the sea into earthenware pots, let the water evaporate and then break the pot to get at the salt. Settlements by the sea would create inland pools to evaporate large amounts of sea water. One large thread of human history is the search for and control of salt resources. In the 20th and 21st centuries, however, industrial salt creation has led to companies in the United States offering low cost salt throughout the world.

#### cod

Even though this history centers on salt, cod plays a central and important role. Cod is a fairly large whitefish that is native to the Atlantic Ocean and surrounding northern seas though there is also a Pacific variety of cod. It has flaky meat that lacks very much fat. This lack of fat is one of the reasons that cod has played such an important role with salt. Fat resists salt and will go rancid if exposed to air for very long. Cod, since it doesn't have very much fat can be immediately salted in the open air. Salted cod will also last for a very long time.

Salted cod was an important commodity and food source going back as far as the time of the Vikings, but it was Catholic dietary restrictions on meat on Friday, during church holidays, and on Lent that led to an increased demand for fish in Europe. Cod became popular as an alternative to other salted fish, namely sardines and herring which were fished in the Mediterranean. Once huge supplies of cod were found off the coast of North America, the English and Dutch began to make fortunes from fishing American cod. As the demand for cod increased, so too did the demand for salt, which was required to preserve the fish on the long journey from the fishing spots to the home market. This need for salt led to the development of salt works in North America.



Eventually, with important refrigeration techniques it was possible to catch and transport unsalted and frozen cod to market, which is the norm today. Although cod is not as important as it once was, it is still a dietary staple in England and in parts of the united States.

#### **Confucius**

Confucius was a Chinese law-giver and philosopher who wrote and taught in the 6th century B.C. In China. His philosophy focuses on the importance of proper social interaction and stability in the social system.

#### Gauls/Celts

The Celts were a diverse group of related tribal societies that inhabited most of Europe and Britain until around the first century B.C. One group of Celts was called the Gauls by the Romans until they were eventually subdued by the Romans under Julius Caesar.

#### **Basques**

The Basque are an ethic group of people living in an area between Spain and France notable for their unique culture and language that is not related to any other European language.

#### **Vikings**

A group of peoples located in Scandinavia who were notable for their brutal raids on other European countries. They were excellent sailors who explored and Settled in Iceland, Greenland, and even North America.

#### **Hapsburgs**

The Hapsburgs were a royal family who ruled the Austro-Hungarian empire. Their empire was a multi-ethnic empire that spanned most of central Europe and was destroyed after World War I.

#### **Jean Baptiste Colbert**

Jean Baptiste Colbert was French finance minister under Louis XIV. He pursued a mercantilist policy of increasing exports and decreasing imports ad his policies, combined with the wars at the time were essential in creating the financial situation that led to the French Revolution.



#### **Mormons**

The Mormons are a religious movement founded by Joseph Smith in the 19th century in America who follow a relation Smith claims to have received from an Angel. The Mormons originally settled first in Illinois, then in Missouri until Smith was killed. His followers led by Brigham Young settled in Utah on the banks of the Great Salt Lake.

#### Gandhi

Gandhi was an Indian nationalist and mystic who led the non-violent opposition to British imperial rule in India. Inspired by the work of Thoreau, Gandhi started his movement around the injustice of the British salt laws.

#### **Zionism**

A movement that began in the 19th century and was started by a Hungarian Jew named Theodore Herzl. Herzl argued that the Jews needed a homeland in Palestine, modern day Israel. After World War II, a Jewish revolt in Palestine led to the creation of the state of Israel.



#### **Objects/Places**

#### **Acid**

A chemical compound with a ph greater than 7. Chlorine, one of the key components of salt, is an acid.

#### **Base**

A base is a chemical compound with a ph less than 7. Sodium, the other half of table salt, is a base.

#### **Kibbutz**

A Kibbutz is a collective farm in Israel. The ideal of collective farming was popularized by Theodore Herzl and became a reality once the state of Israel was founded.

#### Soy

Soy is a legume that has become a dietary staple in China. Most of Chinese dietary salt is ingested via a condiment made from soy and salt, soy sauce.

#### **Natron**

Natron is a kind of salt composed of sodium carbonate and sodium bicarbonate. Called "poor man's salt" it was often used by the poor when table salt was not available.

#### **Ostia**

Ostia was the most important port of ancient Rome and an important salt works.

#### Garum

This is a condiment common to ancient Roman cuisine made of a salty brine and fermented fish.



#### **Gabelle**

The gabelle was the hated salt tax in France. Each French person was required to buy a certain amount of salt from the state each year and was made even more unjust under Colbert. One of the sparks that ignited the French revolution.

#### Mercantilism

Mercantalism is an economic philosophy that stresses the importance of a positive balance of trade and the benefit of protectionism. This was largely discredited by Adam Smith in the 18th century.

#### **Capsaicin**

Capsaicin is the chemical compound in chili peppers that produces the sensation of heat in the pepper.

#### **Clerihew**

A Clerihew is a pseudo-biographical poem of two rhymed couplets where the name of the authors figures in one of the rhymes.



#### **Themes**

#### **Unintended Consequences**

One of the great underlying themes of Salt is the idea of unintended consequences. In fact, Salt can be read as one long tale of unintended consequences. Throughout history different people, rulers, priests, inventors, have tried to do one thing have ended up doing something very different that they could not have expected. One key example is in the relationship between cod and salt. Fishermen were originally looking for another kind of fish when they found cod. Further, if they hadn't had the salt available, cod wouldn't have been as valuable a commodity as it became because there wouldn't be an effective way of preserving the cod. The Catholic Church made religious rules about avoiding meat on Friday and religious holidays that had the effect of increasing the demand for fish which thereby increased the demand for salt to preserve the fish. It was this original demand for more salted fish that led fishermen to seek out cod in the first place. The search for cod led, first Vikings, then to English to North America. The cod wealth of New England led many Americans to think that they would be better off without British dominion, which led to a movement towards independence. So, in a strange roundabout way, some of the unintended consequences of Catholic dietary restrictions was the founding and independence of America. Of course there are many other things going on and many other variables to consider, but the story we get from this book is that many of history's most important events such as the French Revolution, The American Revolution, and Indian independence were the unintended consequences of policies related to salt.

#### **Alternative History**

The study of history is often nothing more than the study of politics. History books are records of princes, revolutions, wars and upheaval. This traditional approach gives a certain insight into the past and to the movement of history but it also misses many important aspects of the lives of individual people who were not rulers or generals. Furthermore, this historical approach almost completely discounts the important roles of trade, technological invention, and business in the history of the world. Salt approaches history from the point of view of one specific resource and tells the story of the search for and trading of salt form the point of view of those most connected to it. There are political stories, often time's politics is important, but its primacy in the history books often overshadows the importance of trade and innovation. Here we learn the story of the inventors and the creative traders who created new methods of mining and making salt, the creative entrepreneurs who came up with new ways to sell and use salt, and the people who mined the salt. Part of the power of this book is to make the political story almost seem like a background to the real story about individual people working to make better lives for themselves, often by collecting and selling salt. This alternative approach from history "from the salt's eye view" is itself a kind of theme that runs



throughout the entire books, forcing the reader to rethink their traditional views of history.

#### The Search for Resources

Another important theme, in many ways related to the idea of alternative history is the importance of the search for resources in human history. It is the importance of the "search" for resources rather than just the resources themselves that are important because it the act of searching for these resources that motivates men and women to develop new processes, found new cities, start new trading patterns that, in turn, have tremendous unintended consequences on the lives of people around them. One example of this in Salt early on is the development of early roads. The author asks why so many back roads in America seem to randomly connect towns along paths that don't seem to have any rhyme or reason. The hidden reason for this that the author gives is that people originally created these roads by following their livestock to natural deposits of salt. Animals need salt to live, as do humans, and they instinctively seek out salt resources in briny springs or natural salt licks. People, also searching for salt, followed their animals and eventually created roads along these paths that survive today in many cases. One example is a path that men in upstate New York followed buffalo to a salt lick t the end of a trail and, figuring it was a good location for a town, they started on named Buffalo, New York. Other example abound, the search for better ways of mining salt in China led to the development of gunpowder and the discovery of natural gas resources. A search for better transportation methods of salt in New York led to the creation of the Erie Canal.



#### **Style**

#### **Perspective**

The perspective of Salt is a "salt's eye view of history," where the narrative of the book follows the use of and the search for salt rather than a traditional linear historical narrative that follows the events of world powers or the actions of kings. The author presents the story from the point of view, whenever possible, of the people at the time that he is discussing. There are many samples from period cookbooks giving recipes of salt related dishes or explaining the particular purpose or importance of a given dish at a given time. One great example of this is the discussion of the Roman condiment garum in early chapters. Historians have speculated about what garum exactly was and the author goes back to record from the time to try to give a sense of how the fish sauce was made and used. Whenever possible he tries to give eyewitness or period descriptions of the action that he is describing. Fortunately, though, the author avoids merely cutting and pasting from diaries or newspapers from the time and instead the author weaves the eyewitness and period accounts into the overall structure of the narrative seamlessly making the reader feel connected to the actual individuals that are the subject of the book, without making it impossible to see the larger story. This is a departure from traditional history books and it is a welcome one that really opens up the subject of world history from an entirely new perspective, that of an essential mineral or history from the point of view of a rock.

#### **Tone**

One of the dangers of writing a book form the point of view of salt is that it can be easy to get bogged down in the details and to lose the thread of the overall world history involved. The author avoids this partially through his breezy and anecdotal tone. The narrative is told in a way that makes it seem almost conversational. We are presented with vignettes or stories of people and of things that weave together into a larger story, but that do not linger too long. Like a good story teller that wants to impart enough details for the listener to get the point without boring them, the author skips from scene to scene introducing us to people and places along the way, sometimes dropping threads that he has already established, sometimes picking an old thread up in a novel way. The only way this approach works is if the author's tone and language are skillful and compelling enough to hold the interest and the attention of the reader. Mark Kuransky succeeds in telling this particular story in the just the right way so that we can get the details of the story which are essential to the story's importance, without overwhelming the story. So, overall the tone of the story needs to be breezy enough to keep the larger narrative while also rich enough that the story does not seem sketchy or thin. Kuransky succeeds in this regard in terms of tone, although there may be disadvantages to this approach in terms of structure.



#### **Structure**

One of the drawbacks of Kurlansky's overall approach in salt is the lack of clear structure. Ultimately Kulansky is telling a world history so he needs to present the scope that his subject demands, but he is also telling that world history from the point of view of a rock and the people who looked for and traded that rock. There is a tension, then, between the macro and the micro narrative. He needs to tell the micro narrative about salt in a way that is compelling and informative while making sure his overall history does not devolve into a collection of anecdotes. He only half succeeds in this regard. Salt does have the breadth of a true world history and the reader does follow some path through that history, though the path is often tangled and seemingly random. The chapters themselves often have some overarching subject, but within a given chapter, Kurlansky will skip around in time and place leaving the reader disoriented. Because of this, the reader is forced to piece together the larger narrative. Furthermore, each chapter is, itself, divided into smaller sections that seem unconnected to one another. These sections have interesting stories about a particular person or particular process, but they do not necessarily link up to the larger narrative. It is also the breeziness that keeps the reader interested that makes this book so frustrating from a structural point of view. Kurlansky never spends the time to develop important ideas or to linger on important parts of the historical story. Overall, the structure seems like a collection of loose threads rather than a tightly woven narrative.



#### **Quotes**

"Chinese governments for centuries had seen salt as a source of state revenue" (Chapter 1, pg. 29.)

"The ancient Egyptians may have been the first to cure meat and fish with salt" (Chapter 2, pg. 38.)

"Trade in salted food would shape economies for the next four millennia" (Chapter 2, pg. 44.)

"The Celts were innovators. The Romans were nation builders" (Chapter 3, pg. 60.)

"At times soldiers were even paid in salt, which was the origin of the word salary and the expression "worth his salt" or "earning his salt" (Chapter 4, pg. 63.)

"The Romans used garum in much the same way that the Chinese used soy sauce" (Chapter 4, pg. 73.)

"The difference between fresh cheese and aged cheese is salt" (Chapter 6, pg. 96.)

"Now they [The Basques] started salting cod. The market was enormous." (Chapter 7, pg. 114.)

"The Swedes had a wealth of herring, but nothing with which to salt it" (Chapter 8, pg. 129.)

"A new nation was born with the bitter memory of what it means to depend on others for salt" (Chapter 13, pg. 224.)

"The Americans did not forget the salt shortage of the revolution" (Chapter 15, pg. 240.)

"A salt is a small but perfect thing" (Chapter 18, pg. 300.)



#### **Topics for Discussion**

Explain the important economic connection between cod and salt. Would the cod trade have been able to grow without salt? Why or why not?

Name and explain the use of several different salt containing condiments used by different cultures. What are the similarities between these uses? What are the differences?

Explain the importance of salt to an important historical event of your choosing.

Why was there such a huge market for salted cod in Europe?

What are three ways that humans have used to get salt throughout history?

Explain the role of salt in the American and French Revolutions.

Can you think of another food product that has had a comparable effect on history? Give some example to defend your choice.