

ALASKA SOURDOUGH: BREAD, BEARDS AND YEAST

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Abstract

Sourdough is a fermented mixture of flour and water used around the world to leaven dough. In this doughy world wide web of sourdough, one thread leads to Alaska and the Yukon Territory. Commonly associated with the gold rush era, sourdough is known both as a pioneer food and as a title for a long-time resident. Less well known is the live culture of microbes, yeasts and bacteria that were responsible for creating the ferment for nutritious bread, pancakes, and biscuits on the trail.

Through the lens of sourdough, this study investigates the intersection of microbes and human culture: how microbes contribute taste and texture to baked goods; why sourdough, made from imported ingredients, became a traditional food in the North; and how “Sourdough” grew to signify an experienced northerner. A review of research about sourdough microflora, coupled with excerpts from archival sources, illuminates how human and microbial cultures intertwined to make sourdough an everyday food in isolated communities and mining camps. Mastery of sourdough starter in primitive kitchens with fluctuating temperatures became a mark of accomplishment. Meanwhile, as transient fortune seekers ushered in the gold rush era, experienced Sourdoughs continued to take pride in a common identity based on shared experiences unique to northern living.

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Introduction

For generations in Alaska and the Yukon Territory one word has symbolized a northern way of life, one word representing both the staff of life and a spirit of frontier existence: sourdough. This thesis explores how a bubbling culture of wild yeasts and bacteria used to raise bread in an isolated country with a cold, harsh climate, came to define a broad segment of northern culture itself.

Connections between food and human culture have long been acknowledged in the social sciences. Anthropologist Sidney Mintz observed that, “For us humans, then, eating is never a ‘purely biological’ activity... The food eaten, the techniques employed to find, process, prepare, serve, and consume the foods are all culturally variable, with histories of their own.”¹ Through the lens of sourdough, human and microbial cultures unite to illuminate a unique portion of northern history.

My introduction to sourdough as a food and a metaphor came with the practical consideration of feeding a dozen elementary students. Within my first few months in Alaska in 2009, I began working at the Haines Borough Public Library. Among my duties, I coordinated after school programs for elementary school students. Each afternoon, a group of lively, thoughtful children arrived to explore a new topic. In the first month we made lava lamps, dissected owl pellets, and watched tree frogs in the rainforest. My attempts at “edutainment,” regardless of subject, failed to compete with one fact, however, repeated in three words throughout the hour: “But I’m hungry!!”

After a day at school, kids were understandably ready for a snack, but considering my budget, food prices and the number of mouths to feed, it was difficult to find something healthy

¹ Sidney W. Mintz, *Tasting Food, Tasting Freedom: Excursions into Eating, Culture, and the Past* (Boston: Beacon Press, 1996), 7.

that the kids could prepare for themselves. I remember wishing I could find a food that would “replenish itself.” Then, I remembered a former co-worker from my hometown in western New York talking about Amish friendship bread, describing: “having so much dough that you couldn’t *give* it away.” From there, a quick search online introduced me to the basic mechanism of feeding a natural yeast culture. Amish Friendship bread was a milk-based starter, however, and milk was expensive and could spoil. Finally, I followed a link to a sourdough recipe, a starter fed with water and flour. “Perfect,” I thought.

The “Sourdough Project” started as a practical solution to a problem, but enthusiasm quickly grew. My starter intrigued the kids; they loved feeding it with water and flour, kneading the dough, and of course, eating the bread the next day. In between floury fingers and breadboards, sourdough became a medium for learning about other subjects. We glimpsed microbiology at work in rising dough and bubbling starter that needed to be “fed” each day. We also examined century old black and white photographs of miners and gold flakes. Some children were receptive to the link between bread and miners, and some had heard about gold panning “Sourdoughs” already; but it was adult patrons who made the historical connection. Every once in a while, a patron would ask me about the age of my starter, and I would watch his or her face fall as I answered: “about three weeks.” Then I would hear a story about “so and so” whose ancestor climbed the Chilkoot or the Dalton Trail.

According to some Haines residents, sourdough was used during the gold rush because yeast was not readily available. Those who were veterans of the North knew how to keep a sourdough pot alive in the winter by sleeping with it or holding it under the armpits. After spending a winter in the North the sourdough pot and the prospector became inseparable, and the now seasoned newcomer had become a “Sourdough.” By the end of this two-month after-school

program I had stumbled on a junction in a foodway that extended far beyond the Haines Borough Public Library in 2009. Stacks of hotcakes in rustic homesteads and golden loaves on gourmet tables share origins in starter, a mixture of flour and water teeming with populations of “wild caught” yeast and bacteria. A doughy relationship between microbes and humans in the kitchen connects to a greater network of sourdough traditions that have come to signify adventures, hardships, hotcakes, and bread. In this study of sourdough, a systematic investigation into the culinary tradition offers insight into a staple food that sustained a broad segment of the gold-rush era population. The investigation also examines the prospectors who fried the flapjacks, the people who came to be known as Sourdoughs.

The first chapter of this thesis reviews the discipline of microhistory and the biological basis of sourdough. A lengthy section addresses the basic process of fermentation, the basis for sourdough that connects bakers, locations and the living culture itself. The following chapters investigate the history of sourdough and explain why sourdough, a food made from imported ingredients, not only became a staple in the North but became the symbol of authenticity for many.

Firsthand accounts written between 1896 and 1899 comprise the core of this research. Many gold rush diaries have survived through generations, offering insight into the experiences of fortune seekers from diverse social classes and locations. These primary sources counter the romanticized accounts that became part of the established Sourdough narrative. Diaries culled from collections at the Alaska State Library and “Stamper Files” at Klondike Gold Rush National Historical Park constituted most of the material for chapters three and four. Additional accounts appeared in nineteenth and early twentieth century newspaper articles from both Alaska and across the United States. Supplementary documentation included recipes, supply lists,

guidebooks, photographs, literature, poetry, newspapers, magazines, anecdotes and scholarly journals. Like resident microbes that bring flour and water to life, experiences in Alaska and northern Canada have shaped communities, individuals and literary characters in a doughy subset of northern culture. *Alaska Sourdough: Bread, Beards and Yeast* provides historical context to a modern tradition passed in stories and bubbling pots.

Chapter 1 Microhistory and Microbes

Through the lens of sourdough leaven this study explores broader issues of survival and tenacity in the challenging environment of the frontiers of Alaska and the Yukon Territory. Two concepts of fundamental importance to this focus are microhistory and microbiology.

Microhistory is the methodology that has guided this examination of sourdough to explore broader issues of survival and success in the challenging environment of the remote frontiers in the American West, Alaska and the Yukon Territory. Microbiology, the second concept, concerns the biological basis of sourdough. Sourdough cooking depends on a living culture consisting of several species of yeast and bacteria that cause baked goods to rise before baking. Sourdough bread and hotcakes represent an overlap between the microbial and the human world, a symbiosis linked by refreshments of water and flour.

1.1 Microhistory

Sourdough microbes are literally a small piece of northern history, but sometimes the smallest and most commonplace aspects of daily life offer a window into significant trends in history. In his essay “What is Important in History?” historian Morris Bishop observed, “If importance is what is of import, consequence, and value to me in my daily life, then feudalism, the investiture of bishops, nominalism and realism, all added together, are less important than the buttons on my coat and the zipper on my trousers.”¹ Like buttons on the coat of a commoner, sourdough was part of the background in iconic events like the climb up the Chilkoot Trail in 1898. Each fortune seeker who shouldered a load of goods depended on sourdough starter.

Studies focused on narrow topics in order to tell a larger story are often classified as microhistories. Microhistories come in many forms, prompting historian Jill Lepore to write,

¹ Morris Bishop, “What Is Important in History,” *American Heritage* 19, no. 1 (1967): 2.

“Since there is no American school of microhistory, no mission statement, no journal, no professional association, and few if any self-professed practitioners, we are left to define the genre by its examples, except that, if my suspicion is correct, no one agrees on what those examples are.”² Object-based microhistories like Mark Kurlansky’s *Cod* and have traced commodities through time.³ A number of works have investigated baking ingredients, Linda Civitello’s *Baking Powder Wars: The Cutthroat Food Fight That Revolutionized Cooking* investigated the collision of marketing and chemistry during the early years of mass-produced baking powder.⁴ Others have examined lifestyles and mentalities of people who are absent from the historical record. Emmanuel Le Roy Ladurie’s *Montaillou* drew a picture of French townspeople in a small fourteenth century village through the reports of a fervent inquisitor.⁵ Other works have dissected a significant event in history. George Stewart’s *Pickett’s Charge: A Microhistory of the Final Charge at Gettysburg, July 3, 1863*, painstakingly documented the 20-minute “climax of the climax” of the Civil War.⁶ Still others resemble biographies, *A Midwife’s Tale*, by Laurel Thatcher Ulrich, is the annotated diary of Martha Ballard, a midwife in early nineteenth century Maine.⁷

A number of currents of thought have contributed to the methods of microhistory. In his article “What is Micro in Microhistory” Matti Peltonen observed that modern meanings of “micro” and “macro” first appeared in post-World War II economic scholarship. Instead of looking at overarching forces such as inflation or gross domestic product, economists began to

² Jill Lepore, "Historians Who Love Too Much: Reflections on Microhistory and Biography," *Journal of American History* 88, no. 1 (2001): 130.

³ Mark Kurlansky, *Cod: A Biography of the Fish that Changed the World* (New York: Penguin, 1998), 1.

⁴ Linda Civitello, *Baking Powder Wars: The Cutthroat Food Fight That Revolutionized Cooking* (Chicago: University of Illinois Press, 2017), Kindle Location 131.

⁵ Emmanuel Le Roy Ladurie, *Montaillou: The Promised Land of Error* (New York: Vintage Books, 1979), 1.

⁶ George Rippey Stewart, *Pickett's Charge: A Microhistory of the Final Attack at Gettysburg, July 3, 1863* (Boston: Houghton Mifflin, 1959), ix.

⁷ Laurel Thatcher Ulrich, *A Midwife's Tale* (New York: Vintage Books, 1991), 1.

examine how supply, demand and other market forces shaped economic behavior of individual companies or households.⁸ Looking beyond economics, Edward Muir pointed to emerging interests in short or small-scale studies in a variety of disciplines throughout the 1960s and 1970s. In his article “Observing Trifles,” Muir cited Jane Goodall’s long-term observation of individual animals in their natural surroundings rather than measurements and samples analyzed in a lab.⁹ Ethnographers and anthropologists followed suit with a new focus on how individuals shaped society. Many microhistorians, including Giovanni Levi, have pointed to anthropologist Clifford Geertz’s concept of “thick description,” an approach that prized context and interpretation when analyzing human behavior.¹⁰

Microhistories tend to concentrate on topics that are under-documented or overlooked in the historical record. Edward Muir, editor of *Quaderni storici*, argued that microhistory rejected categorizations, favoring social interactions and human agency over statistics and trends. This new “common sense” approach required a new reading of texts that looked at fragmented details of daily life in archival material.¹¹ Natalie Zemon Davis, author of *The Return of Martin Guerre*, described her inquiry into a 16th century French court trial as an investigation into the “social creativity of the so-called inarticulate.”¹²

In his article “Is Small Beautiful?” Brad Gregory differentiated between two types of microhistory: episodic and systematic accounts. Episodic histories analyze an uncommon event that highlights a cultural network while systematic histories piece together ordinary, regular

⁸ Matti Peltonen, "What Is Micro in Microhistory?," in *Theoretical Discussions of Biography: Approaches from History, Microhistory, and Life Writing*, eds. Hans Renders and Binne de Haan (Boston: Brill, 2014), 107-108.

⁹ Edward Muir, "Observing Trifles," in *Microhistory and the Lost Peoples of Europe*, eds. Edward Muir and Guido Ruggiero (Baltimore: Johns Hopkins University Press, 1991), vii.

¹⁰ Giovanni Levi, "On Microhistory," in *New Perspectives on Historical Writing*, ed. Peter Burke (Cambridge: Polity Press, 1992), 98.

¹¹ Muir, "Observing Trifles," ix.

¹² *Ibid.*

interactions that defined a community.¹³ For example, Ben Macintyre's episodic *Operation Mincemeat* told the story of a unique MI5 mission that misdirected Nazi forces during the 1943 Allied invasion of Sicily.¹⁴ On the other hand, Giovanni Levi mined seventeenth century administrative records to examine a medieval Italian town in *Inheriting Power: The Story of an Exorcist*.¹⁵

1.2 Sourdough Microbiology

The sourdough microbes at the heart of this study were unknown for thousands of years, but cooks and bakers have long recognized their importance. Sourdough starter is a microenvironment, the secret behind risen bread. The first step in producing a new sourdough culture begins with mixing water and flour, but the next ingredients, bacteria and yeast, bring a bland bowl of flour and water to life. Sourdough bacteria and yeasts are invisible to the human eye, but their collective presence is readily detectible by smell, sight, touch and taste. Rising bread and the bubbles in a sourdough pot reflect the action of yeasts, producers of carbon dioxide. Sourdough bacteria, on the other hand, produce lactic and acetic acids that lend the distinctive tang to “sour” dough.¹⁶ Air bubbles and acidity are both byproducts of fermentation, the metabolic process that allows bacteria and yeasts to “eat” or convert sugars in the flour to energy. While human bakers seek to nurture microbes that produce lactic acid and carbon dioxide, these substances are also waste products that gradually build as new generations of

¹³ Brad Gregory, "Is Small Beautiful? Microhistory and the History of Everyday Life," *History and Theory* 38, no. 1 (1999): 102-103.

¹⁴ Ben Macintyre, *Operation Mincemeat* (New York: Broadway Books, 2011), 1.

¹⁵ Levi, *Inheriting Power: The Story of an Exorcist* (Chicago: University of Chicago Press, 1988), 1.

¹⁶ Marco Gobbetti and Michael Gänzle, *Handbook on Sourdough Biotechnology* (New York: Springer, 2013), 113.

yeasts and bacteria consume more sugars in the flour. As a result, active starters must be refreshed or “fed” with regular additions of flour and water.¹⁷

1.2.1 A Harvest out of Thin Air

Human bakers do not measure or mix bacteria and yeasts; instead they simply allow these tiny microbes to enter a mixture of flour and water from the immediate surroundings. A haze of microscopic organisms is omnipresent in virtually every environment on earth; microbes exist in air, water and soil, covering every surface. Over 4,700 different species of bacteria can live on the human hand alone.¹⁸ Humans often experience microbes as “germs;” as anyone who has suffered through the common cold has fallen victim to an airborne microbe. Most bacteria, viruses, fungi and protozoa that surround us, however, are either innocuous or beneficial.¹⁹ Among the countless microbes found in an everyday environment, a subset of bacteria and yeasts are uniquely adapted to the floury base of a sourdough starter. A 2005 study reported that fifty bacteria and more than twenty yeast species have been found in sourdough cultures, but in all likelihood, other undiscovered bacteria and yeasts exist in starters all over the world.²⁰ Yeast species present in sourdoughs can vary, but bacteria, producers of lactic acid, often belong to the genus *Lactobacillus*.

Establishing a new sourdough culture is simple. The prospective baker captures sourdough yeast and lactic acid bacteria by setting out a mixture of flour and water, uncovered and exposed to the air. After an indeterminate amount of time, microbes present in the

¹⁷ Ed Wood and Jean Wood, *Classic Sourdoughs: A Home Baker's Handbook* (Berkeley: Ten Speed Press, 2011), 5.

¹⁸ Noah Fierer et al., "The Influence of Sex, Handedness, and Washing on the Diversity of Hand Surface Bacteria," *Proceedings of the National Academy of Sciences* 105, no. 46 (August 2008): 17994.

¹⁹ Rob Knight and Brendan Buhler, *Follow Your Gut: The Enormous Impact of Tiny Microbes* (New York: Ted Books, Simon and Schuster, 2015), 9.

²⁰ Luc De Vuyst and Patricia Neysens, "Sourdough Microflora: Biodiversity and Metabolic Interactions," *Trends in Food Science and Technology* 16 (2005): 43.

surrounding environment settle in the starchy “buffet,” of flour and water. Their presence can be detected by the bubbles that appear on the surface of the brew.

Bakers have little control over which species of microbes will inhabit the sugary brew. In his *Classic Sourdoughs*, Ed Wood, microbiologist and sourdough enthusiast, warned, “[T]here is no guarantee that you’ll collect good lactobacilli, and you may encounter problems with contamination by undesirable organisms that also use flour as a nutrient.”²¹ These undesirable, rogue microorganisms are readily identified by a bad odor, or by inactivity. If the first attempt to establish a sourdough culture is unsuccessful, Wood recommended trying again with a fresh container of flour and water placed in a different location.²² In *Cooked*, food writer Michael Pollan described his first (and unsuccessful) attempt at sourdough starter: “as lifeless as plaster,” the starter began and ended inside his home.²³ Pollan’s second attempt, a bowl of flour and water periodically placed outdoors was more fruitful.²⁴ The odds of capturing sourdough yeasts and lactic acid bacteria in a vast microbial stew may seem daunting. However practical experience recorded in cookbooks like *Cooking Alaskan* and Wood’s *Classic Sourdoughs*, demonstrate that the average success rate of starting a starter outweighs failure.

Once sourdough microbes establish themselves in the slurry of flour and water, yeasts and lactic acid bacteria quickly proliferate. Over the course of a week, a nascent starter will usually transform into a stable, well-established population.²⁵ Just a teaspoon of an active, week-old culture will establish itself in a new “pot” filled with water and flour.

²¹ Wood and Wood, *Classic Sourdoughs: A Home Baker's Handbook*, 15.

²² *Ibid.*

²³ Michael Pollan, *Cooked: A Natural History of Transformation* (New York: Penguin Press, 2013), 238.

²⁴ *Ibid.*, 216.

²⁵ Emily Weatherill and Emma Angle, "Could 100-Year-Old Sourdough Be a Myth?" BBC Food, accessed Aug. 9, 2014, www.bbc.co.uk/food/0/19558634.

1.2.2 Microbial Solidarity in Sourdough Starter

Flour, water and a pot furnish the raw materials for a vigorous sourdough culture, but from within it, microbes also create an environment that supports growth of both yeast species and lactic acid bacteria in the sourdough. There are several reasons for this: First, many co-existing sourdough yeasts and bacteria do not compete for the same sugars that provide the fuel for fermentation. Second, sourdough yeast and bacteria produce substances, including acids, that encourage existing microflora in the sourdough culture, while defending against would-be microbial intruders.

1.2.2.1 Synergy in Sugars: Carbohydrate Non-Competition

In many sourdoughs, species of bacteria and yeasts selectively metabolize carbohydrates, or sugars, found in flour. Flour contains large amounts of complex carbohydrates known as starches. Starches, in turn, consist of thousands of sugar molecules joined together to form long chains. These long starch chains are not available to the metabolic systems of sourdough yeasts and bacteria, but when water and flour are mixed together, enzymes already present in the flour begin to break down the starch molecules into shorter chains and, ultimately, into sugar molecules, which are accessible to sourdough yeasts and bacteria.²⁶

1.2.2.2 Monosaccharides and Disaccharides

There are two common categories of sugars in sour doughs: monosaccharides and disaccharides. Monosaccharides are made up of one sugar molecule, disaccharides consist of two sugar molecules joined together. Glucose, a hexagonal monosaccharide, is the most common

²⁶ Charles W. Bamforth, *Food, Fermentation, and Micro-Organisms* (Oxford: Blackwell Science, 2005), 6.

sugar in living things (Figure 1.1).²⁷ Fructose, another common monosaccharide, shares the same chemical formula as glucose $C_6H_{12}O_6$, but has its side groups arranged differently, forming a five-sided ring (Figure 1.2).

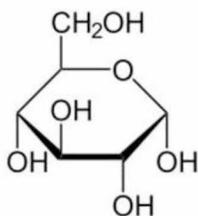


Figure 1.1 Glucose

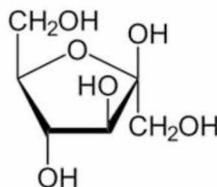


Figure 1.2 Fructose

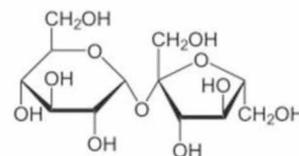


Figure 1.3 Sucrose

Sucrose, familiar as common table sugar, is a disaccharide consisting of one glucose and one fructose subunit (Figure 1.3). Maltose, an important disaccharide in sourdough cultures, consists of two glucose subunits joined together. In short, the sugars that result from the breakdown of starches differ in chemical and physical makeup.²⁸

In many sourdough cultures, bacteria and yeasts metabolize different sugars, such as glucose and maltose. By doing this, they are not competing for the same energy source and can multiply without infringing on each other's resources. Carbohydrate sharing is especially apparent in well-studied relationships between the bacterium *Lactobacillus sanfranciscensis* and two yeasts: *Saccharomyces exiguus* or *Candida humilis*. Maltose, common in wheat flour is preferred by *L. sanfranciscensis*, while *S. exiguus* and *C. humilis* metabolize other sugars: sucrose, glucose and fructose.²⁹ Furthermore a 1971 study of five sourdoughs confirmed an overwhelming prevalence of *L. sanfranciscensis* and the yeast *S. exiguus* working in tandem in each culture. Yeasts in four of the five starters were unable to metabolize maltose, the favored

²⁷ Figures 1.1, 1.2 and 1.3 are public domain images from Wikimedia Commons.

²⁸ Neil A. Campbell, *Biology*, 4th ed. (Menlo Park, CA: Benjamin/Cummings Pub. Co., 1996), 67.

²⁹ De Vuyst and Neysens, "Sourdough Microflora: Biodiversity and Metabolic Interactions," 51.

nourishment of *L. sanfranciscensis*.³⁰ Besides differences in sugar metabolism, other growth requirements have also contributed to microbial co-existence in sourdough starter.

1.2.2.3 Acidic Growth Requirements

Lactic and acetic acids, waste products of fermentation, are distinctive attributes of sourdough cultures. While these bacterial waste products will eventually hamper growth if the culture is not refreshed with a new batch of flour, the acids also lower the pH, (increase the acidity) of each culture, which creates an ideal environment for lactic acid bacteria and yeasts. A study of nineteen Italian sourdoughs found that cultures were typically highly acidic, with an average pH value of 3.97, a level of acidity that accommodates many favorable bacteria,³¹ *L. sanfranciscensis* for example will not grow below a pH of 3.8.³² While a high acidity is ideal for strains of lactobacillus and yeasts found in sourdough, it also creates an inhospitable environment for most contaminants and rival bacteria and yeasts.

1.2.2.4 Antimicrobial Byproducts of Fermentation

Another protection against harmful microbial intruders comes from antimicrobial substances produced by various species of lactobacilli, including ammonia, ethanol, hydrogen peroxide, bacteriolytic³³ enzymes and antibiotics.³⁴ These elements not only prevent

³⁰ T.F. Sugihara, Leo Kline, and M.W. Miller, "Microorganisms of the San Francisco Sour Dough Bread Process, Yeasts Responsible for the Leavening Action," *Applied Microbiology* 21, no. 3 (1971): 456.

³¹ Fabio Minervini et al., "Lactic Acid Bacterium and Yeast Microbiotas of 19 Sourdoughs Used for Traditional/Typical Italian Breads," *Applied and Environmental Microbiology* 78, no. 4 (2011): 1254.

³² De Vuyst and Neysens, "Sourdough Microflora: Biodiversity and Metabolic Interactions," 46, 51.

³³ Bacteriolysis: disintegration or dissolution of bacteria.

³⁴ Antibiotic: a chemical that kills or inhibits bacterial growth.

contamination of the culture, but also extend the shelf life of the resulting bread, discouraging molds, fungi and harmful bacteria from growing in the acidic loaf.³⁵

The microbial community of each sourdough starter is so interrelated and complex (technically, sourdough microbes are in a stable relationship, not symbiosis), that researchers have found it difficult to grow strains of sourdough yeasts and bacteria in isolation. *L. sanfranciscensis* in particular will not grow in standard laboratory cultures without the addition of wheat bran and fresh baker's yeast, accommodations that emulate sourdough starter.³⁶ While neither lactic acid bacteria nor yeast is dependent upon the other for survival in the microbial wild, the environment created in a well-maintained sourdough contributes to the remarkable persistence of sourdough cultures.

1.2.3 Microbial Variation and Taste

A stable association between lactic acid bacteria and yeast contributes to longevity and balance in all sourdough cultures, but the microbiological makeup of each varies significantly. While lactic acid bacteria always outnumber yeasts, the ratio can range from 100:1 to 10:1.³⁷ These differences result in unique attributes. A culture with 100 lactic acid bacteria to each yeast cell would taste and smell more acidic than a starter with a ratio of 10:1. In the same way, a less acidic starter with higher proportions of yeasts would rise more readily because of a higher production of carbon dioxide.³⁸

³⁵ Luc De Vuyst and Erick J. Vandamme, *Bacteriocins of Lactic Acid Bacteria: Microbiology, Genetics, and Applications* (New York: Springer, 1994), 92.

³⁶ De Vuyst and Neysens, "Sourdough Microflora: Biodiversity and Metabolic Interactions," 50.

³⁷ Minervini et al., "Lactic Acid Bacterium and Yeast Microbiotas of 19 Sourdoughs Used for Traditional/Typical Italian Breads," 1255.

³⁸ Salim-ur Rehman, Alistair Paterson, and John R. Pigott, "Flavour in Sourdough Breads," *Trends in Food Science and Technology* 17 (2006): 557.

In addition to variation in the ratio of bacterial to yeast cells, particular species of lactic acid bacteria and yeasts also differentiate sourdough cultures. In a comparison of two cultures, the dominant lactic acid bacteria contributed to the flavor of the bread. One, with a dominance of *L. sanfranciscensis* had a “pleasant, mild, sour odour and taste,” whereas another that featured *L. plantarum* “had an unpleasant metallic sour taste.”³⁹ The difference in tastes resulted from different alcohols and acids that each species produces as metabolic waste products.⁴⁰ In 2005, microbiologists counted more than fifty species of lactic acid bacteria and more than twenty yeast species in worldwide sourdough cultures, though the study noted that other unidentified bacteria and yeasts likely existed.⁴¹ In addition to these primary microbial actors, a number of yeasts naturally present in flour or the kitchen atmosphere also inhabit the starter. If these other microbes are present in significant numbers, they can change the flavor of the resulting dough.⁴² Because microbes that inhabit sourdough starter come from the surroundings, location strongly influences the flavor.

1.2.4 Homegrown Microbes

Varying from household to household, starters are uniquely “personalized” to each owner based on the immediate locality. This personalization closely resembles the concept of “terroir.” Often associated with wine, *terroir* is a French word meaning “soil” or “land” that refers to a unique soil composition or climate that has imbued agricultural products with flavors distinctive to a specific region. The French Embassy has defined “terroir” as a “mix between a geographical definition and a cultural one. It is a geographical area with specific geological, hydrological, soil

³⁹ Ibid., 562.

⁴⁰ Ibid.

⁴¹ De Vuyst and Neysens, "Sourdough Microflora: Biodiversity and Metabolic Interactions," 43.

⁴² Walter P. Hammes et al., "Microbial Ecology of Cereal Fermentations," *Trends in Food Science and Technology* 16 (2005): 9.

and climate characteristics. But it is more than that. The terroir has a strong cultural side. It is the reflection of the human societies that work its land. Different societies produce different terroir within the same territory.”⁴³

In the same way that soil and climate shape the taste of grapes, sourdough starters are influenced by the infusion of microbes and flavors from the local water and air, and even by microbes transferred from the baker’s hands.⁴⁴ Additionally, a single starter will behave differently when fermented at higher temperatures or combined with varied ingredients. As a result of variations in location and ingredients, different flavors and behaviors specific to each starter and baker have shaped human relationships with sourdough cultures.

1.2.5 Location and Ingredients

San Francisco is perhaps best known for producing a distinctive sourdough starter whose pungent self-titled loaves are famous for both 1849 gold rush provenance and their strong sour flavor. In 1971, three Bay Area microbiologists from the U.S. Department of Agriculture sought to identify the organisms that were responsible for the trademark bread. In a landmark paper, Sugihara, Kline and Miller examined starters from five different bakeries in the region and found that, although the bakeries had not exchanged starters, the microbial populations in the five different starters were almost identical. All showed a predominance of the yeast *S. exiguus* and a previously unidentified bacterium.⁴⁵ Christened *Lactobacillus sanfrancisco* (later becoming *L. sanfranciscensis*) in honor of its Bay Area discovery, the bacterium has since been identified in

⁴³ "Terroir, a Concept and Practice," Ambassade de France, accessed June 10, 2015, <http://frenchfoodintheus.org/1034>.

⁴⁴ Pollan, *Cooked: A Natural History of Transformation*, 216.

⁴⁵ Sugihara, Kline, and Miller, "Microorganisms of the San Francisco Sour Dough Bread Process, Yeasts Responsible for the Leavening Action," 457.

sourdoughs around the world.⁴⁶ The exact origins of sourdough microbes that make each starter distinct, however, remain a mystery, and *L. sanfranciscensis* has yet to be found outside a sourdough culture.⁴⁷

1.2.6 Airborne and “Flour” borne Ingredients

Evidence suggests that flour and air are the primary sources of sourdough microbes. A 1978 study of 54 flours from six regions of the United States found bacterial counts ranging from 870 to 3,100,000 cells per gram.⁴⁸ Later studies have confirmed that certain varieties of flour can be correlated with different types of sourdough. For example, starters fed with *Triticum durum*, a durum wheat flour, hosted a higher proportion of lactic acid bacteria to yeasts. On the other hand, in cultures fed with *Triticum aestivum*, a whole wheat flour; the starters were characterized by different types of bacteria and an increase in yeast density.⁴⁹ Microbes in the flour alone, however, are unlikely to initiate or dominate a new culture.

Instead, it is likely that microbes in the air are the primary source for sourdough microbes. An analysis of twenty-one sourdough starters from eleven artisan bakeries in seven Belgian provinces, found that starters made from wheat, rye, spelt or a mixture of grains were strikingly similar if they came from the same bakery. On the other hand, little correlation was found among starters fed with the same flours from different bakeries.⁵⁰

⁴⁶ Kline and Sugihara, "Microorganisms of the San Francisco Sour Dough Bread Process, Isolation and Characterization of Undescribed Bacterial Species Responsible for the Souring Activity," *Applied Microbiology* 21, no. 3 (1971): 465.

⁴⁷ Hammes et al., "Microbial Ecology of Cereal Fermentations," 9.

⁴⁸ R.F. Rogers and C.W. Hesseltine, "Microflora of Wheat and Wheat Flour from Six Areas of the United States," *American Association of Cereal Chemists* 55, no. 6 (1978): 889.

⁴⁹ Minervini et al., "Lactic Acid Bacterium and Yeast Microbiotas of 19 Sourdoughs Used for Traditional/Typical Italian Breads," 1259.

⁵⁰ Ilse Scheirlinck et al., "Influence of Geographical Origin and Flour Type on Diversity of Lactic Acid Bacteria in Traditional Belgian Sourdoughs," *Applied Environmental Microbiology* 73, no. 19 (2007): 6268.

Another study at an archaeological site in Egypt demonstrated the importance of local airborne microorganisms when archaeologists and microbiologists recreated an ancient Egyptian bakery. In 1991, archaeologists excavated an Old Kingdom bakery in Giza, which dated from 2,500 BC.⁵¹ Following the discovery, sourdough enthusiast Ed Wood recreated the bakery onsite. The archeological site revealed information about the mechanics of ancient bread making, but Wood paid particular attention to the starter, gathering emmer and Kamut, precursors to modern grains, while still in the United States.⁵² To ensure that the grains were sterile, a colleague exposed the heirloom flours to 500,000 rads of gamma radiation over a period of twelve hours, killing all living organisms that might compete with Egyptian counterparts.⁵³ Upon arrival in Egypt, Wood exposed the sterile flour to Giza air, finding the first fermentative bubbles on the surface after a number of false starts.⁵⁴ Eventually however, microbes in the air rather than those in the flour populated the Egyptian starter, leavening the “ancient” bread. The primacy of airborne versus flour borne microbes continues to be a subject of debate. While possible to initiate a starter with airborne microbes alone, it is clear that microbes in the flour and in the air work together to establish a sourdough culture.

1.2.7 Starters through Time

Unlike other foods that spoil within weeks, sourdough cultures can remain edible for decades, with generations of human caretakers nurturing generations of microbes. As long as the starter is regularly fed new supplies of flour and protected from temperature extremes, it theoretically can continue to regenerate indefinitely. As a result, the interrelated questions of

⁵¹ Ed Wood, *World Sourdoughs from Antiquity* (Berkeley: Ten Speed Press, 1996), 7.

⁵² *Ibid.*, 9.

⁵³ *Ibid.*, 10.

⁵⁴ *Ibid.*, 12.

stability over time and microbial terroir remain subjects of debate. In other words, whether in New York or Phoenix, will a gold rush-era sourdough from San Francisco retain the trademark flavor and microbial provenance of the Bay Area? Will an Alaskan sourdough dating from the gold rush retains the taste of nineteenth century life on the trail? Some guardians of decades-old sourdough cultures claim the immutability of their culture’s microbial populations and taste through time and place.

A prime advocate of this perspective was Ruth Allman of Juneau, niece of Alaskan judge and politician James Wickersham. Between 1953 and 1984 Ruth Allman welcomed visitors and locals to a well-appointed table that featured flaming sourdough waffles and an engaging look into Alaska history at the Wickersham House. One local visitor remembered, “Ruth’s storytelling amounted to an oral history of the state.”⁵⁵ Ruth proudly wrote that she was raised by “Alaska pioneers of the 1900 vintage.”⁵⁶ Particularly, Allman remembered Judge Wickersham’s description of making sourdough with silty glacial runoff. If Ruth complained about being hungry “the Judge” would admonish, “Young Lady, if you are really hungry—even sand will fill your craw!”⁵⁷ Later, Ruth depended on sourdough when she and her husband, Jack Allman, lived in bush Alaska.⁵⁸ In 1976, Allman compiled sourdough recipes and stories in her cookbook *Alaska Sourdough: The Real Stuff by a Real Alaskan*. Dedicated to “Alaskan-Yukon Sourdoughs,” Allman’s book quickly became classic. She interwove stories about packing sourdough starter on airplanes and in car trunks with the adventures of mushers and gold miners. With each batch of sourdough waffles, Allman added to the heritage of her decades-old sourdough.

⁵⁵ Renee Guerin, "Celebrating the Wickersham Tradition," *Juneau Empire*, May 9, 2000.

⁵⁶ Ruth Allman, *Alaska Sourdough* (Portland: Alaska Northwest Books, 1976), 2.

⁵⁷ *Ibid.*, 33.

⁵⁸ *Ibid.*, 2.

Many of Allman's recipes and much of her advice appeared in *Cooking Alaskan*. The 1983 compilation of recipes published by the editors of *ALASKA* magazine represented almost fifty years of culinary advice submitted by readers across the state.⁵⁹ Written by self-identified "Alaskans," the cookbook is now in its twenty-second printing, and has instructed home cooks on dishes ranging from "Whale Oil Sugar Cookies" to "Sautéed Fiddleheads." In this definitive source of modern Alaska cuisine, a chapter entitled, "All About Sourdough" provides sourdough recipes and advice. The "Secret to Crisp, Crunchy Sourdoughs" is baking soda. A bread recipe from Kenai uses whale oil instead of butter or vegetable oil.⁶⁰ "Hints From Sourdoughs" includes instructions for using sourdough to tan hides, and measurements to convert a yeast-bread recipe to a sourdough.⁶¹ In addition to practical instructions, the book perpetuates the excitement that some enthusiasts feel about owning a starter. Not only does sourdough reflect the unique flavors of the surrounding environment, sourdough will "jump up to hug you" after each feeding,⁶² the book claimed.

Like Allman, the editors of *Cooking Alaskan*, maintained the older the better: "when someone offers you a half-cup (or even a spoonful) of sixty-year-old sourdough, take it."⁶³ The editors conceded that some Alaskans felt differently, and included a recipe for "Sacriligious Sourdough Starter," ready in a day,⁶⁴ but affirmed, "[w]e still cherish our belief that sourdoughs (and Sourdoughs) improve with age."⁶⁵

Others have staunchly advocated the immutability of sourdoughs in spite of changes in place. Ed Wood author of *Classic Sourdoughs: A Home Baker's Handbook*, published in 2011

⁵⁹ *Cooking Alaskan* (Anchorage, Alaska: Alaska Northwest Pub. Co., 1983), xi.

⁶⁰ *Ibid.*, 374, 84.

⁶¹ *Ibid.*, 374.

⁶² *Ibid.*, 372-373.

⁶³ *Ibid.*, 372.

⁶⁴ *Ibid.*, 375.

⁶⁵ *Ibid.*, 374.

claimed it was a “myth that moving a culture from one location to another will result in its becoming contaminated by the local organisms. That is absolute nonsense without an iota of evidence.”⁶⁶ Wood argued that the symbiotic relationship between lactic acid bacteria and yeasts in an established culture was strong enough to outcompete any other microbes that might settle in the medium.

On the other hand, there are many who think the notion of sourdough improving with age and remaining unchanged through fluctuating environments, is a myth. In recent decades, microbiologists and biochemists who focus on sourdough have studied sourdough bacteria and yeasts and the factors that influence their numbers and diversity. Findings suggest a more nuanced view of the long-term stability of sourdough cultures than that held by Wood. While scientists would agree that the stable relationship between lactic acid bacteria and yeasts tends to create self-protective stable cultures, they have observed that this stability is not absolute. Large or small changes in microbial composition may occur over time in response to a variety of environmental factors.⁶⁷

When robust sourdough cultures are maintained in established bakeries that adhere to strict protocols, it is usually possible to achieve relative stability, maintaining the dominant species of sourdough bacteria and yeasts.⁶⁸ An example of this can be seen in the results of a European study published in 1995. This study involved monitoring a commercially-maintained rye sourdough culture for a decade. Over the 10 years, the microbial composition of the starter changed; in fact, the majority of the original sourdough microbes had been replaced by different species. The dominant bacterium, *Lactobacillus reuteri*, however, persisted throughout the entire

⁶⁶ Wood and Wood, *Classic Sourdoughs: A Home Baker's Handbook*, 15.

⁶⁷ Minervini et al., "Ecological Parameters Influencing Microbial Diversity and Stability of Traditional Sourdough," *International Journal of Food Microbiology* 171 (2014): 141.

⁶⁸ *Ibid.*

period. One clue to the persistence of *L. reuteri* was reutericyclin, an antibiotic produced by *L. reuteri* that was known to be active against a broad range of other bacteria, including *L. sanfranciscensis*.⁶⁹

On the other hand, when important environmental conditions are not rigorously maintained, the stability of cultures can be compromised. In 2012, a team of researchers from the University of Bari in Italy published a study that examined the behavior of the same starter growing in two environments. Two samples each of seven sourdough cultures were grown under the same protocol, but in two radically different settings, one in a sourdough bakery and the other in a laboratory. After 80 days, the concentration of yeasts had declined markedly in all samples grown in the laboratory, but had not declined in the bakery samples. The difference in setting where the samples were grown had produced a devastating effect in the laboratory-grown samples.⁷⁰ Marco Gobbetti, one of the microbiologists who conducted the study, recognized a human attachment to heirloom sourdoughs, affirming, “yes, several people claim to have stable sourdoughs for decades, [but] in my experience, this is extremely rare.” He noted that the same ingredients, temperature and conditions would have to remain consistent for a sourdough to remain stable through time.⁷¹ The likelihood of stability, particularly during the gold rush era, for example, would be next to impossible.

1.2.8 Sourdough Variations

Like any living organism, microbes in sourdough starter react to environmental changes. Sourdough bakers can attest to the effects of hot and cold on rising dough. In his satirical piece

⁶⁹ De Vuyst and Neysens, "Sourdough Microflora: Biodiversity and Metabolic Interactions," 52.

⁷⁰ Minervini et al., "Influence of Artisan Bakery- or Laboratory- Propagated Sourdoughs on the Diversity of Lactic Acid Bacterium and Yeast Microbiotas," *Applied and Environmental Microbiology* 78, no. 15 (2012): 5328.

⁷¹ Weatherill and Angle, "Could 100-Year-Old Sourdough Be a Myth?"

“Housekeeping in the Klondike,” Jack London described the difficulties of maintaining sourdough at a constant temperature in the close quarters of a cramped cabin, “Tom fires up the stove till the cabin is become like the hot-room of a Turkish bath; Dick forgets all about the fire till the place is a refrigerator; then along comes Harry and shoves the sourdough bucket right against the stove to make way for the drying of his mittens. Now heat is a most potent factor in accelerating the fermentation of flour and water, and hence the unfortunate cook is constantly in disgrace with Tom, Dick and Harry.”⁷²

Indeed, heat will accelerate the process and, as London put it, “accelera[te] the fermentation of flour and water” to make the dough unbearably sour, so that “the unfortunate cook is constantly in disgrace with Tom, Dick and Harry.” Whether intentional or not, the surrounding environment created by human caretakers, continues to change the taste and efficacy of each starter, from month to month, let alone year after year.

1.2.9 Temperature

In one study scientists evaluated one particular starter at different temperatures. At 25°C the starter demonstrated a dominance of yeast *Candida humilis*, paired with bacteria *Lactobacillus sanfranciscensis* and *L. mindensis*. At 30°C *Saccromyces cerevisiae* became most prevalent with *L. crispatus*, *L. frumenti* and *L. pontis*. And at 40°C *C. glabrata* and *Issatchenkia orientalis* were the dominant species.⁷³ In short, a difference of 15 degrees dramatically changed the dominant species in a single starter, a scientific backing for the foibles recounted in Jack London’s Klondike cooking.

⁷² Jack London, "Housekeeping in the Klondike," *Harper's Bazaar*, September 15, 1900, 1228.

⁷³ C. B. Meroth et al., "Monitoring the Bacterial Population Dynamics in Sourdough Fermentation Processes by Using PCR-Denaturing Gradient Gel Electrophoresis," *Applied Environmental Microbiology* 69, no. 1 (Jan 2003): 475.

One actual Klondike stamper and sourdough baker, Lesse Bachelder, confirmed that cold temperatures could hamper sourdough efforts. In November and December of 1898 Bachelder and his party lived in a partially completed cabin in Dawson. November temperatures dipped as low as, -30°F and Bachelder experienced limited success with his sourdough breads, making “a horrible mess of stuff.”⁷⁴ Yet Bachelder’s pot survived the cold temperatures, and once the cabin was chinked and “quite warm” he “got some good light bread again.”⁷⁵

A cold cabin undoubtedly hindered the activity of Bachelder’s sourdough starter, but as he noted, the starter continued to provide meals. Yeasts can survive and ferment when the temperature drops as low as 4°C but cold starter remains apathetic, and a sustained period of low temperatures causes microbes to go dormant, ceasing fermentation.⁷⁶ When a cold starter is warmed to room temperature however, some yeasts can begin to ferment again within 15 minutes.⁷⁷ Oftentimes stampedeers and mushers maintained a constant temperature through body heat, carrying sourdough in shirt pockets during the day, or sleeping with it at night.⁷⁸

Temperature extremes in the upper register could also prove difficult. In *Classic Sourdoughs* Wood cautioned bakers, “culture cannot be easily destroyed except by too much heat. Never expose it to temperatures above 100°F (38°C).”⁷⁹ High temperatures speed fermentation to a rate that leads to bacterial overproduction of acids and a very sour starter, interfering with yeast metabolism⁸⁰ and resulting in flat, sour loaves.⁸¹ After a year of traveling

⁷⁴ Lesse A. Bachelder, Diary, November 23, 1898, Stampeder Accounts, Klondike Gold Rush National Historical Park, Skagway, Alaska.

⁷⁵ *Ibid.*, December 15, 1898.

⁷⁶ M. Wick et al., "Influence of Several Process Parameters on Sourdough Fermentation," *ACTA Biotechnologia* 23, no. 1 (2003): 60.

⁷⁷ Gobbetti and Gänzle, *Handbook on Sourdough Biotechnology*, 165.

⁷⁸ Ruth Allman, *Alaska Sourdough* (Portland: Alaska Northwest Books, 1976), 29.

⁷⁹ Wood and Wood, *Classic Sourdoughs: A Home Baker's Handbook*, 14.

⁸⁰ Gobbetti and Gänzle, *Handbook on Sourdough Biotechnology*, 166.

⁸¹ Wood and Wood, *Classic Sourdoughs: A Home Baker's Handbook*, 35.

to Dawson, Tappan Adney described making eighteen loaves of sourdough bread that were so sour that “not even passing dogs would eat, [them].”⁸²

Fixing a sour starter required moderate temperatures and more frequent feedings, but since these conditions were not always achievable, resourceful trail cooks devised alternatives. As Jack London made clear, each miner “will spring his own strange and marvelous theory as to how sour-dough bread should be mixed and baked If you should happen to catch him on trail, completely exhausted, you may blacken his character, his flag, and his ancestral tree with impunity; but breathe the slightest whisper against his sour-dough bread, and he will turn upon and rend you.”⁸³

Using only sugar, grease, baking soda and flour, camp cooks could regulate sourdough flavors. Pancake batter in particular, was a staple on the trail, and stampedeers found that adding a tablespoon of sugar fed the fermentation process, resulting in more organic acids and a more sour taste.⁸⁴ On the other hand, adding just a teaspoon of basic baking soda to a batter that had over fermented, would neutralize lactic and acetic acids, creating a less pungent flavor. The chemical reaction also released bubbles, creating an airier hotcake.⁸⁵ Recipes rested on pinches of baking soda, teaspoons of sugar, distance from the fire, and even kneading techniques. All were part of the magic of sourdough baking during centuries when no one had any idea of microbiology, the secret behind risen bread.⁸⁶

⁸² Tappan Adney, *The Klondike Stampede* (New York: Harper and Bros, 1900), 335.

⁸³ London, "Housekeeping in the Klondike," 1228.

⁸⁴ Daniel H. Maloney and James Foy, "Handbook of Dough Fermentations," in *Food Science and Technology*, eds. Karel Kulp and Klaus J. Lorenz (New York: Marcel Dekker, 2003), 62.

⁸⁵ Allman, *Alaska Sourdough*, 5.

⁸⁶ London, "Housekeeping in the Klondike," 1228.

Chapter 2: Leavens Through Time

2.1 Sourdough Origins

Sourdough became part of the diet of Alaska and the Yukon Territory as early as the 1700s, but the ferment has been part of human civilization for much longer. Cultural traditions, historical scholarship, and archaeological excavations have pointed to Ancient Egypt as the possible birthplace of sourdough and risen bread. Steven Laurence Kaplan, leading expert on French bread credited “the ancient Hebrews, who discovered by accident that a bit of dough left behind in a container had produced a light bread that tasted good.”¹ In 1991 archaeologist Mark Lehner excavated the oldest known Old Kingdom bakery in the Giza Plateau dating from 2500 BC that provided pyramid workers with rations of leavened bread and beer.² During the Jewish holiday of Passover, unleavened bread commemorates the Exodus, a flight from Egypt so hasty that refugees could not wait for loaves to rise. Risen bread in the ancient world was the exception rather than the rule, however. Bread in Egypt was a luxury, made possible by an enormous workforce. Milling, kneading and maintaining a constant temperature for risen doughs was expensive in terms of human labor and resources. The effort required to gather fuel for bakeries alone, may have resulted in the deforestation of Egypt.³ In other parts of the world, bread remained a rarity. Ancient Greece only began producing risen loaves on a large scale in the fourth century BC, following centuries of trade with Egypt. Risen bread was still uncommon in regions of northern Europe as late as the Middle Ages.⁴

¹ Steven L. Kaplan, *Good Bread Is Back* (Durham: Duke University Press, 2006), 17.

² Ed Wood and Jean Wood, *Classic Sourdoughs: A Home Baker's Handbook* (Berkeley: Ten Speed Press, 2011), 7.

³ Brian V. Hunt, "How Old Are the Pyramids?" Ancient Egypt Research Association, accessed June 17, 2016, <http://www.aeraweb.org/projects/how-old-are-the-pyramids/>.

⁴ Reay Tannahill, *Food in History* (London: Review, 2002), 53, 181.

However, once agricultural and milling technology advanced to produce a steady supply of flour, many world cultures embraced bread as a staple. In Christianity, bread and wine became part of the Eucharist; in Islam, bread was referred to as *aish Allah* “life of God.”⁵ Secular phrases and customs also reflect the primacy of bread. The French phrase *ôter le pain de la bouche*, literally, “taking bread from his mouth” conveyed taking someone’s livelihood in the same way that a *gagne-pain* was a “breadwinner.” A tedious experience was *long comme un jour sans pain* “long like a day without bread.”⁶ In English, “breadwinner,” “bread,” and “dough” have also signified income, “the greatest thing since sliced bread” and “staff of life” underline the central role of the food.

2.2 Barm and Brewer’s Yeast in Europe and North America

Sourdough was the original leaven, but since the time that sourdough arrived in Europe, bakers had been looking for alternatives to maintaining a sourdough starter. One early alternative was barm, a yeast-rich, frothy byproduct of grain and malt-based alcohols.⁷ References to the use of barm in bread making appear in British texts as early as 1200.⁸ Barm was readily available in most European households where brewing was considered a basic skill. A common British saying advised, “as we brew so must we bake.”⁹

Although sourdough is thought to be the first leavening agent used for baked goods, it had disadvantages. The primary drawback was the labor intensive process it involved. A healthy sourdough starter required continued refreshments of flour and water and remained consistently

⁵ E.W.G Mastermann, "Food and Its Preparation in Modern Palestine," *The Biblical World* 17, no. 6 (1901): 410.

⁶ Kaplan, *Good Bread Is Back*, 7.

⁷ Elizabeth David, *English Bread and Yeast Cookery* (New York: Viking Press, 1980), 98.

⁸ Oxford English Dictionary “barm,” Oxford English Dictionary Online, March 2016 accessed April 10, 2016, Oxford University Press, <http://www.oed.com/view/Entry/15604?rskey=P8p11Z&result=2&isAdvanced=false>.

⁹ David, *English Bread and Yeast Cookery*, 97.

active only with a stable temperature and frequent use. Beyond regular feeding, making a loaf of sourdough bread could easily take a day. To do so, the baker first prepared a “sponge,” the doughy foundation for bread, with a portion of active starter. Once the sponge doubled in bulk, more flour was added with salt and oil to make a kneadable dough. The dough was allowed to rise twice and then shaped into a loaf and baked. Those who had mastered an active starter required even more time. In eighteenth century France, sourdough was the favored leaven in bakeries, a baker’s apprentice *le geindre*, “the groaner,” was so named because of the groans he made while kneading over 200 pounds of dough through the small hours of the morning.¹⁰ Sleep-deprived and covered in flour, bakers nonetheless added more flour and water to the growing culture at least every three hours throughout the night.¹¹

Furthermore if used correctly, brewer’s yeast made from barm resulted in airier loaves that were easier to knead and shape than those leavened with sourdough.¹² Although brewer’s yeast resulted in a stronger rise, the process was still labor intensive. Brewer’s yeast could be very bitter, and it was customary for bakers to “wash” or soak distillery yeast in water for several hours, sometimes days, before use, to remove the unpleasant taste. After pouring off the bitter water, bakers would nurture the remaining yeast populations with a starchy ingredient such as mashed potatoes, flour, or sugar.¹³ Even after the yeast was washed and fermented with a sugary base, loaves could become heavy, sticky and sour, if the dough fermented too quickly.¹⁴ As a result, sourdough never completely disappeared. In fact, some doctors and bakers considered brewer’s yeast a contaminant, favoring the gradual fermentation of sourdough.¹⁵

¹⁰ Kaplan, *Good Bread Is Back*, 13, 111.

¹¹ *Ibid.*, 20.

¹² *Ibid.*, 21.

¹³ David, *English Bread and Yeast Cookery*, 99.

¹⁴ *Ibid.*

¹⁵ Kaplan, *Good Bread Is Back*, 22.

In 1670s Paris, doctors from the Faculty of Medicine at the Sorbonne debated the use of brewer's yeast, claiming that bread made with the infusion of brewing byproducts would cause symptoms that mirrored alcoholism. Throughout the 1700s doctors and moralists argued that sudden, forceful fermentation caused by an infusion of brewer's yeast was unhealthy compared to gradual and uniform sourdough fermentation.¹⁶ As the yeast debate raged on in the European medical community, immigrants to Canada and the United States continued to use both brewer's yeast and sourdough, and both methods of leavening continued to provide them with the staff of life.¹⁷

Mrs. Mary Randolph's *The Virginia Housewife* (1838), included recipes for making dried yeast cakes, and methods for preserving liquid yeast made from barm or "ale-yeast." Clearly, both were time savers compared to keeping a sourdough pot in ideal conditions. For instance, Randolph's recipe for "Patent Yeast," called for fresh hops that were boiled, strained and combined with flour to make a "thin batter,"¹⁸ and then combined with "half a pint of good yeast." After a period of fermentation, during which yeast populations grew, the liquid yeast, hops and flour were mixed with the appropriate amount of corn flour to achieve "the consistency of biscuit dough; set to rise, and when quite light, ma[de] into little cakes" that were "dried in the shade."¹⁹ Each cake, which leavened one recipe of bread, was revitalized with water and flour for several hours before it was added to the bread dough.²⁰ This tidy, dried yeast cake was more convenient to keep than a sourdough starter, which had to be tended. It also enabled the baker to preserve brewer's yeast for several weeks.

¹⁶ *Ibid.*, 21.

¹⁷ *Ibid.*

¹⁸ Mary Randolph, *The Virginia Housewife; or, Methodical Cook* (Baltimore: Plaskitt & Cugle, 1838), 137.

¹⁹ *Ibid.*, 138.

²⁰ *Ibid.*, 137.

Choice of dried or liquid brewer's yeast for baking also depended on the location of the household. In her recipe for "Patent Yeast," Randolph pointed out that housewives living near town could "save trouble" by simply purchasing a quart of brewer's yeast from a brewery. The yeast was then diluted with water, fermented with flour, and kneaded with cornmeal.²¹ Randolph's account commented on differences between cooking in urban and rural areas. Increasingly residents on the east coasts of Canada and the United States in the mid-1800s sought out baking ingredients available from local businesses. As towns and cities grew, those who moved to the frontier often had to learn methods that had ceased to be common knowledge in their regions generations earlier.

2.2.1 Hop Rising

In 1855, almost two decades after publication of *The Virginia Housewife* (1838), Catherine Parr Strickland Traill, a British emigrant to Upper Canada (modern-day Ontario), published *The Canadian Settlers' Guide* to aid fellow settlers in adjusting to life in frontier Canada. Early in the book, Traill exhorted her readers that, "REALLY GOOD HOUSEHOLD BREAD." she wrote, was "a thing of the greatest consequence to the health and comfort of a family."²² After seeing to the construction of their cabins, Traill recommended that women plant hops, "an indispensable plant in a Canadian garden," because the climbing vines were "the principal ingredient in making the yeast with which the household bread is raised."²³ Bread, rather than beer, was the primary purpose of growing hops in Traill's Canadian garden, but not every new settler to Canada understood the importance of hops in bread making. Traill was shocked to meet a family who survived on "unleavened cakes... till they were heartily tired of

²¹ *Ibid.*, 138.

²² Catherine Parr Strickland Traill, *The Canadian Settlers' Guide*, 10th ed. (London: E. Stanford, 1860), 4.

²³ *Ibid.*, 15.

them.” The household was saved when a visiting neighbor intervened, giving the servant “some hops and a little barm,” and a lesson in “how to make the yeast called hop-rising.”²⁴ Members of Traill’s homesteading had learned “hop-rising” for baking risen bread, but in settled areas of England or Canada, it was customary to purchase yeast from a local brewer, so much so that those outside of the frontier did not know how to make yeast at home.

2.3 Baker’s Yeast

Twenty years later, a new type of yeast even further simplified bread making in urban areas. Compressed yeast, available in grocery stores after the 1870s, guaranteed a robust and reliable rise without the bitterness of brewer’s yeast or the tangy flavor of sourdough. Unlike a homemade culture, in which bakers or brewers culled an assortment of microbes from the surrounding environment, compressed yeast was produced in a strictly regulated fermentation process that favored rapidly growing species.²⁵ Following Louis Pasteur’s research on yeast and fermentation in the 1850s, companies were able to isolate certain species of yeast that would rapidly ferment sugars, contributing gases to produce risen loaves quickly.²⁶ Scientists identified *Saccharomyces cerevisiae*, a species of yeast that, under ideal conditions, doubled in population every 100 minutes. Even today *S. cerevisiae* continues to serve as the active ingredient in baker’s yeast.²⁷ Unlike modern yeast, that is dried and can remain active for months, compressed yeast was perishable, packaged in clay-like blocks that required refrigeration.²⁸

²⁴ Ibid., 3,4.

²⁵ Eben Norton Horsford, *Report on Vienna Bread, 1873* (Washington D.C.: Government Printing Office, 1875), 787.

²⁶ Ibid.

²⁷ I. Herskowitz, "Life Cycle of the Budding Yeast *Saccharomyces Cerevisiae*," *Microbiological Reviews* 52, no. 4 (1988): 537. Horsford, *Report on Vienna Bread, 1873*, 787. Sarah Tyson Rorer, *Mrs. Rorer's New Cook Book* (Philadelphia: Arnold and Company, 1902), 490.

²⁸ David, *English Bread and Yeast Cookery*, 114.

Compressed yeast swiftly became the leaven of choice in the increasingly industrialized western world and cookbooks began to include brand name yeasts instead of recipes for ale yeast. In 1877, Foote Henderson's *Practical Cooking and Dinner Giving*, recommended "Twin Brothers' yeast,"²⁹ manufactured in Detroit and upstate New York.³⁰ *S. cerevisiae* also became part of the professional baker's vocabulary. As early as 1902 *Mrs. Rorer's New Cookbook*, published in Philadelphia, noted that the "variety [of yeast] best adapted to bread making is *Saccharomyces cerevisiae*."³¹ Sourdough cultures and brewer's yeast required days to infuse a rising dough with gas, but baker's yeast could leaven the same dough in a matter of hours. Rorer advised urban bakers that, "German, or compressed yeasts, sold in almost every city and town, are fresh and active. Being compressed, each cake contains much more true yeast in a small space, than can be obtained in dry cakes or homemade yeast, which enables the busy housewife to make good bread quickly and easily."³²

Dough infused with *Saccharomyces cerevisiae* rose more quickly, not only because of uniformity, but also concentration. A teaspoon of sourdough starter harbors about 50 million yeasts and 5 billion lactic acid bacteria.³³ By contrast, about 60 billion yeast cells lie dormant in a teaspoon of modern dry yeast, all of them fast-growing clones.³⁴ Modern yeasts are stronger than compressed yeasts from the late 1800s, but even then, a concentrated yeast culture shortened the time required for fermentation from a day to just four hours.³⁵

²⁹ Mary F. Henderson, *Practical Cooking and Dinner Giving* (New York: Harper and Brothers, 1877), 65.

³⁰ The Miriam and Ira D. Wallach Division of Art, Prints and Photographs: Photography Collection, The New York Public Library, "Building used by the Waterloo Yeast Co. in manufacturing Twin Brothers' Yeast at Waterloo, N.Y.," New York Public Library Digital Collections, accessed June 18, 2016, <http://digitalcollections.nypl.org/items/510d47e1-a5ac-a3d9-e040-e00a18064a99>.

³¹ Sarah Tyson Rorer, *Mrs. Rorer's New Cook Book* (Philadelphia: Arnold and Company, 1902), 490.

³² *Ibid.*, 491.

³³ Patricia Gadsby and Eric Weeks, "The Biology of Sourdough," *Discover Magazine*, accessed June 17, 2016, <http://discovermagazine.com/2003/sep/featscienceof>.

³⁴ Wood, *World Sourdoughs from Antiquity*, 20.

³⁵ David, *English Bread and Yeast Cookery*, 106.

Another difference between bread leavened with homemade yeast versus baker's yeast was taste. Because baker's yeast raised dough so quickly, there was little time for errant lactic acid bacteria to invade and add a sour tang to the bread.³⁶ Many consumers viewed the absence of a sour taste as an advantage of baker's yeast. An American representative at the 1873 International Exhibition in Vienna complimented one of the first commercially produced breads made with compressed-yeast, noting that the bread was "always light, evenly porous, [and] free from acidity in taste or aroma."³⁷ Descriptions including "free from acidity," and "always light," signaled a strong preference for the taste of pressed yeast that further promoted the time saving, commercially produced product.

2.4 Chemical Leavens: Baking Soda and Baking Powder

"Light-bread" or bread made with yeast, was a basic staple in the nineteenth century diet, but another important food item was biscuits. A fast-rising alternative to yeast-risen bread, biscuits were leavened with baking soda or baking powder. Unlike yeast, which is a living organism requiring hours for growth, baking soda is a chemical, a weak base,³⁸ which instantly releases a burst of carbon dioxide when mixed with an acid.³⁹ Anyone who has mixed baking soda and vinegar together recognizes the fizz that lends lightness to quick breads.

Baking soda had been a familiar component of American cuisine since the colonial period. By the 1700s, American cooks had learned to use "pearlash," or "pearl ash" an alkali derived from wood ashes and added a quick pop of carbon dioxide to cookies and gingerbread.⁴⁰

³⁶ Ibid.

³⁷ Horsford, *Report on Vienna Bread*, 1.

³⁸ A base or an alkaline is the chemical counterpart to an acid. In other words, where acids rank below 7 on the pH scale, bases rank above the neutral pH.

³⁹ Guy Crosby, *The Science of Good Cooking* (Brookline, Massachusetts: America's Test Kitchen, 2012), 358.

⁴⁰ Amelia Simmons, *American Cookery* (Hartford: Simeon Butler, 1798), 36.

By the 1840s commercially produced bicarbonate of soda, baking soda, or simply “soda,” replaced homemade pearlash, and became a standard ingredient in recipes. The 1840 *Directions for Cookery in Its Various Branches* included recipes for “soda biscuits” and “soda water.”⁴¹ Baking soda added carbon dioxide to baked goods, while the alkali also mitigated any sour taste in the dough. *Mrs. Beecher’s Domestic Receipt Book* (1850) noted that if “a tingling sour odor escape[d]” from an over fermented dough made from brewer’s yeast, “a teaspoon of saleratus,” another name for baking soda, could be dissolved in water and “kneaded in” to neutralize some of the excess acid.⁴² Baking soda, a base, released bubbles when it came in contact with an acid, but recipes that lacked acidic ingredients could still benefit from baking soda when bakers added “tartaric acid,” or cream of tartar. For example in *Directions for Cookery in Its Various Branches* (1840), a recipe for “soda water” called for “carbonate of soda,” and “tartaric acid.” Once added to a “soda bottle” filled with water, the mixture was sealed “instantly with a well-fitting cork” to prevent the gas from escaping.⁴³

Before long, chemists had combined cream of tartar and baking soda in a powder that could be added directly to dry ingredients before a liquid caused the chemical reaction and leavening. This mixture of “yeast powders,” an early name for baking powder, came into widespread use in the 1850s. In *Mrs. Beecher’s Domestic Receipt Book*, the author advised adding “three pints of flour to one teaspoonful of soda and two cream tarter,” for a homemade mixture of chemical leaven. Mrs. Beecher also noted that there were “yeast powders for sale” that cooks could use.⁴⁴ By the late 1800s, baker’s yeast, baking soda and baking powder were standard in a cook’s arsenal of ingredients.

⁴¹ Eliza Leslie, *Directions for Cookery*, 10th ed. (Philadelphia: E. L. Carey & A. Hart, 1840), 317, 419.

⁴² Catharine Esther Beecher, *Miss Beecher's Domestic Receipt-Book* (New York: Harper & Brothers, 1850), 84.

⁴³ Leslie, *Directions for Cookery*, 419.

⁴⁴ Beecher, *Miss Beecher's Domestic Receipt-Book*, 233.

While these commercially produced baking aids were common in urban areas, sourdough remained the gold standard for some. In 1880, a *New York Times* article entitled “Yeast: A Problem,” lamented the “lost art” of “bread-making” in the face of “the reign of this squeezed yeast.” The term “squeezed yeast” referred to the commercial cakes of compressed yeast. Although the term “sourdough” was never mentioned in the column, the author described the “lost art” as a loaf made from “just a little flour, a little yeast, a pinch of one or two other things...set away in a properly warm place just long enough to rise.” With this idealized description of sourdough cookery, the article maintained that a baker would easily master the challenges of temperature, timing and ingredients for a “superb” finished product—a beautiful loaf of (sourdough) bread.

In contrast, this *New York Times* article also noted that, hop yeast (or brewer’s yeast) could become “violently explosive” a signature of “natural irregularity” and “perversion” of the hop vine that “twined leftward since Mother Eve made the first mistake.”⁴⁵ Even worse than hop-rising was “Tough, Dough & Co.’s Squeezed Yeast;”—this cheap, “fatally easy” squeezed variety drove “legitimate yeast...to the country,” while the “usurper rule[d] the city in his stead.” The anonymous article named traditional, (sourdough), bread the “genuine bread that complete[d], instead of marring, the work of sun and rain in the wheat-field.”⁴⁶ This impassioned adversary of yeast made from hops and pressed yeast noted that “genuine bread” was still part of baking traditions in the “country.” Indeed, the exiled “legitimate yeast,” sourdough, was still a necessity for those who migrated to rural areas, especially in the West and North.

⁴⁵ “Yeast: A Problem,” *New York Times*, October 10, 1880.

⁴⁶ *Ibid.*

Chapter 3 Sourdough Flourishes on the Frontier

Beyond the cities of nineteenth century America, “legitimate yeast” and sourdough cookery were still a daily way of life because on the frontier, commercial leavens were unavailable. Compressed yeast, which required refrigeration, was not practical, brewers yeast was only an option if settlers were stationary, had farmland to grow hops and the time to brew beer. As successive waves of cowboys, wagon trains and stampeders went West and North during the mid-1800s, these mobile populations turned to sourdough for daily bread.

3.1 Sourdough Bread and Biscuits in the West

During the California Gold Rush of 1848, war veteran George Keeler left Texas for Sacramento where he bought a miner’s outfit and moved from camp to camp in search of a rich gold deposit. When he found a promising claim on Sonora Creek, Keeler decided to remain “more permanently located” and invested in a dutch oven to make, “what we called sourdough bread. This was the Mexican way of baking bread,” he wrote.¹

Keeler, a former soldier with no previous mining experience likely identified sourdough as “the Mexican way of baking bread” because he learned the recipe from Spanish-speaking miners.² While it was clear that these miners from South America and Mexico were proficient sourdough bakers, the process of feeding a starter and baking bread did not appear in Mexico, nor was sourdough exclusive to nineteenth century California. Rather than nationality or place, sourdough in the 1800s and early 1900s reflected lifestyles on the frontier.

¹ Annie Keeler Williams and George W. Keeler, *Early California Gold Rush Days* (Sunland: 1948), 17.

² *Ibid.*, 16.

Another adventurer in the 1860s learned about sourdough during the Cariboo Gold Rush in southwestern British Columbia.³ From 1864 to 1868, Scottish miner and poet James Anderson documented his experiences of gold rush life his book *Sawney's Letters, or, Cariboo Rhymes*. In Scottish brogue, Sawney explored subjects ranging from working worthless claims to the importance of outerwear:

<p>We get as thin and lean as weevils ; <i>We get as thin and lean as weevils ;</i> O'wark we canna get a stroke, <i>of work we cannot get a strike</i> We're what they ca' out here 'dead broke'"⁴ <i>We're what they call out here 'dead broke</i></p>	<p>Whate'er ye are aboet, <i>Whatever you are about</i> If there's a 'hole in a' your coat' <i>If there's a hole in your coat</i> Their sure to find it oot.⁵ <i>They're sure to find it out</i></p>
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Anderson also mentioned a new knowledge of sourdough, a skill that he had learned in the mining camps:

Gie my respecks to your guid wife ;
Give my respects to your good wife ;
 If ever I get hame to Fife,
If ever I get home to Fife,
 I'll teach her hoo to mak loaf bread.
I'll teach her how to make [a] loaf [of] bread./
 Wi'sour dough⁶
With sourdough

Anderson's note about "sour dough" loaves suggested that both he and his Scottish contemporaries were unfamiliar with sourdough cookery before their trip North. Sourdough, it appeared, occupied a central role in the miners' diets. By 1862, Quesnel Forks, a major supply center for Cariboo miners, was in top form, profiting from the demand for supplies. In the spring of 1862, the Quesnel newspaper highlighted a shipment of "75,000 pounds of flour" in

³ Desmond Morton, *A Short History of Canada*, 6th ed. (Toronto: McClland & Stewart, 2006), 83.

⁴ James Anderson, *Sawney's Letters, or, Cariboo Rhymes from 1864 to 1868*, Archive.org Online Repository, 6.

⁵ *Ibid.*, 8.

⁶ *Ibid.*, 7.

anticipation of a new wave of fortune seekers, and lumped all other supplies together as “125,000 pounds of other goods,”⁷

Flour and sourdough were important for both bread and for the quicker version of biscuits, made with sourdough and soda. Biscuits were a more rapid alternative to risen bread because the leaven was instant. The acidic batter of sourdough was an ideal complement to the alkaline soda. When mixed together the acid and the base reacted, yielding a strong burst of bubbles, a quick rise that would also moderate the sour taste of the dough. Mary Burlison was a child when her family left Missouri for New Mexico in a wagon train during the 1860s. While traveling with about 100 other prairie schooners she remembered, “women made the bread out of sourdough and used Soda. . . . The men baked the bread in dutch ovens over the camp fires.”⁸ In some areas of the west sourdough biscuits were an indication of mastery of camp cooking as much as sourdough bread.

Nineteenth century cowboys also were familiar with sourdough. After the Civil War, a new market for beef ushered in an era of large-scale “roundups.” Groups of men would lead large herds of cattle to graze through unpopulated areas for months at a time. According to one rancher in 1880s Oklahoma, ten men tended to five thousand cattle.⁹ A cook and a “chuck wagon” followed each herd.¹⁰ In 1952, the Western States Folklore Society published “The Sourdough Biscuit” a short article that noted that “Many a camp cook gained his reputation on the quality of his biscuits; and ‘Old Sourdough’ was a term of approbation rather than of

⁷ William Carew Hazlitt, *The Great Gold Fields of Cariboo* (London: Routledge, 1862), 115.

⁸ Mary E. Burlison, *Pioneer Story*, Library of Congress online repository, 1.

⁹ Lee D. Leverett, interview by Sheldon F. Gauthier, Folklore Project, Life Histories, 1936-39, Library of Congress online repository, 2.

¹⁰ Ramon F. Adams, *Come an' Get It; the Story of the Old Cowboy Cook* (Norman: University of Oklahoma Press, 1952), 8-9.

insult.”¹¹ Sourdough biscuit, the article observed, was the primary type of bread served on the plains of New Mexico and Texas.

In 1870s Texas, rancher Avery N. Barrow remembered “Dutch” the camp cook who “made some of the best sour-dough bread I have ever ate.”¹² Some camp cooks, like “Dutch,” had the talent to bake with dry goods, but others did not. Lee D. Leverett, a rancher in 1880s Oklahoma, was less enthusiastic about the cooking skills of the camp cook “Belly-cheater.” Leverett remembered, “The beef and bean fare would be baked up with sour-dough bread. . . . The bread was a hit and miss proposition, with more misses than hits.”¹³ Another rancher wrote a tall tale about “Old Badge Combury a cowboy cook that made biscuits so hard that the cowboys could hardly eat them. He is really responsible for those rings one sees on the prairie. Some people call them fairy rings; others say buffalo cows made them protecting their calves; but every cowboy knows they were caused by the wolves walking around the stale biscuits thrown out by Old Badge.”¹⁴ To be fair, camp cooks had few ingredients to work with; butter, eggs and produce would swiftly spoil, on the other hand, flour, sourdough, coffee, sugar, beans, lard, rice, dried fruit, salt, pepper, soda, baking powder and canned goods were more long-lived.¹⁵ Storing his supplies meticulously in different compartments of the chuck wagon, the cook judiciously rationed each foodstuff throughout the duration of the cattle drive. Along with “son-of-a-bitch-stew” and coffee, Adams, author of the 1952 *Come an' Get It* named sourdough as “one of the most famous of all Western foods” in his chronicle of cowboy cooks.¹⁶

¹¹ Rose P. White, “The Sourdough Biscuit,” *Western Folklore* 15, no. 2 (1956), 93.

¹² Avery N. Barrow, interview by Sheldon F. Gauthier, Folklore Project, Life Histories, 1936-39, Library of Congress online repository, 7.

¹³ Lee D. Leverett, Library of Congress online repository, 5.

¹⁴ Rose P. White, “The Sourdough Biscuit,” 94.

¹⁵ Adams, *Come an' Get It; the Story of the Old Cowboy Cook*, viii, 13.

¹⁶ *Ibid.*, 77.

By the 1890s, prairie schooners had been replaced by the continental railroad, but many rural areas still depended on sourdough. While many prepared to go to the Klondike in 1897, Helen Campbell traveled with her husband, an army surgeon, to “the extreme Northwest [of Minnesota], four hundred miles above St. Paul—a point where only two white women—the wives of missionaries—had ever been.”¹⁷ Like remote areas of Alaska and the West, Red Lake, Minnesota was isolated, and supply replenishments were infrequent. Campbell had brought flour, but no yeast.¹⁸ So Campbell embarked on a mission to find yeast for risen bread. A local blacksmith offered, “a horrible compound—flour and water fermented till smelling almost as powerfully as Limburger cheese,—and showed me bread raised by it. “You’ve got to get used to it,” he said. “You’ll hev to ef you want light bread. Don’t you see there ain’t no smell when it’s done? The rotten kind o’ passes off.”¹⁹

This “horrible compound,” was clearly foreign to Campbell and to the readers of *The American Kitchen Magazine*. While neither she, nor the blacksmith, classified the “fermented flour and water” as sourdough, the blacksmith had offered her a starter, a backwoods solution to the absence of yeast in a remote area. That same year, 1897, tens of thousands of men, and a few women, would rush to the Klondike Gold Fields, an almost impossibly remote area along the Yukon River, forever entwining sourdough cooking with northern popular culture.

3.2 Sourdough in the Klondike

Mont Hawthorne of Astoria, Oregon, like anyone who had spent time on the frontier, was familiar with sourdough cookery. When he followed the stampede to the Klondike, he remembered making bread and pancakes in the Yukon “just the same way they done it on the

¹⁷ Helen Campbell, "Tale of a Yeast Cake," *American Kitchen Magazine*, 1898, 7.

¹⁸ *Ibid.*, 8.

¹⁹ *Ibid.*

plains, where the women kept their yeast starters going in the wagon train by adding more flour and then holding back some of the mixture for the yeast to grow between batches.”²⁰

The Klondike gold rush posed a unique set of challenges to fortune seekers because the gold strike was in an area of the Yukon Territory that was only accessible by foot, pack animal or by a circuitous course following the Yukon River from western Alaska to Dawson. The two primary routes to the Klondike, the White Pass Trail and the Chilkoot Trail, started in Skagway and Dyea, towns at the head of the Lynn Canal in Southeast Alaska. Once stampedeers arrived on the shores of the coastal boomtowns, they unloaded hundreds of pounds of supplies and then traveled hundreds of miles to reach Dawson. Iconic images of stampedeers climbing the golden stairs on the Chilkoot Trail testified to the difficulties of the journey, though the trials of some began as soon as they disembarked from steamers in Skagway or Dyea.

Dyea, the boomtown at the base of the Chilkoot Trail, was situated on a shallow harbor. When fortune seekers arrived they often disembarked on the tidal flat while their equipment and provisions were thrown unceremoniously into the water. Supplies ruined by water could stop a journey before it began, but sacks of flour proved resistant to a watery introduction to Dyea. When Tappan Adney found that his outfit had been submerged in high tide at Dyea, he lamented the loss of his photographic equipment, but noted, “[o]nly a sack or two of flour was damaged—as flour, unless it lies a great while in water, is not saturated more than a quarter to half an inch.”²¹ Indeed, as long as flour remained dry, it would not spoil easily. A fifty-pound sack of flour could survive a fall into the ocean.

The next task in the journey was to pack hundreds of pounds of supplies over mountains. In 1898 Leo Healy, a fortune seeker on the Chilkoot Trail, described men with 100 pound loads

²⁰ Martha Ferguson McKeown, *The Trail Led North, Mont Hawthorne's Story* (New York: Macmillan Co., 1948), 142.

²¹ Tappan Adney, *The Klondike Stampede* (New York: Harper and Bros, 1900), 89.

trudging up the trail with “perspiration on their faces and their teeth shut tight.”²² Although the Chilkoot Trail was just thirty-three miles in length, each stamper traveled the trail multiple times to get their ton of goods over the pass. Individuals would carry as much as possible, usually between 75 and 100 pounds, cache the load of goods, and turn around to retrieve another until all of the supplies were delivered to Lake Bennett in the Yukon Basin. Every pound counted, and so did the way that supplies balanced on one’s back. It was dispiriting toil. Healy wrote that after a day of grueling work “a man ‘has it out with himself’ when he gets home in his tent at night.”²³

When negotiating with professional packers who would transport goods for a price, Adney noted that flour was “a packer’s first choice, lumber last.”²⁴ A sack of flour that conformed to a man’s back was much easier to balance than an awkward collection of sawn lumber. But each miner had literally hundreds of pounds of flour to carry.

Gold seekers who followed the stampede to Dawson needed to haul about a ton of goods, enough to sustain an individual for a year in the North. In almost all cases, flour was the heaviest food item in a stamper’s outfit. The *Chicago Record’s Book For Gold Seekers* recommended upwards of 400 pounds of flour, followed by 200 pounds of bacon, 100 pounds of beans and 100 pounds of sugar.²⁵ Similar quantities of foodstuffs and ingredients appeared in gold rush diaries. Nels Olson, a stamper from St. Paul, Minnesota, started with 400 pounds of flour, 100 pounds of beans, 100 pounds of bacon and 50 pounds of sugar.²⁶ Tappan Adney, the Klondike

²² Leo Healy, *Gold Rush Diary*, 1898, *Stamper Accounts*, Klondike Gold Rush National Historical Park, May 17, 1898.

²³ *Ibid.*

²⁴ Adney, *The Klondike Stampede*, 110.

²⁵ *Klondike: The Chicago Record's Book for Gold Seekers* (Chicago: Chicago Record Co., 1897), 43.

²⁶ Healy, *Gold Rush Diary*, February 15, 1898.

correspondent for *Harper's Weekly*, listed approximately the same proportions: 450 pounds of flour, 150 pounds of bacon, 100 pounds of beans and 100 pounds of sugar.²⁷

In almost all outfits bacon, beans and bread comprised the bulk of a stamper's foodstuffs. Prior to the Klondike era, other backcountry workers had established a precedent for the "three Bs." When Tappan Adney purchased his supplies in Victoria, he reasoned that bread, beans and bacon were the essentials. "Lumbermen know what a man can live and grow fat on out-of-doors," he wrote, "and so does the United States army. There is something about pork, flour, beans, and tea that makes it easy to add the rest."²⁸ The staples of pork, flour, beans and tea formed the staples of Adney's outfit, dried fruits, sugar and sundry food items in "the rest" offered variation. As stampedeers continued on the trail, bacon, beans and bread earned a type of reverence, even if the foodstuffs were repetitive. When Harley Tuck finished building his boat to cross Lake Bennett, he planned to christen the vessel with common foodstuffs, "instead of breaking a bottle of champagne [*sic*] across its bow we will sprinkle a handful of beans or flour over it as a baptism."²⁹

Most of the time however, bacon, beans and bread were anything but romantic. In July of 1898 stampeder Alfred "Mac" McMichael despaired at the immense labor involved in carrying supplies everywhere. "If one goes out for a prospecting trip of a week or month, Mr. Grub must go too. And the trouble is he must always be transported, never makes a move alone. If a little trip of 200 or 300 miles has to be taken so has Mr. Grub."³⁰

Food was always a touchy subject. Fred Boyd, a partner of McMichael, griped long and loud in his diary about "Mac's" cooking, while the cook claimed in letters to his family back

²⁷ Adney, *The Klondike Stampede*, 20.

²⁸ *Ibid.*

²⁹ Healy, *Gold Rush Diary*, May 24, 1898.

³⁰ Alfred G. McMichael, *Klondike Letters: The Correspondence of a Gold Seeker in 1898*, ed. Juliette C. Reinicker (Anchorage: Alaska Northwest Pub. Co., 1984), 46.

home of Boyd's insatiable appetite. "Mr. Boyd! Well, he can beat anyone I ever saw in putting food away," he wrote. "Cooking is a full time job for one person."³¹ Luckily for the party, Boyd started cooking the next day, and he claimed his meal of "cooked beans, apricots and baked bread [had] very good success with all."³²

Mac recalled that when the group was first buying supplies in Seattle, "Boyd... cut everything out of the list that was at all in the way of luxury."³³ But Mac had insisted that he did "not want to live entirely on beans, rice, pork and poor bread" and over Boyd's objections had included in the larder a stockpile of "canned roast beef, three cans of syrup, [and] condensed cream." By the time they reached Lake Bennett McMichael noted resentfully that "Boyd takes his full share of the good things when they appear."³⁴

Packing fueled a voracious hunger. As one man admitted, "a good appetite makes everything taste good to me."³⁵ Another observed that "by the time you pack your stuff over Chilkoot Pass and down to Lindeman, you will be good and tough with an appetite like a horse. Talk about appetite, it is no trick at all for me to stow away 15 or 18 biscuits, 9 cups of coffee and ½ pound of bacon a day."³⁶

Flour came to the forefront of stamper cuisine because it was a versatile ingredient that was familiar and quick to prepare. Fried biscuits, pancakes and bread made from flour were standard in a Klondike baker's repertoire. Almost all flour recipes called for a leaven, and fortune seekers in 1897 and 1898 brought baking powder and yeast in anticipation of baking in the North. A leading producer, the Royal Baking Powder Company, boasted of its use in Alaska

³¹ McMichael, *Klondike Letters: The Correspondence of a Gold Seeker in 1898*, 35.

³² Frederick Boyd, *Klondike Diary, Stamper Accounts*, Klondike Gold Rush National Historical Park, April 21, 1898.

³³ *Klondike: The Chicago Record's Book for Gold Seekers*, 51.

³⁴ McMichael, *Klondike Letters: The Correspondence of a Gold Seeker in 1898*, 34.

³⁵ *Ibid.*

³⁶ Healy, *Gold Rush Diary*, May 17, 1898.

as proof of their product's superior quality. A 1902 booklet produced by the Royal Baking Powder Company, *Camp Cookery: A Practical Manual for Miners, Lumbermen, Ranchmen, Sportsmen, Yachtsmen and for All Out-Door Cooking*, claimed that in gold fields of the North:

Royal Baking Powder is considered as an indispensable staple. In the early days, when supplies were scanty owing to the difficulty of transportation, a pound can of Royal Baking Powder was on several occasions sold for an ounce of gold dust. This shows how good baking powder is appreciated when people are far from home and cannot afford to take any chances with the food. Joseph Ladue, of Dawson City fame, says that in Alaska and in the Northwest Territory he never used any other brand than Royal Baking powder, as no other can stand that harsh climate. Mr. L. N. McQuesten, the "Father of Alaska," writes in the same way.³⁷

As part of their national advertising campaign Royal prominently featured the endorsement of pioneer Yukon trader L.N. "Jack" McQuesten.

William B. Haskell, "became quite an expert in making bread" and throughout his two years in the North he depended on baking powder.

I would take a quart of flour, throw in a couple of tablespoonfuls of baking powder and about half a teaspoonful of salt, and mix till quite stiff with water, which had to be previously obtained by melting snow or a fragment of a glacier. Then I would grease the tin with the best grease that was obtainable, and which usually was very poor. . . . Having a red-hot fire in the little Yukon stove, I would push the tin into the oven, and in half an hour take out a loaf of bread which, in the ravenous condition of our appetites, would make our eyes water. The only difficulty was that a loaf would disappear at every meal, so that as long as our supply of flour continued abundant I was compelled to bake two or three times a day.³⁸

According to Haskell, bread in Alaska was "always... baking-powder bread or biscuit." The *Chicago Record's Book for Gold Seekers* advised taking two pounds of baking soda and eight pounds of baking powder.³⁹

³⁷ A.J. Kenealy, *Camp Cookery: A Practical Manual for Miners, Lumbermen, Ranchmen, Sportsmen, Yachtsmen and for All Out-Door Cooking* (New York: Royal Baking Powder Co., 1902), 4.

³⁸ William B. Haskell, *Two Years in the Klondike and Alaskan Gold-Fields, 1896-1898* (Fairbanks: University of Alaska Press, 1998), 297.

³⁹ *Klondike: The Chicago Record's Book for Gold Seekers*, 45.

However not everyone was enamored of the virtues of baking powder. Naturalist John Muir adhered to the belief that a can of baking powder was not only an unnecessary weight for already overburdened miners, but was also an unnatural chemical additive that ruined good bread. Muir warned Klondike bound stampeders that the “bread on which your climbing and digging depends, may be made direct from the flour-sack, with a little salt and water stirred in.”

⁴⁰ Muir first recommended coiling the unleavened biscuit dough around “a stick about the size of a whip-handle, of birch, pine, spruce, cottonwood or willow, according to the flavor desired” and roasting it over the fire. According to Muir, “yeast powders,” or baking powder, were akin to poison. He claimed that a can of the chemical powder, no better than lye, would not only “rub the skin off your shoulders” because the tins would unnecessarily weigh down a pack, but it would also dissolve “the skin of your stomach.” ⁴¹ Muir preferred his bread to be dark, dense and thick.

He conceded however, “If you must have your bread old-fashioned and light—bloomed into a fluffy mass full of airholes... take a quarter-ounce cake of baker’s compressed yeast to start with, and after each baking put a handful of the fermented dough into the flour-sack and with this store you may go on raising cereal billows as long as you like.”⁴²

Baking powder may have been controversial for purists such as Muir, but it certainly proved to be more reliable than yeast cakes or baker’s yeast, (*S. cerevisiae*). Haskell noted, “some miners brought in a little yeast and tried to raise bread in that way, but it was soon discarded.”⁴³ Harley Elton Tuck, another stampeder, made his “first ‘batch’ of bread” in the Yukon Territory but found that the yeast he brought from Seattle produced a loaf that weighed

⁴⁰ John Muir, "Story of the Trail," *San Francisco Examiner*, October 1, 1897.

⁴¹ *Ibid.*

⁴² *Ibid.*

⁴³ Haskell, *Two Years in the Klondike and Alaskan Gold-Fields, 1896-1898*, 297.

“at least 4 pounds, but we will have to eat it as can’t throw any away.” The heavy loaves probably lasted for about a week because six days later, on May 20th, Tuck wrote that his next attempt “had fairly good success.” He noted however “it is hard work to get it to raise. Guess will ‘catch on’ after a little.”⁴⁴ By the end of June, the “chief cook and bottle washer” had “become an expert with ‘sour dough,’” and Tuck found starter “much handier than yeast.”⁴⁵

3.2.1 Sourdough Skills

The evolution of cooking skill and diet was apparent in the diary of Fred Baker, a Washington native who heard about possibilities of gold in the Yukon in 1896. One year prior to the 1897 stampede, Fred Baker traveled to Alaska with his brother-in-law, Jim McGee, arriving in Dyea in April of 1896. Over the course of three years, the pair established claims on Eureka, Last Chance and Bear Creeks in the Yukon Territory.⁴⁶ During his first months in Alaska and the Yukon Territory, Baker often mentioned hunting and preparing wild game in his diary. According to his diary Baker and McGee survived mainly on meat from April through August. A moose shot in July provided a month of soup, steak, dried meat, smoked meat and a new dish: “breakfast-broiled on a stick.”⁴⁷

Baker clearly understood meat preparation and preservation, skills he had learned while working on his father’s dairy farm in Washington.⁴⁸ Baker and McGee built a rack for smoking meat, which doubled for airing out clothing. None of the smoked or cooked moose meat was spoiled in the preserving process. Baker also had the foresight to save enough moose bones for

⁴⁴ Harley Elton Tuck, *Klondike Diary, 1898-1899*, Skagway Museum Archive, May 20, 1898.

⁴⁵ *Ibid.*, June 30, 1898.

⁴⁶ Fred Baker, *Journal and Letters of Fred A. Baker from the Klondike Gold Fields and Nome, Alaska, 1896-1901*, 0013-02-004 MS, Alaska State Library Historical Collections, Juneau, Alaska.

⁴⁷ *Ibid.*, July 16, 1896.

⁴⁸ *Ibid.*, 1.

soup, noting: “we eat too keetels of soup today and have bones enough left for fifty more.”⁴⁹

Baker was adept at butchering, preserving and cooking meat, but he learned baking *en route* to the Yukon Territory.

On July 18, 1896 Baker wrote, “I baked my first batch of light bred [bread risen with yeast] and had very good luck.”⁵⁰ In fact, he swiftly became a proficient bread baker as the seasons changed and wild game became less plentiful, “Roast meat for breakfast” in July became “bred and beans” or “bred and bacon” by November.⁵¹ On Christmas Baker wrote “I kep my fires a going for Christmas dinner, we had a kettle of Beans, Bred, and tea and glad to get it.” Four days later, on December 30th the entry sounded more pessimistic, “getting weak on Bred Straight.”⁵² Supplies in Dawson were often limited to flour, sugar, and beans, and cooks worked to perfect their recipes with few ingredients. On Thursday, March 3, 1897, Baker proudly declared, “Baked a cake in honor of raseing a Small Prospect.”⁵³ Supplies dipped again in May of 1897; Baker wrote “One pancake a piece this morning, a half at noon.”⁵⁴ Indeed flour was the last staple to dwindle before spring. Sourdough became increasingly important as fortune seekers traveled further from supply centers.

3.2.2 Challenges and Vicissitudes of Camp Cooking

Sourdough’s versatility was a godsend to Klondike stampeders, it could serve as instant pancake batter, a mix for biscuits, or leaven for bread. Pancakes in particular were a staple on the trail because they were quick to prepare and required only a skillet, bacon grease, a few cups of

⁴⁹ Ibid., July 16, 1896.

⁵⁰ Ibid., July 18, 1896.

⁵¹ Ibid., November, 1896.

⁵² Ibid., December, 1896.

⁵³ Ibid., February 26, 1897.

⁵⁴ Ibid., May 22, 1897.

starter and a fire. When an outfit had to be moved to another camp by exhausted groups of stampedeers, “fast food” trumped more elaborate meals. After running the rapids of Thirtymile River during the day and spending a rainy night on the riverbank, Tappan Adney observed, “Our appetites are growing bigger. We don’t do much cooking, being satisfied with hardtack and rolled-oat mush, made in fifteen minutes, served with condensed milk and sugar, and flapjacks cooked in the frying-pan.”⁵⁵ Adney added that by the time stampedeers reached the river, “every man on the trail has learned the toss of the wrist and flip of the frying-pan in preparing this staple article of the prospector’s diet.”⁵⁶ Most mastered pancakes much earlier in the journey; after a month on the trail, Leo Healy proudly noted that he could “toss a flap-jack into the air like an old experienced hand.”⁵⁷

Pancakes were simple, but mishaps and weather along the trail could make even the simplest recipes challenging. Effie Wheeler accompanied her husband on the Chilkoot Trail in 1899. One winter morning she remembered making pancakes in a tent so cold that the batter froze as she stirred. To keep the batter liquid Effie periodically added warm water and before long she had cooked a stack of hotcakes for herself, her husband Walter, and another traveler, Mr. Carpenter. Breakfast was ready when Walter returned from gathering firewood, but instead of sitting down to a hearty meal, he slipped and knocked the plate of hotcakes into the slush underneath the stove. “I just nearly fainted,” said Effie, “I just felt weak for a little while.” Effie thought breakfast was lost but Mr. Carpenter salvaged the situation claiming, “I wouldn’t give a hoot for a pancake that hadn’t been soaked.” Both Walter and Mr. Carpenter ate the pancakes with bacon and syrup, but Effie declined breakfast that morning.⁵⁸

⁵⁵ Adney, *The Klondike Stampede*, 151.

⁵⁶ *Ibid.*

⁵⁷ Healy, *Gold Rush Diary*, April 11, 1898.

⁵⁸ Effie Wheeler, interview by Norma Brady, Klondike Gold Rush National Historical Park Library, June 14, 1965.

In September of 1899 Joseph Grinnell wrote from Buster Creek near Cape Nome where he was cooking for a group of twelve fortune seekers. Although Grinnell was “elected by a sweeping vote” to be the camp cook, he grudgingly wrote that duties were “thrust upon me by circumstances entirely outside my control.”⁵⁹ Grinnell found that he worked just as hard as the other members of his company, waking at five o’clock to have breakfast ready by six-thirty. Grinnell then “hustled” to have supper ready at noon and dinner at six.⁶⁰ With an early winter approaching, Grinnell also had to contend with starting a fire in an icy tent. “Green willow brush is hard to burn in the little camp stove,” he wrote. Grinnell relied on a precious supply of oil for cooking breakfast but gathered brush for the rest of the meal.⁶¹ In addition to the challenges of hard labor and scarce fuel, Grinnell noted that the cold temperatures hampered his sourdough starter. “Up to the beginning of the cold snap I made light bread, six loaves per day. But since it has been freezing in the tent at night the sponge will not rise. And there’s no way to keep it warm. Fuel too dear and scarce. . . . Light bread went a good deal further than baking-powder biscuit. . . . We are reduced to the bare necessities, no butter nor canned milk.”⁶² An apathetic sourdough starter sometimes forced bakers at Cape Nome to revert to baking-powder biscuits that were less satiating. Grinnell wrote that, with such limitations, “one gets tired of the same menu for so long.”⁶³

In fact, one stamperder remembered that the activity of sourdough starter was a common topic of conversation. Jim Delaney, a veteran of the 1895 Cook Inlet gold rush remembered, “When one went visiting one of the most important subjects of conversation was sourdough.

⁵⁹ Joseph Grinnell, *Gold Hunting in Alaska*, ed. Elizabeth Grinnell (Chicago: David C. Cook Publishing Co., 1901), 95.

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ *Ibid.*

‘How’s your bread?’ was usually a very important question. ‘Can you make your bread rise?’⁶⁴ He added that sourdough bread, rather than biscuits, were the mark of a good cook. “Baking powder bread was less difficult to make successfully but was considered less healthful. That was made from a mixture of bacon frying, flour, baking powder, salt, and water mixed to a thick batter. No setting! No rising!”⁶⁵ The mix of flour, bacon grease and baking powder may have been a convenient alternative on a cold day or when prospectors were in a rush, but over the long term bacon grease and baking powder could upset the digestive system.

Miners occasionally commented on indigestion that arose from steady diets of fried foods such as pancakes and bacon. After he ate his brother Ed’s first successful attempt at homemade bread, Harley Tuck wrote, “My stomach has felt better today, so much so that have been able to eat quite hearty this eve. Shall be more careful of bacon fat in the future.”⁶⁶ While not life threatening, indigestion could make life unpleasant for gold seekers. Bread made from sourdough could alleviate symptoms of a “fast food” diet.

When Mont Hawthorne, a fortune seeker from Oregon, prepared to climb the White Pass trail he abandoned his small sheet iron stove because “it wouldn’t hold a steady heat” appropriate for baking. Unlike many other stampeder, Hawthorne had spent time in Alaska prior to the gold strike, and knew the value of bread and a reliable stove. “Bread is one of the most important things a man has to eat,” Hawthorne declared.⁶⁷ In Skagway he invested in a Yukon stove with an oven in the stovepipe that would bake loaves at a constant temperature. Hawthorne acknowledged that the stove “was going to be quite a contraption to get up to Summit.”⁶⁸ He added, “I didn’t aim to set it all up for baking bread until I got to the lake; I just figgered on

⁶⁴ Jim Delaney, *Gold Rush Adventures, Stampeder Accounts*, Klondike Gold Rush National Historical Park, 24.

⁶⁵ *Ibid.*

⁶⁶ Tuck, April 20, 1898.

⁶⁷ McKeown, *The Trail Led North, Mont Hawthorne's Story*, 109.

⁶⁸ *Ibid.*, 110.

using the bottom and frying hotcakes going over that first part of the trail.”⁶⁹ The load of carrying an oven alone would have been a heavy, but not impossible burden. Assembling an oven and baking bread after a days of climbing uphill would have been impossible. Once over the pass, however, the stove could be assembled, and bread proved a welcome and healthy change.

The day after stampeder George Thompson pitched his tent in Bennett, he “started cooking and making bread.”⁷⁰ Jubilant about his “very good loaf of bread,” Thompson added that the oven required fuel and gathering wood was time consuming. One night Thompson traveled a quarter of a mile to find wood before dinner and had to gather fuel once more before baking “biscuits for supper.”⁷¹ Gathering wood was time consuming, but Thompson had the advantage of mild weather. When the seasons changed, starting a fire became more difficult and a matter of life and death. William Haskell noted that each day during the winter months he made sure to shave “splinters from the wood that we had cut, to be dried on the Yukon stove for starting the fires the next day. Without these dried splinters it was next to impossible to start a fire when everything was covered with snow.”⁷²

At any time of the year, baking bread was a time consuming chore. Jim Delaney remembered that hours before baking he placed the wooden box that held his starter over the stove. “A few cupfuls were set away” for the next batch and the rest of the liquid starter was mixed with enough flour to make a dough which would rise in the warm oven.⁷³ On days when Fred Baker made bread, he would often spend half the day baking. On August 7, 1897 Baker

⁶⁹ Ibid.

⁷⁰ George Thompson, *Gold Rush Diary, 1898*, Stampeder Accounts, Klondike Gold Rush National Historical Park, May 11, 1898.

⁷¹ Ibid., May 18, 1898.

⁷² Haskell, *Two Years in the Klondike and Alaskan Gold-Fields, 1896-1898*, 297.

⁷³ Delaney, *Gold Rush Adventures*, 24.

wrote, “Baking Bred all the afternoon,” and on September 17, “Baked Bred this forenoon and cut wood in the afternoon.”⁷⁴ Compared with the heartbreak of gold mining, however, baking bread was often more rewarding. Time after time Baker mentioned setbacks in his gold claims, noting on May 5, 1897 that he had spent the day bailing water out of a shaft only to hit bedrock on a claim that yielded only “a half a cent to the pan.”⁷⁵ But cooking was more gratifying, a pursuit that more reliably produced a positive result. Baker often noted “baked bred” in his diary, exclaiming in March of 1897: “This is bake day, Baked to fine loafs of Bred we have the sour dough Racket down fine.”⁷⁶

Harley Tuck closed his May 1898 entry with a thorough description of his first apple pie. “In getting my crust dough ready had trouble in getting it rolled thin enough as had to use the baking powder can for a rolling pin and had to use a cloth on top of the grub box for my cake board...it was with great care that I watched that pie, but it came out browned to a turn...I cooled that pie and kept it out of sight till the boys got about through eating, and then brought it forth in all of its splendor. Ed and Lester voted it first class.”⁷⁷ Tuck reveled in the approval of Ed and Lester’s first class vote, but he was also proud of his inventiveness in the preparation. Without a rolling pin or a cake board Tuck rolled the pie crust with a baking powder can and the grub box, carefully rolling the top crust so that it was flat. He watched the pastry to ensure it browned evenly. Tuck’s pie was a “child of [his] tenderest care,” in the same way that Baker’s “two fine loaves of bread” were more rewarding than the “half cent” from weeks of gold panning.

Cooking required such skill and distinguished those who survived from those who would not. At the start of the gold rush frenzy almost no one took the time to carefully prepare food. In

⁷⁴ Baker, August 7, September 17, 1897.

⁷⁵ *Ibid.*, May 5, 1897.

⁷⁶ *Ibid.*, March 14, 1897.

⁷⁷ Tuck, May 6, 1898.

1897 a stamper on the White Pass Trail refused an offer of “\$10.00 for three meals,” a normal salary for one or two weeks work, because “we did not have time to cook meals.”⁷⁸ In the race to stake claims, many would overlook cooking in favor of traveling, digging and sluicing, hungering more after gold dust than calories, leading to eventual exhaustion, malnutrition and scurvy.

A surgeon noted in an early medical report the direct relationship between inexperience, diet and health. “During the busy time in summer when they are ‘shovelling [*sic*] in,’ they work hard and for long hours, sparing little time for eating and much less for cooking. This manner of living is quite common amongst beginners, and soon leads to debility and sometimes scurvy. Old miners have learned from experience to value health more than gold, and they therefore spare no expense in procuring the best and most varied outfit of food that can be obtained.”⁷⁹

Although the root cause of scurvy, lack of vitamin C, was unknown in 1898, the average fortune seeker did know that the disease was linked to nutrition. Mont Hawthorne affirmed that, it “was the Cheechakos that got the scurvy and done the suffering.”⁸⁰ Like some others, he believed, erroneously, that well baked-sourdough prevented scurvy, as many oldtimers “have lived for years in the woods and kept healthy doing it.”⁸¹

Frederick Wombwell was a green tenderfoot, a “Cheechako,” when he landed in Dawson City in 1898. How he survived the first winter was even a mystery to him. His hastily-built cabin, as he elegantly put it, was “far from air-tight.”⁸² The stove-pipe did not meet the roof, and

⁷⁸ Robert S. Bolem, *Gold Rush Diary, 1897-1898, Stamper Accounts, Klondike Gold Rush National Historical Park*, August 30, 1897.

⁷⁹ A.E. Wills, "Extract from Assistant Surgeon A. E. Wills' Report for 1895, on the Climate, Health and Diseases of the District," in *Information Respecting the Yukon District, from the Reports of Wm. Ogilvie and from Other Sources*, 65.

⁸⁰ McKeown, *The Trail Led North, Mont Hawthorne's Story*, 142.

⁸¹ *Ibid.*

⁸² Frederick Wombwell, *Gold Rush Diary, Stamper Accounts, Klondike Gold Rush National Historical Park*, November 15-18, 1898.

“the temperature around one’s head and shoulders is about 110 degrees, and around one’s feet about 30 degrees below zero.”⁸³ Under such conditions he recognized getting a pot of sourdough to rise was nothing short of miraculous, and that was one reason why an old timer who could work that trick because known as a sourdough, “one who has ‘camp-cooked’ so long that he is capable of making bread without the addition of yeast” at thirty degrees below zero.⁸⁴

The survival of sourdough at preposterously cold temperatures was the symbol of northern survival itself, dogged determination against the odds, perfect for the rambling-gambling personality of the typical prospector. Throughout the north “sourdough” would become an ironic term of distinction, wisdom and skill, as well as respect, honor and ornery human cussedness.

3.3 Culinary Legacy of the Gold Rush

In addition to being a source of personal pride, cooking ability distinguished experienced northern residents from new arrivals. Those who had known seasons of dried fruit, beans, bacon, bread and sub-zero temperatures shared an understanding of cuisine and the importance of health in the quest for gold. In the race to stake claims, many would overlook cooking in favor of traveling, digging and sluicing, in hopes of finding a paystreak.

Like in any frontier community, marks of social status in the North differed from status in urban areas due to the shared challenging lifestyle. “Mac” McMichael noted that “this Alaska country” was “a great leveler,” because “the merchant, millionaire, the ox pusher, mule driver

⁸³ Ibid.

⁸⁴ Ibid.

and the ordinary individual who sleds his own outfit over the pass have the same rough and tough appearance,” adding, “it is no disgrace to labor because all have to do it.”⁸⁵

In boomtowns where flour was sometimes more valuable than gold and few had lived in the same place for more than a season, money and profession counted little compared to basic survival skills. Cooking skills continued to be a mark of achievement as subsequent gold rushes brought thousands of fortune seekers north. After the rush to the Klondike, more men and women participated in strikes in Nome, Fairbanks and Valdez.⁸⁶ Between 1890 and 1900 the United States Census showed a twofold increase in the Alaska population from 32,035 in 1890 to 63,592 in 1900. The most dramatic change occurred in the non-Native demographic, from 4,298 in 1890 to 30,450 ten years later.⁸⁷ Gold seekers who followed later stampedes continued to struggle with the same challenges of meal monotony, ravenous appetites and temperamental sourdough starters.

Some of the men and women who had participated in the gold rushes at the turn of the century settled in Alaska and the Yukon, where making satisfying meals continued to be challenging. In 1930s Wiseman, Alaska, a small town on the Koyukuk River, the majority of the white men were veterans of the Nome gold rush. By the 1930s, these individuals were no longer chechakos and one sign of their experience was mastery of northern cooking. In his book *Arctic Village: A 1930s Portrait of Wiseman, Alaska*, wilderness activist Robert Marshall commented that these men “rank[ed] far above the average bachelor cook of the Outside. . . . one finds surprisingly few men living on a fried diet, and many abhor this method of cooking as they

⁸⁵ McMichael, *Klondike Letters: The Correspondence of a Gold Seeker in 1898*, 45.

⁸⁶ Charlene L. Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike* (Vancouver: UBC Press, 1998), 204.

⁸⁷ James H. Ducker, "Gold Rushers North: A Census Study of the Yukon and Alaskan Gold Rushes, 1896-1900," *Pacific Northwest Quarterly* 85, no. 3 (1994): 82.

would the plague.”⁸⁸ Marshall reasoned that cooking skills were essential because “thirty years of the usual bachelor’s bill of fare. . . . might be more than could be borne under the adverse conditions of the Arctic.”⁸⁹ Those who “abhored” the “fried diet” likely learned the value of culinary skill through the experience of malnutrition and meal monotony that was common to anyone who had spent time in northern regions. As the gold rush era ended and a new generation of tenderfeet and cheechakos arrived in the territory, improvements in transportation made food from “outside” more readily available. Yet sourdough never disappeared; the starter continues to hold a place in some modern kitchens, and in a uniquely northern vocabulary. As sourdough was becoming a staple on the frontier, the word “Sourdough” adopted a different meaning. Over time a “Sourdough” came to signify a person with experience in the North.

⁸⁸ Robert Marshall, *Arctic Village* (Fairbanks: University of Alaska Press, 1991), 142.

⁸⁹ *Ibid.*

Chapter 4: The Sourdough Moniker

The story of how the word "sourdough" broadened from a culinary term to a distinction of savvy pioneers, starts in the history of western expansion. Frontier communities in the North and the West were characterized by a history of isolation, boom and bust economies and tides of transient newcomers. As a result, the people who remained in these early settlements or in the region often earned recognition for their long residence and frontier experience. Starting in the mid-1800s, Western "49ers," "old-timers," "pioneers," and "pilgrims" stood in contrast to "tenderfeet" and "greenhorns." Decades later, when gold seekers started to journey North, two new monikers, "Sourdough" and "cheechako" became common terms for veterans and newcomers in Alaska. The first half of this chapter examines the use of sourdough in the pre-Klondike West, from 1867 to 1897. The second half focuses on the evolution of the moniker after the Klondike Gold Rush, from 1897 to 1899.

4.1 The Trail of Sourdough in the West 1867-1897

A tradition of sourdough on the Western frontier led to social customs in areas where bread was common. In order to gauge interest and presence of sourdough cultural traditions in the United States, I analyzed newspaper archives held by the Library of Congress and the State of California from 1867 to 1897, the thirty year period before the Klondike Rush began. The reason for this thirty year period was based on the number of instances of the word sourdough in the two archives. Word searches indicated that there was very little mention of sourdough in American Newspapers between 1800 and 1866. In fact, the three variants of the term, sourdough, sour-dough, and sour dough in the sense of a leaven, appear only five times in thousands of newspapers across the country. The absence of sourdough can be explained by the dominance of

yeast derived from brewing in the United States and an overrepresentation of the East Coast in the press. During this time, press coverage of the West was just emerging with westward expansion, and after a brief surge of interest after the Alaska purchase in 1867, Alaska was almost nonexistent on the national stage. By contrast, in the three decades leading to the Klondike Gold Rush, 1867-1897, the number of mentions of the three sourdough variants rose to one hundred sixty-two. This time period coincides with the period of western expansion in the United States.

During this time the spelling of “sourdough” was not standardized, “sour dough,” “sour-dough” and “sourdough” were all in use. Of particular concern was the problem that “sour dough” could refer to dough that had soured, an undesirable result of barm yeast, hop yeast, brewer’s yeast or even baker’s yeast. As a result of these variations, each article was examined for meaning and those that used sourdough in the sense of a dough that had soured were eliminated from consideration. A limitation of this study is that neither archive included newspapers from Alaska, Maine, New Hampshire, New Jersey, Rhode Island or Wyoming. Sourdough articles from the databases were cataloged by date, location of publication, the state or territory referenced in the text and one of four categories: sourdough in the culinary sense, sourdough as a description or an adjective, a location named after sourdough and a sourdough nickname. The master chart of all data is in the Appendix.

Data shows that states with a higher frequency of newspaper mentions were in the western states of Montana, Idaho, Washington and California (Figure 4.1). An especially high number of mentions in Montana is somewhat exaggerated due to a town named Sourdough Creek, a poet who earned the name the “Bard of Sourdough,” and an unpopular politician deemed the “Sourdough Statesman.” On the other hand, Montana appears to have an unusually

strong connection to sourdough in terms of place names. According to the United States Board of Geographic Names, Montana, by far, has the most geographic features named for sourdough. Twenty four place names including Sourdough Creek, Sourdough Island, Sourdough Flat and Sourdough Point, exist in Montana. Oregon and Washington follow at sixteen and fourteen sourdough place names while Alaska, Idaho and Wyoming have eleven. Surprisingly California and Colorado each feature just five documented sourdough locations.¹

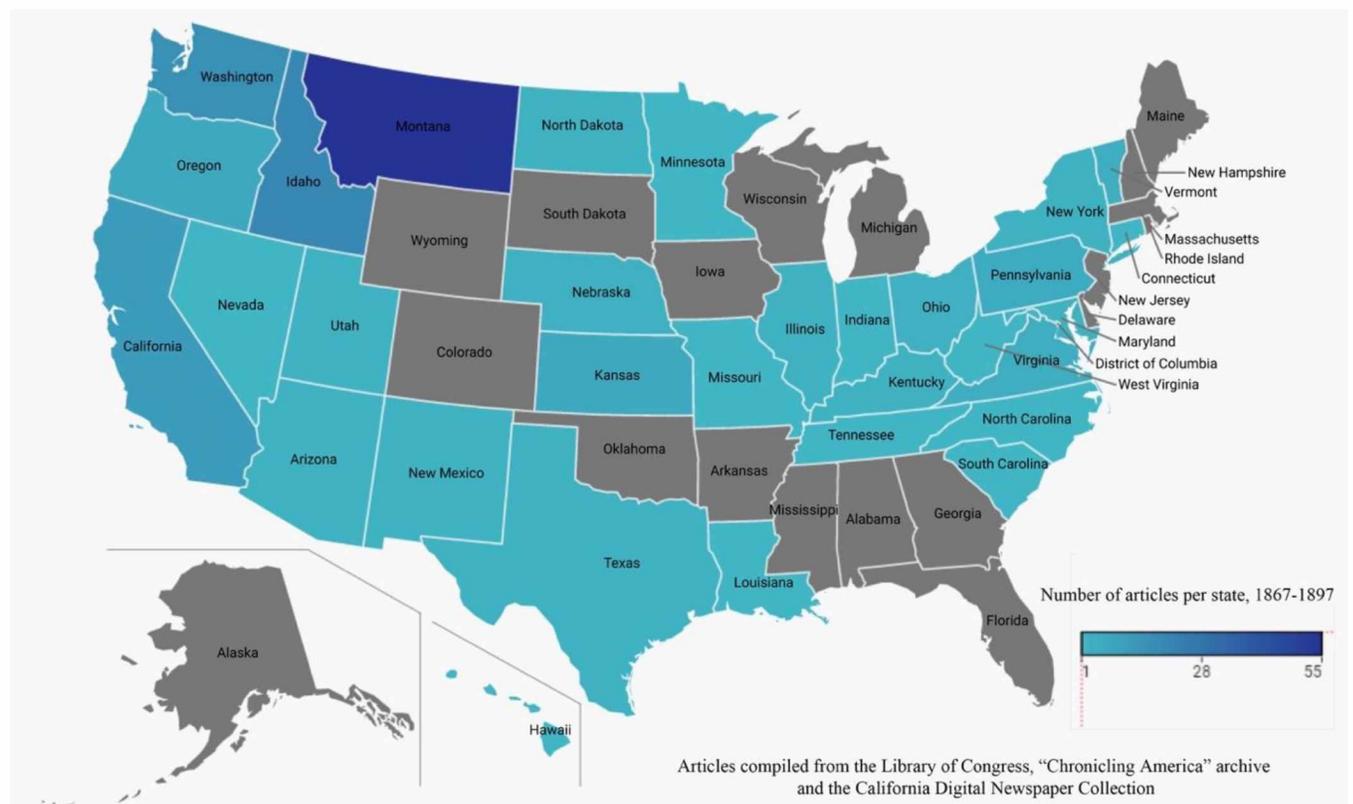


Figure 4.1 Frequency of Sourdough in State Newspapers 1867-1897 (from research database)

Several factors may help to explain the greater association and interest in sourdough in the West compared to the East and Midwest. By the 1860s, sourdough leaven was becoming obsolete in settled areas of the United States due to the widespread availability of industrially-

¹ Query Results: Sourdough, United States Board on Geographic Names, accessed July 16, 2017, <https://geonames.usgs.gov/apex/f?p=138:2:4319429564601>.

produced pressed yeast. As a result, “sourdough” started to disappear from speech. In the isolated boomtowns of the west coast however, sourdough experienced a renaissance, becoming part of daily life.

4.1.1 Sourdough in Eastern Newspapers

On the rare occasion that sourdough appeared in East Coast or Midwestern newspapers, the leaven was often characterized as an arcane or exotic culinary method that belonged to another time-period or foreign country. Some articles from the 1860s observed that that “sour dough” was a medieval English term. In 1863, the *Friends’ Review*, a Quaker periodical based in Philadelphia, reprinted “Wyclif’s Version of the New Testament” from a British Journal “Good Words.” The article, written by respected British minister, Hugh Stowell Brown, discussed the importance of an updated translation of the Wycliffe Bible. The Wycliffe translation, used both in the United States and the United Kingdom, included vocabulary from the fourteenth century that had either changed meaning by the 1860s or were no longer part of current speech in England. In his long list of archaic Anglo Saxon and Latin vocabulary from the New Testament, Reverend Brown identified “sourdough” as a word that could “scarcely be looked upon as extant,” in modern vocabulary.² Several years later, in 1869, an article entitled “The Use of Saxon Words,” was published in both the Vermont-based *Burlington Free Weekly Press* and the *Ebensburg Alleghanian* in Pennsylvania. The author informed readers that the Old English “*sour-dough*” was an ancient term for “leaven” in modern language.³

While sourdough was part of the past in the minds of readers on the eastern seaboard of the United States, in other parts of the world, it was still a living part of daily bread baking

² Hugh Stowell Brown, “Wyclif’s Version of the New Testament,” *Good Words* (1862): 470.

³ “The Use of Saxon Words,” *Burlington Weekly Free Press*, February 26, 1869.

practices. In 1879, an article in the *Vermont Phoenix* commented on the unique French method whereby bakers used “a piece of sour fermented dough” to make each loaf of bread rise. The author stated that the method was “little used” in the United States partly because of the high probability of “sour fermentation,” but added that French bakers had mastered the technique and that French bread was “of the best quality.”⁴

Other authors discussed sourdough in narratives about the Western experience. In 1893 The New York *Sun* named “sour dough or baking powder biscuit” as essential elements of a “cowboy’s supper.”⁵ In 1895 the *National Tribune*, based in Washington, D.C., published a series entitled “Smith’s Back Pay” a narrative about bachelors in rural Montana. The author described Vande, a seasoned prospector who baked with sourdough each day, after he “sniffed judiciously” to gauge the “satisfactory state of sourness” so that he could “manufacture the staff of the Montana bachelor’s life—sour dough bread.”⁶ In the story, sourdough was cast as part of a rugged lifestyle, a seasoned sour leaven that mirrored the rustic life of a Montana bachelor.

4.2 Sourdough in Western News

In Western newspapers sourdough was more commonly cited, and starting in the 1870s, the word began to adopt meanings outside of cuisine. Place names, including Sourdough Creek in Montana and Sourdough Mountain in Washington, appeared in reports about gatherings, weather and the people who lived there. In other cases, sourdough named people rather than places. “Sour Dough Jim” from Montana and “sourdough tourists” at the newly established Yellowstone National Park were some of “sourdoughs” in late nineteenth century western

⁴ “Theory and Practice in Bread Making,” *Vermont Phoenix*, March 28, 1879.

⁵ “Stories From The Range,” *Sun*, September 24, 1893.

⁶ Alice Barber M’Connell, “Smith’s back Pay,” *National Tribune* (Washington D.C.), March 7, 1895.

newspapers. Finally, writers occasionally used the adjective sourdough as a literary tool to describe a disagreeable situation.

4.2.1 Sourdough Place Names

One reason that Montana newspapers mentioned sourdough more than other territories was Sour Dough creek.⁷ About six miles south of Bozeman, the area was well established as early as the 1860s. In 1864, the year that Montana became a territory, Abram H. Voorhees, a fortune seeker on his way to Idaho, described fields of wheat, vegetables and livestock in the settlement. Voorhees also observed a ready supply of timber and a small number of prospectors who worked modest claims.⁸ The area continued to grow into a center for agriculture. In 1882 the *Rocky Mountain Husbandman* declared that the farms on Sour Dough creek “produce[d] quite as good crops” as other farms in the region.⁹ Another article in 1896 announced apple harvests from Sour Dough creek.¹⁰ In 1897 a laborer working on a Sour Dough creek farm threshed 4,050 bushels of oats in a record ten hours.¹¹ Bozeman newspapers also published social announcements from the farming community. During the winter of 1874, residents urged readers to join dances on the banks of the “historic stream” that would take place “all winter.”¹² The town was also subject to a flood in 1876, a fire in 1877, a suicide in 1883, and a simmering skirmish between loggers and farmers when a disgruntled farmer allegedly sprayed a logger with buckshot.¹³

⁷ Note: the place name was uniformly spelled “Sour Dough creek” through the 1900s

⁸ Susan Badger Doyle, *Bound for Montana: Diaries from the Bozeman Trail* (Helena: Montana Historical Society, 2004), 59.

⁹ “Jottings by Our Traveling Man,” *Rocky Mountain Husbandman*, September 21, 1882.

¹⁰ “In Gallatin Valley,” *Anaconda Standard*, November 16, 1896.

¹¹ “The Corn Palace,” *Bozeman Weekly Chronicle*, October 17, 1888.

¹² *Bozeman Avant Courier*, January 23, 1874.

¹³ “Peppered with Fine Shot,” *Bozeman Weekly Chronicle*, June 6, 1883.

In 1883, the creek side settlement gained additional recognition when Abel Kelsey Yerkes, editor of the *Bozeman Weekly Chronicle*, started to write poetry and prose about pioneer life on Sour Dough creek. Yerkes, who would become known as the “Philosopher of ‘Sour Dough Creek,’”¹⁴ the “Poet of Sour Dough,”¹⁵ the “Bard of Sour Dough,”¹⁶ and the “Sourdough Humorist,”¹⁷ contributed regular columns that explored the lifestyles of Montana pioneers.¹⁸ In 1887 the newspaper editor wrote about the adventures of “Uncle Josh” of Sour Dough, who came to “paint Bozeman” but was instead bewildered by a “steam ingin” that shot “through space like a Komit and comes to the airth’s surfis like a Minnesoter cyclone.”¹⁹ Many of Yerkes’ columns were comical, incorporating the vernacular and the experiences of a rural lifestyle. The New Jersey native was so successful at capturing the spirit of the town that when one of his children was born, the *Anaconda Standard* announced, “Sourdough Yerkes arrived last night.”²⁰ Yerkes became recognized throughout the state; in the late 1890s he was featured in the *Anaconda Standard*, the *Billings Gazette*, and the *Neihart Herald*. When Yerkes published a selection of his writings in his book, *Pieces for the Paper*, the editor of the *Butte Daily Inter Mountain* wrote, “Mr. Yerkes is the recognized humorist of the Montana press, a gentlemen whose keen, incisive pen has given to the world a wealth of mirth-producing material, and who has taken front rank among the best of the writers of that class.”²¹ A.K. Yerkes’ writings and his penname drew inspiration from his residence in Sour Dough creek and the characters who inhabited rural communities.

¹⁴ *Ravalli Republican*, April 7, 1897.

¹⁵ “Local Notes,” *Billings Gazette*, February 17, 1899.

¹⁶ “Montana Liar Abroad,” *Anaconda Standard*, February 19, 1899.

¹⁷ M.A. Berger, “Pieces for the Paper,” *Daily Inter Mountain*, August 23, 1899.

¹⁸ S. Gordon, “Abel Kelsey Yerkes,” *Anaconda Standard*, December 18, 1898.

¹⁹ A.K. Yerkes, “The Pranks of the Festive Cayuse,” *Bozeman Weekly Chronicle*, July 6, 1887.

²⁰ *Anaconda Standard*, January 28, 1897.

²¹ M.A. Berger, “Pieces for the Paper,” *Daily Inter Mountain*, August 23, 1899.

References to Sourdough Mountain appeared relatively frequently in Washington and Oregon newspapers. Alternately spelled “Sour Dough mountain,” the peak stood on the route to a modest gold strike on the Skagit River in 1880.²² Today Sourdough Mountain is part of North Cascades National Park, and rated the most challenging climb in the park due to an elevation gain of 4,870 feet in just eleven miles.²³ In 1880 Hiram Jacobs was one of the 4,000 fortune seekers who left his home for the Skagit Mines.²⁴ After he crossed the summit, Jacobs wrote a letter to his father in Oregon describing a steep climb and slow progress. “We started up Sourdough Mountain and sour dough it is. For a distance of four or five miles the climbing was rough and very steep.”²⁵ He concluded the day writing, “We had only traveled about sixteen miles and carried nothing but our blanket and a little grub ascending and descending rugged mountains, although it may give muscle and generate lung power is wearisome after all.”²⁶ Sour Dough mountain took its name from the starter, but Hiram Jacobs, used “sour dough” to describe scrambling up peaks and his own exhaustion.

As prospectors looked to new areas for mineral wealth, sourdough place names followed. In the 1890s, mining activity brought stampeders across the Washington border to the Kootenay Mountains of southern British Columbia. The Kootenay Mountains, just north of the Washington and Montana border, had remained largely unsettled through the 1880s, but in 1890, six rich claims stimulated exponential growth. As thousands streamed in to try their luck, boomtowns including Boundary Falls, Rossland and Trail grew on the southcentral border of British Columbia. By 1895, almost 2,000 gold claims had been staked, and many Washington residents

²² “Home Interest,” *Albany Register* (Oregon), April 23, 1880.

²³ “Sourdough Mountain Trail,” North Cascades National Park, accessed March 30, 2017, <https://www.nps.gov/noca/planyourvisit/sourdough-mountain-trail.htm>.

²⁴ Robert Purcell Martin, “The Recreational Impact of the North Cross-State Highway on the Mt. Baker National Forest” (University of Michigan, 1964), 51.

²⁵ Hiram Jacobs, “The Skagit Mines,” *Daily Intelligencer*, May 9, 1880.

²⁶ *Ibid.*

left to seek fortune across the border.²⁷ In 1897 the *Seattle Post Intelligencer* noted that Rossland, B.C., was home to “an ever-growing colony of Seattleites.”²⁸ The article listed businesses owned by Seattle natives including a hotel, a cigar store, a brokering agency and numerous mining companies. One transplant, Billy Pyott, a newlywed hotel clerk,²⁹ opened a restaurant in Sour Dough Alley.

When Rossland was first founded in 1890, Sour Dough Alley was an unregulated district, permitting prostitution, squatting and other illegal business. Following a murder in 1895, the Canadian government sent a police officer to Rossland, and the area became more closely regulated.³⁰ By 1897, when Pyott started a business in Sour Dough Alley, illegal activity was less common,³¹ but the reputation of Sour Dough Alley as a lawless district was the backdrop in an 1898 story about unsavory claim jumpers published in the New York *Sun*.³²

The gritty reputation of Sour Dough Alley may have reflected a darker connotation of sourdough as an indication of immorality. Following an 1879 mineral strike in the Seattle area, a concerned citizen wrote to the *Daily Intelligencer* warning, “If Seattle proves no exception to towns of her kind, located near mining regions, we may expect to find, ere another half year, a score or more new businesses houses with such names ornamenting their fronts as “Ruby Creek Saloon,” Skagit House,” “Sour Dough Bakery,” Miner’s Home & c.”³³ Saloons were often associated with prostitution and gambling, and names such as “Miner’s Home” may have

²⁷ Charleen P. Smith, "Boomtown Brothels in the Kootenays: 1895-1905," in *People and Place: Historical Influences on Legal Culture*, eds. Constance Backhouse and Jonathan Scott Swainger (Vancouver: UBC Press, 2003), 120.

²⁸ “Seattleites in Rossland,” *Seattle Post Intelligencer*, March 24, 1897.

²⁹ “Weddings,” *Seattle Post Intelligencer*, March 28, 1897.

³⁰ Smith, "Boomtown Brothels in the Kootenays: 1895-1905," in *People and Place: Historical Influences on Legal Culture*, 126.

³¹ *Ibid.*

³² “The Saving of Mine City,” *Sun*, January 16, 1898.

³³ “Local Paragraphs,” *Daily Intelligencer*, December 10, 1879.

indicated prostitution.³⁴ The inclusion of “Sour Dough Bakery” in this list of undesirable business not only indicated an association with mining, but also alluded to the general lawlessness in emerging boomtowns.

4.2.2 Sourdough Nicknames

Sourdough also served as a moniker for people who lived a length of time on the frontier. One of the first “Sourdoughs” to appear in print was Sour Dough Jim of Hash Creek, Montana.³⁵ The candid critic of territorial politics lived in the rural area outside of Virginia City, a town founded during a gold strike in 1862.³⁶ By the 1870s the boomtown had become the territorial capital, but as later gold strikes drew the population elsewhere, the city’s influence declined.³⁷ In 1872, politicians began to consider moving the capital to a more prosperous area.³⁸ When the territorial legislature proposed the bill, many residents of Virginia City, including Sour Dough Jim, felt betrayed. One editorial from a Virginia City resident claimed that the bill passed “by treachery more dark than that practiced by Delilah.”³⁹ Business interests in Helena, on the other hand, were jubilant. When the Capital Bill became law in 1874, numerous proponents gathered to celebrate at a banquet in Helena. Sour Dough Jim, unwilling to accept defeat, also attended the banquet, and expressed his dissatisfaction with an “illumination,” (most likely a magic lantern slide), that beamed “Gallatin Flour Makes Sour Bread,” to the audience.

The slogan referenced an earlier event in Anaconda that had rallied support for the Capital Bill. At the Anaconda fair, the Bozeman Milling company provided bread made from

³⁴ Catherine Holder Spude, *Saloons, Prostitutes, and Temperance in Alaska Territory* (Norman: University of Oklahoma Press, 2015), 54.

³⁵ Sour Dough Jim, “Letter From the North,” *Helena Weekly Herald*, April 1, 1875.

³⁶ Paula Mitchell Marks, *Precious Dust: The Saga of the Western Gold Rushes* (Lincoln: University of Nebraska Press, 1998), 39.

³⁷ *Ibid.*, 40.

³⁸ “The Capital,” *Bozeman Avant Courier*, January 18, 1872.

³⁹ “The Railroad and the Capital,” *Helena Weekly Herald*, Feb 12, 1874.

flour grown in Gallatin County. To emphasize the local harvest, the company posted a “mammoth sign” which was meant to read, “Gallatin Flour Made This Bread.” However, the journalist noted that many attendees ironically interpreted the slogan to read, “Gallatin Flour Makes Sour Bread.”⁴⁰ Sour Dough Jim continued to make his political opinions known. In this final appearance in the *Helena Weekly Herald*, he protested neglectful ranchers, who brought herds of cattle to overwinter in the area without providing adequate shelter or warmth.

The nickname Sour Dough Jim was an indication of a mining background. In 1875, the same year that Helena became the capital of Montana, the editor of the *New North-West* investigated miners’ nicknames. The article was based on a list compiled by John Wells, a former administrator for the Office of Indian Affairs, who had served on the Flathead Reservation from 1866 to 1868.⁴¹ Entitled “A Leaf from Frontier Nomenclature,” the editor observed that sobriquets were part of the language in western “mining countries.”⁴² Names arose from observations, events or actions relating to life on the frontier. Some names, including “Six-toed Pete” were based on physical traits, others such as “Truthful James” resulted from conduct, a man called “Ten of Diamonds” likely had a unique skill at the card table, while “Slap-Jack Johnny” probably earned his name near the skillet. When an individual adopted a moniker, it had the potential to replace a given name; the editor observed that “there are number in Montana today, and not a few in this country of whose familiar acquaintances not one in a hundred could give their proper name.”⁴³ Sour Dough Jim may have been one of these individuals who replaced his name with a nickname. He signed his letters to the newspaper with his frontier appellation, and the editorial from the Capital Bill proponents also called him by his moniker. “Sour Dough”

⁴⁰ “All Home Again,” *Anaconda Standard*, August 24, 1894.

⁴¹ Richard Dwight Seifried, “Early Administration of the Flathead Reservation: 1855-1893” (Missoula: University of Montana, 1968), 217.

⁴² “A Leaf from Frontier Nomenclature,” *The New North-West*, March 26, 1875.

⁴³ *Ibid.*

followed by a monosyllabic name seems to have been a familiar title in several areas of the frontier. “Sour Dough Tom” appeared on Wells’ list from the northwestern part of Montana.⁴⁴ The name also surfaced in logging camps in Idaho. During the 1940s, a folklorist compiled 344 nicknames from Idaho loggers, “Sourdough Jack” and “Sourdough Bob” both appeared on the list.

In Idaho, Montana and Oregon, sourdough also became a synonym for a bachelor. In the 1880s and 1890s, scattered articles observed that a man who had mastered cooking with sourdough did so due to the absence of a woman in the house. An 1880 poem in the Idaho *Lewiston Teller* signed “Sour Dough” described a “lonesome bach,” who had become a “frying pan martyr” and a “sour dough man.” Two years later the same paper declared sourdough “the bachelor’s friend.” In 1879, the *Bozeman Avant Courier* announced that local resident Frank Summers would “commence the life of an ‘Old bach’ soon” because he had completed his cabin and was still unmarried. The article warned, “look out Frank for sour dough.”

In 1891, the Helena Business College sponsored a cooking workshop with a representative from the Cooking School of Philadelphia. The reporter for the *Helena Independent* commented that many of the men in attendance fell into two categories, one contingent “looked as if they were undecided as to whether they were contemplating continual celibacy and desired to learn the culinary art, or whether they were taking notes for the benefit of some fair pupil whom they would soon tutor.”⁴⁵ Contented “sour dough men” from the frontier, perhaps similar to the early day relatives of Lake Woebegon’s “bachelor farmers,” were solitary souls by choice or by accident. In 1890 the *Wood River Times* in Idaho described the “Lost River ‘Bach,’” a group of ranchers, who “never tiring of their daily wrestling with sour dough and

⁴⁴ Ibid.

⁴⁵ “Spoons Were Too Small,” *Helena Independent*, June 25, 1891.

soap-suds,” and preferred their “lonely cabins” and the “status quo.”⁴⁶ In 1896 the *Silver Blade* in Rathdrum, Idaho advertised, “we also have here the very best brand of sour dough ranchers for husbands; they run loose in the streets without brand or ear-marks; you meet them everywhere.”⁴⁷ The term even persisted into 1899 when the *Hood River Sun* commented that a characteristic of “an old bachelor,” was that he “raise[d] his own bread—with sour dough.”⁴⁸

Yellowstone National Park, founded in 1872, was the first National Park in the United States.⁴⁹ By 1894, the park recorded 3,645 visitors. Business owners noticed differences in the type of tourists who visited; those prepared to camp and recreate were known as “sagebrush tourists” or “sour dough tourists.” The article observed, “these tourists are those who go by their own conveyance, fitted with tent, blankets, cooking utensils, food, etc., stop when they want to, go when they please, and in fact do about as they desire with the exception of killing game.”⁵⁰ “Coupon tourists” on the other hand stayed at hotels and paid an admission fee to tour the park.⁵¹

4.2.3 Sourdough Metaphor

In the 1880s and 1890s, sourdough was occasionally used an adjective or a metaphor to represent bitterness and bombast. In 1884 an editorial in the Republican *Wichita Daily Eagle* critiqued the rival Democratic newspaper, the *Beacon*, for jaundiced coverage of the presidential race comparing the “second class matter” to “a flaring pot of sour dough,” which, “seethes up and over letting fall ever and anon great glumps of sulks with a sickening thud on our platform, over our candidates and upon our convention.”⁵²

⁴⁶ “From Lost River,” *Wood River Times*, November 22, 1890.

⁴⁷ “Hunting and Fishing,” *Silver Blade*, March 23, 1896.

⁴⁸ “Correspondence,” *Hood River Sun*, September 28, 1899.

⁴⁹ Hiram Martin Chittenden, *The Yellowstone National Park* (Cincinnati: R. Clarke Company, 1904), 93.

⁵⁰ “The National Park,” *Philipsburg Mail*, February 22, 1894.

⁵¹ “Local Brevities,” *Red Lodge Picket*, March 17, 1894.

⁵² “Unhappy Beacon,” *Wichita Daily Eagle*, June 12, 1884.

Sourdough continued to be used as an occasional metaphor for critics of the Democratic party. During his campaign, Grover Cleveland promised to appoint a greater number of western residents in territorial government positions.⁵³ However once in office, the top candidates for two key appointments in Montana came from other states. In 1885, the leading choice for the Montana Assay Office, was an Indiana native,⁵⁴ while the top candidate for the Surveyor General was from New Orleans.⁵⁵ In response to this oversight, the *Helena Weekly Herald* advised Southern Democrats in Congress to consider Montana residents Col. DeLacy and Charles Rumley for the positions of Surveyor General and Assayer-in-Charge respectively. The editor urged, “Let all Montana have the satisfaction of seeing a couple of such men as Col. DeLacy and Charles Rumley commissioned. They will sweeten and leaven up, somewhat, all this Democratic sour dough. It will have to be done, gentlemen, or look out for broken down, castaway Democrats who will fill these offices from the States.”⁵⁶ A similar example in the *Salt Lake Herald* criticized the Utah Territorial Legislature for underrepresenting Rich County in favor of the neighboring Cache County. The letter to the editor compared this neglect to “representative dough” which had been “allowed to sour and run over down on the floor.”⁵⁷

This rhetoric of spoiled dough and political intrigue, the meaning of “sourdough,” in the sense of a leaven blended with “soured dough,” an undesirably bitter dough that could result from any type of over-fermented dough whether it was leavened with hop yeast, brewer’s yeast, baker’s yeast or sourdough starter.

This nationwide familiarity with soured dough led at least two writers in Kentucky and West Virginia to apply this literary sense of soured dough in their articles. In 1892 the Kentucky

⁵³ “The Harrison Matter,” *New North-West*, October 9, 1885.

⁵⁴ *Ibid.*

⁵⁵ *Congressional Record*, 49th Congress, 1st Session (Washington D.C.: Government Printing Office, 1886), 253.

⁵⁶ *Helena Weekly Herald*, September 3, 1885.

⁵⁷ “Rampant Rich,” *Salt Lake Daily Herald*, August 8, 1883.

Hartford Herald accused the Republican party of slander, charging that the state was approaching bankruptcy as a “vain hope of making a sweet cake out of sour dough.”⁵⁸ Similarly, in 1894, newspapers in West Virginia covered a court case involving a disgraced Colonel who had perpetrated a mock marriage and had abandoned his deceived wife and child.⁵⁹ The case prompted a contributor to the *Wheeling Daily Intelligencer* to comment, “The best thing Colonel Breckinridge can do for himself is to drop out of the public gaze as quickly as he can. His cake is sour dough.”⁶⁰

4.2.4 Veterans of the West

In the Lower 48 states at least, “Sourdough” in the general sense of a rural veteran was not a regular part of the western vocabulary. “Pioneer,” “pilgrim” and “49er” were typically juxtaposed to “tenderfoot” and “greenhorn.” At an 1885 convention of the California Pioneers, a former “49er” recalled sourdough mishaps in his opening address, observing that his “sour dough,” “either would not rise at all, or else would go up and over all creation, and I could not help it.”⁶¹ In 1890, a Pioneers banquet in Montana honored those who had arrived before 1864, the year that Montana had become a territory.⁶² In his keynote address, W.A. Clark, the president of the association, noted that one of the defining skills of these pioneers was knowledge of “the best methods” for baking “sour-dough bread, [and] flipping slap-jacks in a frying pan.”⁶³

⁵⁸ “Republican Falsehood,” *Hartford Herald*, August 10, 1892.

⁵⁹ Fayette Lexington, *The Celebrated Case of Col. W.C.P. Breckinridge and Madeline Pollard* (Chicago: Current Events Publishing Company, 1894), 86.

⁶⁰ *Wheeling Daily Intelligencer*, March 16, 1894.

⁶¹ W.C. Hendricks, “Forty Nine,” *Daily Alta California*, October 26, 1885.

⁶² W.A. Clark, “The Pioneers Banquet,” *Helena Independent*, August 29, 1890.

⁶³ *Ibid.*

Another Montana man believed that twenty years of cooking and eating sourdough made him a genuine pioneer, the salt of Montana earth”⁶⁴

In 1884, twenty years after Montana became a territory, an editorial in the *Montana Daily Enterprise* observed that many of the new western states and territories defined two types of frontier veterans, “pioneers” and “pilgrims.” According to the author, “pioneers were the first migrants—the argonauts” while “pilgrims” were farmers who followed the path of these miners.⁶⁵ The author observed that both groups contributed to settlement in the West, but noted that fortune seeking pioneers considered pilgrims second-class citizens. From the perspective of the pioneer, a “tenderfoot or pilgrim of Montana may have helped to pioneer the way for the multitudes of half a dozen states, but if he has delayed his coming to Montana until these late degenerate years he is but an inferior being—one unworthy of any favor as compared with he who set foot in the territory twenty years—a little more or much less—ago.”⁶⁶ In addition to lengthy residence, profession differentiated the prospecting pioneers from the farming pilgrims. Another California newspaper noted that “tenderfoot” was derogatory term for farmers from the Midwest who had “followed an ox-team into the country.”⁶⁷

“Greenhorn” was a more generalized term for a newcomer. In 1852, the *Daily Alta California* published letters from a Massachusetts native who had tried his luck in California and then decided to search for fortune in Australia. In one of his early experiences, the fortune seeker worried that he might appear naïve and vulnerable to a swindler, so during the boat journey, he “set [him]self earnestly to work in acquiring imperceptibly whatever information I could draw out respecting the manners, customs and habits of the colonists, so that on my arrival I should

⁶⁴ “Pilgrims and Pioneers” *Daily Enterprise*, September 24, 1884.

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

⁶⁷ “Mining Notes,” *Sacramento Daily Union*, June 15, 1880.

not be taken for a *flat*—the colonial phrase for a greenhorn.”⁶⁸ In 1890 the *Wichita Daily Eagle* described the lucky “tall greenhorn of a new comer [who] drifted in without a dollar to his name” and stumbled upon one of the richest claims near the Sierra Mountains.⁶⁹

As fortune seekers traveled north, a similar culture of experienced veterans and untested novices formed new boomtowns, and many of these western terms followed. When the Victoria-based *Daily Colonist* became the first newspaper in the colony in 1859, a letter to the editor praised the publication as a sign of progress writing, “I as well as most of the pioneers who have made this colony their home, and risked the hardships and inconveniences of an inclement winter, feel confident that 1859 is destined to see ere its close gigantic strides in our progress.”⁷⁰ Another article about a local graveyard memorialized the “pioneers of civilization in this Colony who died far away from home and kindred.”⁷¹

In 1894 and 1895 the Juneau-based *Alaska Searchlight* featured several columns written by prospectors who would overwinter in Juneau and leave in the spring to work claims in the Interior. Many of these contributors had also participated in the Cariboo and Cassiar gold rushes of the 1860s and 1870s. One column entitled “Odd Talks with Old-Timers” recalled a Christmas meal in Cariboo in 1860. The author recalled that the holiday meal was simple, featuring staples of the frontier: pork, beans, sourdough, and “plain-duff,” a “plum-duff” with no plums. The former prospector regretfully wrote that only three of the ten men who enjoyed the meal were still living, adding, “It makes me sad to watch the old-timers one by one dropping out of the ranks, and I cannot expect that the call for me will be long delayed.”⁷² A similar article entitled “Early Days of Juneau,” written by an “old timer,” remembered his first Christmas in Juneau in

⁶⁸ “Letters on Australia,” *Daily Alta California*, October 29, 1852

⁶⁹ “Last Strike at Ophir,” *Wichita Daily Eagle*, October 10, 1890.

⁷⁰ Letter to the Editor, *British Colonist*, January 29, 1859.

⁷¹ “The Old Graveyard,” *British Colonist*, April 14, 1860.

⁷² “Odd Talks with Old-Timers,” *Alaska Searchlight*, February 1, 1895.

1882. The author remembered the “brave pioneers” who founded Juneau, singling out the “pioneer minister” and the “pioneer lawyer” who served as the town’s first legal counsel and postmaster.⁷³ In 1895 another headline announced, “Juneau loses one of its Pioneers” when a longtime minister prepared to leave Alaska.⁷⁴

Old timers were also recognized in early reports about Alaska and the Yukon Territory. In 1887 surveyor and geologist George M. Dawson gathered information about the Cassiar District from “old miners who were among the first to enter the country.”⁷⁵ Similarly William Ogilvie’s 1897 report of the Yukon District to the Canadian government mentioned “old miners” who had “learned from experience” and others who considered land near the “Thron Duick” (later Klondike) and Stewart Rivers, the “best and most extensive gold country yet found.”⁷⁶

It was clear that a tradition of learning through experience had distinguished veterans of Forty-Mile, Cariboo, Cassiar and Juneau but the moniker “Sourdough” rarely appeared in print. As a result of this absence, historians who have searched for the origin of the name have remained unsure about its roots in Alaska and the Yukon Territory. Herbert Heller, collector of Alaskana and editor of *Sourdough Sagas: Pioneering and Gold in Alaska 1883-1924* introduced readers with his observation, “Just how the name Sourdough became attached to the gold rush pioneer is not known. When the vast horde of goldseekers came into the Territory in the rush of ’98, they found men who already lived in frontier camps and who already were veteran prospectors. These men who had come north during the fifteen years prior to the big rush, were simply called “old-timers,” and were respected and revered for their earlier adventures into the

⁷³ “Early Days of Juneau,” *Alaska Searchlight*, December 31, 1894.

⁷⁴ “Juneau Loses One of its Pioneers,” *Alaska Searchlight*, February 4, 1895.

⁷⁵ George Mercer Dawson, “Extracts From the Report on an Exploration Made in 1887 In the Yukon District N.W.T. and Northern Portion of British Columbia,” in *The Yukon Territory*, ed. F. Mortimer Trimmer (London: Downey & Company, 1898), 301.

⁷⁶ William Ogilvie, *Information Respecting the Yukon District, from the Reports of Wm. Ogilvie and from Other Sources* (Ottawa: Government Printing Bureau, 1897), 56, 65.

unknown land.”⁷⁷ The absence of early references to Sourdough is largely due to the dearth of published material from the early years of Alaska and the Yukon Territory. Scattered scientific reports and the few Northern newspapers that existed in the 1890s were no match for the press in California or Montana. As soon as more authors and journalists arrived however, Sourdough became a familiar character in the North.

4.3 Sourdough, Cheechako and the Klondike Gold Rush

The popularity of Sourdough in the North was part of an ongoing tradition that distinguished experienced from inexperienced settlers during westward expansion. Sourdough, alternately spelled “sour dough,” “sour-dough” and “sourdough,” became part of the vocabulary of the frontier, not only in the kitchen, but also in the form of place names, nicknames and metaphors. Another term “cheechako,” on the other hand, was a uniquely Northern word for the inexperienced counterpart. Cheechako was part of the Chinook Jargon, a trade language that originated near the mouth of the Columbia River prior to contact, and traveled up the British Columbia coast to Southeast Alaska and the Yukon with expanded trade networks in the 1800s.

Chinook Jargon, a language used by Native American and non-Native traders in the Pacific Northwest, British Columbia and the Yukon Territory.⁷⁸ Recorded in written accounts of Captain Cook and Lewis and Clark, the jargon incorporated vocabulary primarily from the Chinook and Nuu-chah-nulth languages, spoken near the mouth of the Columbia River and Vancouver Island.⁷⁹ As Chinook expanded north, additional expressions from Cree, Chehalis and other Native American languages became part of the collective syntax. With contact, French and

⁷⁷ Herbert L. Heller, *Sourdough Sagas: Pioneering and Gold in Alaska 1883-1924* (New York: Ballantine Books, 1967), 1.

⁷⁸ Edward Harper Thomas, "The Chinook Jargon," *American Speech* 2, no. 9 (1927): 378.

⁷⁹ *Ibid.*, 380.

English traders contributed new vocabulary.⁸⁰ By the mid-1800s, the trade jargon was understood in an area that encompassed over 100 different languages.⁸¹

Nineteenth century linguists documented Chinook Jargon in several dictionaries and a limited number of translated religious texts and songs.⁸² The *Daily Colonist* occasionally reported that the spoken language was used in court cases and legal proceedings.⁸³ The dialogue was also part of communication in the corridor between the Alaska coast and the Yukon Interior. A decade before he become famous for the 1896 Klondike strike, George Carmack traveled between Dyea, Juneau and the Yukon Interior, packing goods for miners. The same year that he arrived in Juneau he started to learn Chinook Jargon. In 1885, Carmack wrote to his sister Rose in California, outlining his plans to search for gold. He extended an invitation to Rose and her husband in Chinook and in English:

chinook

nika sick tumtum nika tika nunitch mika spase nika iskum chickee man nika collie nika illahin nanitch mika. Spase mika tika cultas collie closh mika chaka copa Juneau nanitch mika

english

I am lonesome for I want to see you, if I make some money I will go home and see you. If you want to go on a pleasure trip come to Juneau and see me⁸⁴

With the arrival of thousands of fortune seekers in 1897, the combination of two Chinook words, “chee” and “chaco,” became “Cheechako,” or “newcomer” the counterpart to the experienced Sourdough. In pre-Klondike vocabulary lists, it was most common to see the two root words defined separately. In 1858, the *Hand-Book and Map to the Gold Region of Frazer’s and*

⁸⁰ Michael Silverstein, "Chinook Jargon," *Oceanic Linguistics Special Publications* 14 (1975): 712.

⁸¹ *Ibid.*

⁸² *Ibid.*

⁸³ “City Police Court,” *Daily Colonist*, January 1, 1877.

⁸⁴ George Carmack, letter to his sister Rose Watson, November 10, 1885, University of Washington Special Collections, George W. Carmack papers, Accession no. 5176-001, Box 1/2, Online Archive.

Thompson's River defined "Chee" as "new" and "Chaco" as "come."⁸⁵ Later, an 1863 dictionary defined "Chee" as "lately, new or just now" while the verb "Chah'-ko" signified "to come or to become."⁸⁶ A few dictionaries put both sections of the word together. The 1884 *Dictionary of the Chinook Jargon* combined the two into a phrase *Chee ni'-ka cháh-co*, "I have just come."⁸⁷ But it was not until 1897 the two halves of the word "Chee" and "Chaco" regularly appeared as one word.

Anchored in the idea of frontier know-how, Sourdough and cheechako have been recognized Northern terms since the Klondike Gold Rush of 1897. Specifications for who could be considered a Sourdough have varied depending on region and time-period. This variation has allowed the moniker to adapt through time and place to define the qualities of longtime residents. The term "sourdough" embodies a thread of Northern heritage that continues to distinguish long-term residents of Alaska, "The Last Frontier," from transients and newcomers.

4.3.1 Sourdough in the Press 1897-1899

As can be seen in Figure 4.2, between 1896 and 1897, the frequency in appearance of the word "sourdough" doubled in newspapers around the nation, rising from twelve to twenty-four. An artificially high increase in 1899 from twenty-four to seventy-five mentions, was due to forty-one reports on Montana's poet A.K. Yerkes, "the Bard of Sour Dough" and an unpopular Montana congressman who earned the title "Sourdough Statesman." Still, the sourdough reputation of Alaska and the Yukon Territory steadily grew as stampeders reported back to their

⁸⁵ Alexander C. Anderson, *Hand-Book and Map to the Gold Region of Frazer's and Thompson's Rivers* (San Francisco: J.J. Le Count, 1858), 27-28.

⁸⁶ George Gibbs, *A Dictionary of the Chinook Jargon, or, Trade Language of Oregon* (Washington: Smithsonian Institution, 1863), 2.

⁸⁷ John Gill and W. C. Chaltin, *Dictionary of the Chinook Jargon with Examples of Its Use in Conversation*, 10th ed. (Portland: J. K. Gill & Company, 1884), 34.

families from Dawson. Figures 4.3, 4.4 and 4.5 show that two mentions of sourdough in Alaska in the preceding three decades grew to three in 1897 and 1898, and twelve in 1899. The same tables also show that mentions of sourdough in the Yukon Territory grew from zero to nine mentions in 1898 and eighteen in 1899.

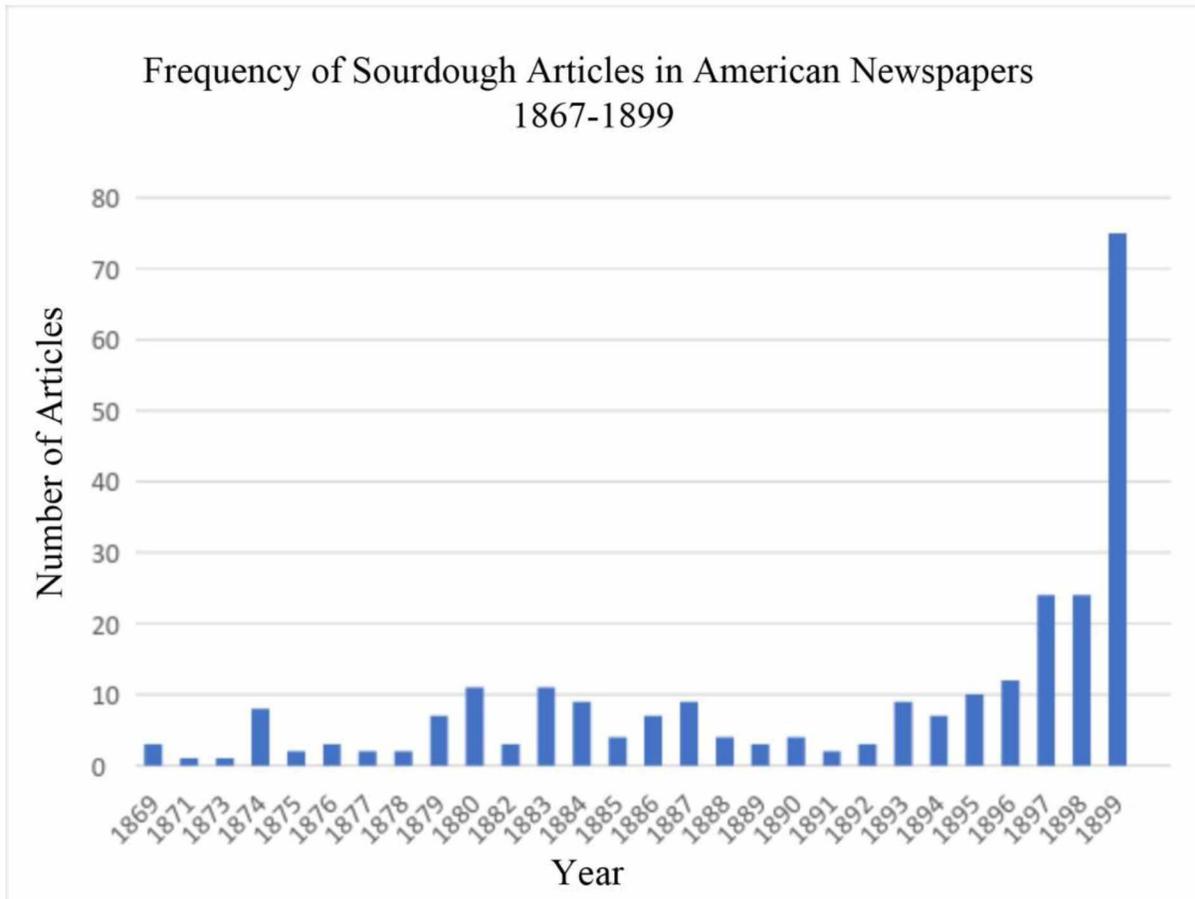


Figure 4.2 Frequency of Sourdough in State Newspapers 1867-1899 (from research database)

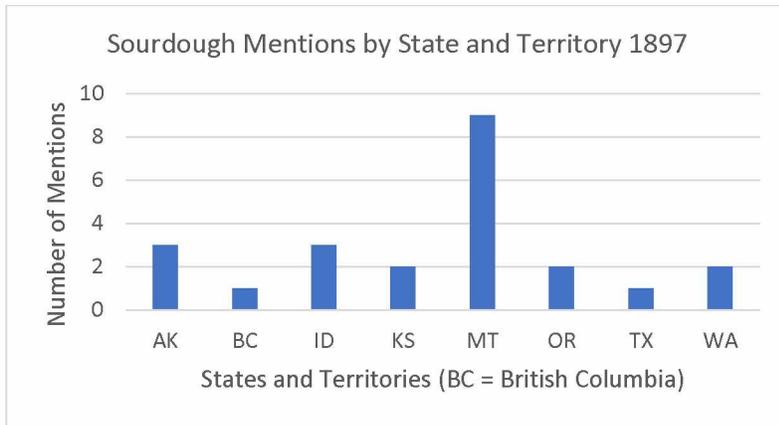


Figure 4.3 Frequency of Sourdough in State Newspapers 1897 (from research database)

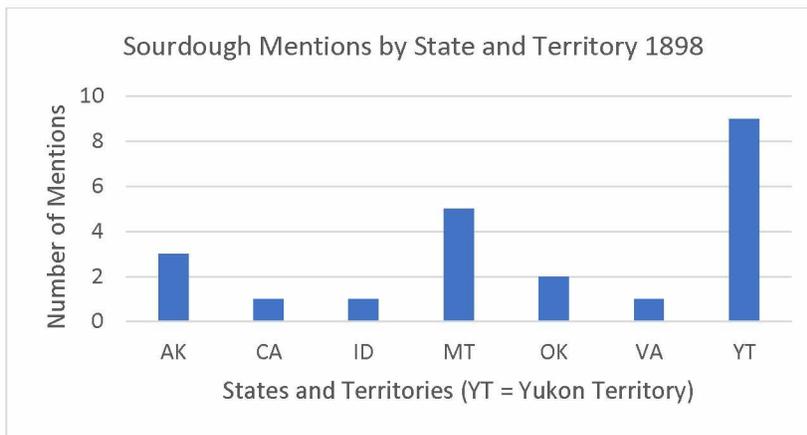


Figure 4.4 Frequency of Sourdough in State Newspapers 1898 from (research database)

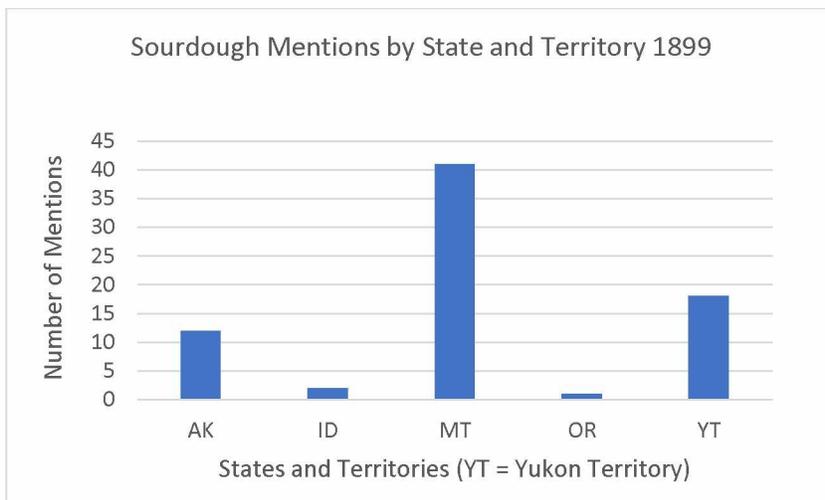


Figure 4.5 Frequency of Sourdough in State Newspapers 1899 from (research database)

4.3.2 Sourdoughs in the News

Ironically, it was often newcomers who first used the Sourdough moniker in print. One early description of a sourdough came from the letters of Frank R. Houston, a Wisconsin native who left his successful dentistry practice to join the rush. Houston was one of the earlier stampeders in the Klondike. He left Wisconsin in May of 1897, two months before the gold laden *Excelsior* and the *Portland* truly sparked the stampede. Even before the ships docked in San Francisco and Portland, however, news of the 1896 strike had filtered to newspapers across the nation.⁸⁸ When the *Wood County Reporter*, Houston's hometown newspaper, announced his plans to leave in May, the editor mentioned that several local men had already left, comparing "the craze to go to the gold mines of Alaska" to the California "gold fever of '49."⁸⁹

The *Wood County Reporter* continued to report Houston's experiences as he prospected for gold, publishing his letters from Alaska and the Yukon. By the time Houston had reached Dawson in December of 1897, he was beginning to take pride in his cooking skills, but found that food was expensive and monotonous. More importantly, Houston realized that the possibility of striking gold was uncertain, and he had made a tentative decision to return home before the next winter. He did not completely regret the adventure however, "I'll be able to call my son to my knee and tell him how the old man was an old sour-dough stiff of a Yukoner, and how he left a good comfortable country to shiver in a land where nothing but ice is cheap."⁹⁰ For Houston, a sour-dough stiff was a person who remained in the Dawson area for a winter; with just seven months of living in the North he already identified as a veteran, even if he "didn't like to make bread" and preferred to "make up a batch of biscuit."⁹¹

⁸⁸ M.J. Kirchhoff, *Clondyke: The First Year of the Rush* (Juneau: Alaska Cedar Press, 2010), 48.

⁸⁹ Frank R. Houston, "Going to Alaska," *Wood County Reporter*, May 13, 1897.

⁹⁰ Houston, "Two Clondyke Letters," *Wood County Reporter*, Feb 17, 1898.

⁹¹ *Ibid.*

Several months later another, very different, definition of a “sourdough-stiff” surfaced in the *Seattle Post Intelligencer*. Reporting from Dawson in August of 1898, the correspondent observed that the newest wave of fortune seekers had transformed Dawson from a center for “the old sour-dough stiffs” who periodically came to town as a respite from their hermit-like existence on the creeks, to a metropolis of about thirty thousand people.⁹² Here, “sourdough-stiffs” signified pre-Klondike hermits who worked on isolated claims. Tappan Adney described a similar version of “old Cassiar men” who advised new arrivals that they lacked the experience to strike gold. According to these “old, bearded men,” a gold-bearing landscape had to “look just right,” and “the willows had to lean a certain way.” These seemingly arbitrary descriptions led to the “irreverent name of “sour-dough stiffs,” roughly equivalent to “old fogies.”⁹³

4.3.3 Time, Skill and Tenacity

Definitions of sourdough were based on: time spent in the country, requisite skills that developed as a result of unique northern challenges and the tenacity (often a cantankerous attitude) that resulted from this lengthy residence. These requirements however, were relative, based on the time and the individual consulted. In the constantly changing gold rush environment of boomtowns and stampedes, standards for becoming a veteran northerner were fluid.

When Tappan Adney arrived in Skagway in 1897, he found a community that had mushroomed from fewer than thirty people just a year before.⁹⁴ In Skagway, a town of constant transition, residents earned veteran status with the arrival of each steamer. “No one pretends to follow the changes that are going on here. Those who have been here a week are old-timers.

⁹² E.B. Wishaar, “In the Greatest Gold Camp In The World,” *Seattle Post Intelligencer*, August 9, 1898.

⁹³ Tappan Adney, *The Klondike Stampede* (New York: Harper and Bros, 1900), 268.

⁹⁴ Bernard Moore, *Skagway in Days Primeval* (Skagway Alaska: Lynn Canal Publishing, 1997), 96.

When the next boat arrives people will ask questions of us in turn.”⁹⁵ In other areas a one year difference was grounds for experience. Robert Bolem, a fortune seeker who had arrived in Dawson in October of 1897, critiqued stampedes who persevered to reach Dawson in the Spring of 1898. In Bolem’s view, the 1898 arrivals were intruders. He noted: “cheechockos [*sic*]...are flooding the country and staking everywhere,”⁹⁶ clearly resenting the competition the late-comers represented.

As more stampedes rushed to Dawson, the increasingly homogenous group of stampedes from 1897 and 1898 began to measure experience by the freeze of the Yukon River in the fall and thaw in the spring. Several papers announced that the initiation of Dawson “Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers” came with the Yukon breakup in June of 1899.⁹⁷ The spring thaw signaled the return of supply steamers, marking the end of rationing food supplies and the promise of fare other than beans, bacon and bread. The celebration acknowledged those who had survived a winter on these staples, those who learned how to make sourdough bread at thirty below or substituted endless hotcakes when the bacon and beans ran out, did so between fall freeze and spring breakup.

Number of years spent in the territories was a fair measure of who would become a veteran and who would not. An individual who survived a winter demonstrated commitment and know-how, but in addition to time, a quality of tenacity that distinguished those who would be able to survive. From the beginning, the Klondike proved a mental as well as physical challenge. A stamper diary from 1898 described a man who had come to the end of his tolerance for the Chilkoot Trail at Sheep Camp, just thirteen miles from the trailhead.

⁹⁵ Adney, *The Klondike Stampede*, 68.

⁹⁶ Robert S. Bolem, *Gold Rush Diary, 1897-1898, Stamper Accounts*, Klondike Gold Rush National Historical Park, May 26, 1898.

⁹⁷ “Break Icy Fetters,” *Omaha Daily Bee, Salt Lake Herald, St. Paul Daily Globe, San Francisco Call, Indianapolis Journal, Daily Inter Mountain, Anaconda Standard, June 16, 1899.*

One man, a few days ago, pulling his outfit on a sled in the canyon below Sheep Camp, was going along silently and tugging away. He would stop to get his breath and wipe the sweat off his face with his bare hand and the others behind him shouting move on. "Mush on." He would take hold and tug away 'til he came to a place where there was an open place through the ice into the creek. He pulled to one side to let the others pass. Then, quietly and gently, unloosed the ropes from his sled and taking up one sack at a time, chucked them in the hole--then picked up the sled and threw that in after; turned around and walked back without uttering a murmur or saying a word.⁹⁸

A Sourdough had to have the resilience to weather the difficulties of the Klondike; the journey was challenging, even from the beginning. Early in his climb up the Chilkoot Trail, long before he had reached Dawson, Leo Healy disparaged stampeders who sold out and returned home just as the journey began, calling them, "'quitters,' 'Chee-chaw-kees' (tenderfeet) or 'hot-stove gladiators.'" He criticized their "lack of determination," but later conceded that "this sounds a little like blowing so I had better stop."⁹⁹

Although Healy may have been rash to criticize others at the beginning of the trail, another individual who fit the profile of the cantankerous sourdough stiff echoed Healy's sentiments. When Tappan Adney reached a former Hudson's Bay Company post in Fort Selkirk, he spoke with J.J. Pitts, who had lived in the Yukon for twenty-five years.¹⁰⁰ He offered Adney and his partner, Brown, a place to stay for the night, the only kerosene lamp on the premises, and a glass of Scotch, "a rare luxury here."¹⁰¹ While hospitable, Pitts was not encouraging and freely expressed reservations about the rush of goldfield travelers. "This is essentially a prospectors' country; it is no place for the majority of those who are coming in. They are carpenters, clerks, and the like. They may do well, but only for a while. The only ones calculated to succeed are

⁹⁸ Park Beatty, *Gold Rush Diary, Stampeder Accounts, Klondike Gold Rush National Historical Park*, April 15, 1898.

⁹⁹ Leo Healy, *Gold Rush Diary, 1898, Stampeder Accounts, Klondike Gold Rush National Historical Park*, March 1, 1898.

¹⁰⁰ *Ibid.*, 163.

¹⁰¹ *Ibid.*

those who understand the hardships and have grit and determination besides.”¹⁰² The Yukon veteran did not mask his misgivings about Adney and Brown. Just before they continued toward Dawson, Pitts considered sending some furs with the duo to sell, but then declined, saying, “No, I won’t send them; I don’t think you’ll reach Dawson.”¹⁰³

Other stampederers identified cheechakoes based on mannerisms that betrayed misplaced self-confidence. Another letter from Dawson, written by an 1898 Montana fortune seeker, identified chechakos as overconfident and immodest. He advised, “To be a good ‘checkoko,’ you must tell every one you meet all about your trip in, how much more you packed over the summit than any one else, how much faster your boat was than any other boat, what a remarkably short time you were on the trail, and what a high muck-a-muck and all round son-of-a-gun you were in your native country, and finally to be able to convince your hearer, if he stays to listen, that you are one of the most abominable liars that the divine ruler of this Arctic universe ever permitted to float down the Yukon.”¹⁰⁴

In contrast to empty boasting, Sourdoughs were practical and creative, making do with resources at hand. In 1898, Minnesota stamperer Frank A. Day noted that in Dawson, “new-comers” were called “Chechawkoes,” whereas “Sour Dough Stiffs” were the resourceful members of the Dawson boomtown who earned their names from mastery of sourdough baking. Day took pride in his “reasonably proficient” cooking skills. He noted that a veteran in Dawson had learned the trades of “a builder, carpenter, tinsmith, cook, boat builder [and a] dog driver.” This northern brand of self-sufficiency encompassed the skills needed for a journey into the Interior. Carpentry and building were necessary for both cabins and tents; cooking and metalwork were part of making meals with a Yukon stove and a metal stovepipe. Starting at

¹⁰² *Ibid.*, 164.

¹⁰³ *Ibid.*, 165.

¹⁰⁴ T.E. Cronin, “It is Necessary to Lie,” *Anaconda Standard*, February 6, 1899.

Lake Bennett, the journey to Dawson required boat building; once a fortune seeker arrived, a dog team was the best mode of winter transportation. Frank Day concluded that this learning process led to the ingenuity to build “anything less complicated than a watch or a system of theology.”¹⁰⁵

A sense of humor was also part of survival in the North. An Iowa mail carrier who delivered letters between Dawson and Circle City in 1899 published a poem that drew an image of a Sourdough braggart writing,

When Jim was a chichako shy, he
never told a fib;
But now when'er he tells the truth, he
makes it awful big,
As any sour-dough miner would an think it was no sin.
So when the truth is stretched some-
what, we say it sounds like Jim!”¹⁰⁶

The idea of a Sourdough showoff and an honest cheechako directly contradicted the idea of a cheechako egotist, but tall tales and joking were just as essential to survival as cooking skill. Others veterans played practical jokes. A group of Dawson Sourdoughs in 1899 not only cooked with flour, but also joked with it. Jim Delaney remembered that a brand of “self rising” flour, (flour mixed with baking soda), came with a bright red advertisement on the sack. In his camp “two fellows who were continually playing pranks upon each other” tried to top each other in the joke department. Delaney wrote “one fellow in a moment of charity patched his friend’s trousers with a Self-Rising flour bag using that part on which the name appeared in large red lettering. His friend not to be outdone walked down the street in Dawson much to the amusement of everyone.”¹⁰⁷ Another time, the cook made sourdough pancakes with pieces of flour sack fried inside of them in retaliation for an April Fools joke.¹⁰⁸ Delaney enjoyed the memories of the

¹⁰⁵ Frank A. Day, “In the Klondike,” *Mower County Transcript*, May 4, 1898.

¹⁰⁶ J.G. Charters, “Figures in Rhyme,” *Evening Times-Republican*, October 24, 1899.

¹⁰⁷ Jim Delaney, *Gold Rush Adventures, Stampedor Accounts*, Klondike Gold Rush National Historical Park, 24.

¹⁰⁸ *Ibid.*, 25.

jokes, but this light humor served a deeper need for camaraderie, “Were it not for the humour and innocent mischief we would have died of loneliness and monotony in the Klondike country.”¹⁰⁹

4.3.4 Who could become a Sourdough

The character-building experience of surviving Northern winters was a mark of pride among Sourdoughs, but even decades of experience hardly compared to the generations of knowledge integral to Native communities in Alaska and the Yukon Territory. The famed Chilkoot Trail, “The Trail of ‘98” had been one of many transportation routes that connected Coastal Tlingit and Interior Tagish Natives for thousands of years before anyone arrived with a gold pan.¹¹⁰ It was Native communities who had the most experience of anyone in the north during the gold rush era. Ironically the title of Sourdough was reserved for white English speaking men and eventually white women, during the gold rush era.

Sourdough had a pejorative connotation towards Native women in particular. Laura Berton, mother of Klondike historian Pierre Berton, arrived in Dawson to teach kindergarten in 1907. In her book *I Married the Klondike*, Berton wrote that in spring of 1908 she had completed her “trial year,” having witnessed the Yukon “freeze up in the fall and break to pieces with a grinding roar in the spring.”¹¹¹ Although Berton had become a Sourdough “according to the accepted definition,” she added that some of the “wags” in town claimed that in addition to watching the Yukon freeze and thaw, a Sourdough was a man who had “shot a bear and slept

¹⁰⁹ Ibid.

¹¹⁰ Thomas F. Thornton, *Klondike Gold Rush National Historical Park Ethnographic Overview and Assessment* (Anchorage: NPS Alaska Regional Office, 2004), 13.

¹¹¹ Laura Beatrice Berton, *I Married the Klondike* (Madeira Park, BC: Harbour Publishing, 2005), 79.

with a squaw.”¹¹² Similar racist specifications continued to surface in some definitions. In her 1951 autobiography *As the Sailor Love the Sea*, artist Ballard Hadman recounted her life in Craig and Sitka during the late 1930s and 1940s. As part of her chapter “How the Sourdough,” she noted that according to some “one is not—and cannot be—a Sourdough unless or until one has first shot a big brown bear, slept with a Kluch,¹¹³ and piddled in the Yukon River.”¹¹⁴

The pejorative attitude towards native women in particular referred to a pre-Klondike pattern of brief liaisons between white men and Native women. The boom and bust nature of resource-based economies in the North led to rowdy end-of-season celebrations included “spree drinking.” From the whaling community of Herschel Island to mining communities in Teslin, these cyclical interracial drinking sessions served as a gateway for brief sexual relationships between Native women and white prospectors.¹¹⁵ The white mining community accepted brief encounters, but they critiqued longer relationships.¹¹⁶ Prospectors who remained with Native wives and children were deemed “squaw men.” The derogatory term insinuated that the man had adopted the customs of a “primitive” culture.

The nature of relationships between Native and Anglo men were more nuanced however, Native women who married white men contributed life-saving survival skills and expertise to their families. One of the most famous figures in the Klondike, George Carmack, likely survived the winters of 1890 and 1891 at Fortymile due to the efforts of his wife Shaaw Tláa or Kate Carmack. Prior to the strike of 1896, Carmack’s mining claims only sporadically yielded a profit. Kate’s handmade fur mittens and moccasins, on the other hand, valued commodities at

¹¹² Ibid.

¹¹³ Klutch is a pejorative term for a Native woman

¹¹⁴ Ballard Hadman, *As the Sailor Loves the Sea* (New York: Harper, 1951), 30.

¹¹⁵ Kenneth Coates, *Best Left as Indians: Native-White Relations in the Yukon Territory, 1840-1973* (Montreal: McGill-Queen's University Press, 1991), 82-83.

¹¹⁶ Ibid., 82.

Fortymile, provided a steady source of income for the young family.¹¹⁷ Kate supplemented a diet of dry goods with small game and fish, and she had the foresight to forage berries and brew Labrador tea, remedies for scurvy.¹¹⁸ Shaww Tláa's story ended in abandonment and heartbreak, but some interracial marriages were founded on mutual respect and exchange of cultural expertise.

Three well known members of the Alaska Commercial Company in the mid-1870s, Leroy McQuesten, Arthur Harper and Alfred Mayo set up a post at Fort Reliance, near what would become the boomtown of Dawson.¹¹⁹ Shortly afterwards, all three men married Native women, and the couples worked to raise families and promote commerce in the North.¹²⁰ Interracial marriages were common in the pre-Klondike Yukon. When Tappan Adney arrived in Dawson in 1898, he attended the Yukon Order of Pioneers dance where he observed, "nearly all the first old-timers married Indian women, who have shared the good fortunes of their husbands in the Klondike strike and are treated with the same respect that would be accorded a white woman. At Pioneer Hall, on New Year's Eve, the "Yukon Order of Pioneers" gave a grand ball. . . They brought their Indian wives, who in turn brought the children, and it made a quaint sight."¹²¹

Native communities were integral to life in Alaska and the Yukon before, during and after the Klondike. Yet much of the folklore associated with the gold rush has been associated only with white English-speaking men who came to the North. Charlene Porsild, author of *Gamblers and Dreamers: Women, Men and Community in the Klondike*, a census study of the

¹¹⁷ Deb Vanasse, *Wealth Woman: Kate Carmack and the Klondike Race for Gold* (Fairbanks: University of Alaska Press, 2016), 87-88.

¹¹⁸ *Ibid.*, 87, 89.

¹¹⁹ Charlene L. Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike* (Vancouver: UBC Press, 1998), 29.

¹²⁰ Claire Rudolf Murphy and Jane G. Haigh, *Gold Rush Women* (Anchorage: Alaska Northwest Books, 1997), 85.

¹²¹ Adney, *The Klondike Stampede*, 355-356.

Klondike, observed that many of the most well known figures of the Klondike, such as, George Carmack, Clarence Berry and Jack London, were white, English-speaking American men. These figures set a precedent for a dominance of American men in stories about the Klondike¹²²

Indeed, census records show that the majority of stampeders were unmarried men in their thirties, born in the Britain, Canada and the United States, but this demographic was not the only one in the rush.¹²³ Minorities and non-English speakers, while less numerous, were also participants, but were unlikely to earn the title of Sourdough or to appear in the gold rush narrative. Company L, an African American military unit, was sent to Skagway to maintain order from 1899 to 1901. One of the few law enforcement entities in Skagway, the story of Company L soldiers was not added to the interpretive plan at Klondike Gold Rush National Historical Park until 2016.¹²⁴ In 1901 Dawson, minorities were present in service positions. Japanese people tended towards the restaurant industry, African American men worked as barbers, Scandinavian and German arrivals were craftsmen, French Canadians most frequently were miners or manual laborers and twenty-seven Russian and Polish Jews were tailors.¹²⁵ This diversity however was not reflected in many Sourdough narratives. Through the early 1900s, a Sourdough most often remained a white, male English speaker.

In the works of Jack London and Robert Service it was rare to find characters who spoke with an accent or had a non-western name. Sourdoughs were almost always white English speaking men. A definition of Sourdough in Jack London's *White Fang*, described,

A small number of white men lived in Fort Yukon. These men had been long in the country. They called themselves Sour-doughs, and took great pride in so classifying themselves. For other men, new in the land, they felt nothing but distain. The men who

¹²² Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike*, 18.

¹²³ Ducker, "Gold Rushers North: A Census Study of the Yukon and Alaskan Gold Rushes, 1896-1900," 85.

¹²⁴ Ben Hayes, Chief of Interpretation, Klondike Gold Rush National Historical Park, personal communication, February 2016.

¹²⁵ Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike*, 19.

came ashore from the steamers were newcomers. They were known as *chechaquos*, and they always wilted at the application of the name. They made their bread with baking-powder. This was the invidious distinction between them and the Sour-doughs, who forsooth, made their bread from sour-dough because they had no baking-powder.¹²⁶

In *White Fang* the “white men” who baked with sourdough instead of baking powder were also likely to have western names. The main characters in the book were Henry, Bill, Beauty Smith, Weedon Scott, Jim Hall and Matt, neither women nor minorities were included in the novel.

As the Klondike came to a close, one group did gain some recognition as Sourdoughs, Anglo women, most of whom followed their husbands north, were most likely to earn the title of Sourdough.¹²⁷ In 1899, a small ad in the *Seattle Daily Intelligencer* invited “friends and acquaintances who wish to see Mrs. M.P. Rothweller, of the Magnet road house, No. 18 below on Bonanza,” to a “social gathering to be held at her home at Oak Lake farm . . . before her return to Dawson; ‘Sour Doughs’ especially invited.”¹²⁸ Mrs. Rothweller, a veteran of the Klondike, extended the invitation to friends in the Seattle area, but she included this special nod to fellow fortune seekers who had followed the gold rush and returned to the Seattle area, who would understand the nickname for an experienced northerner.

4.4 Post-Klondike Sourdoughs

The character of a Sourdough developed with subsequent waves of fortune seekers. In 1910, the *New York Times* reported a strike in Iditarod observing that “[s]everal thousand ‘sourdoughs’ who have mined in the Klondike and Alaska camps” had arrived and “know exactly what to do.”¹²⁹ With the passage of over a decade, the cheechakos of 1898 who had stayed, had mastered the mining lifestyle and become sourdoughs in the process. In other areas

¹²⁶ Jack London, *The Call of the Wild and White Fang* (New York: Race Point Publishing, 2017), 231.

¹²⁷ Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike*, 19.

¹²⁸ *Seattle Post-Intelligencer*, September 2, 1899.

¹²⁹ "Great Rush to Iditarod," *New York Times*, June 27, 1910.

of Alaska, newcomers who practiced professions other than mining continued to earn the moniker. In the spring of 1917 Mrs. Evans arrived in Akiak, exhausted but dedicated to her role as a nurse in rural Alaska. The town school teacher May Wynne Lamb described her as “quick of action, neat as a pin.”¹³⁰ In spring 1918 Mrs. Evans delivered a baby boy and provided ongoing care to the new mother across the Kuskokwim River. On one occasion she finished her shift, but decided that the current was too swift to cross, so she took refuge in a cabin that was vacant for the summer. Mrs. Evans discovered too late that the cabin was infested with body lice.

The immaculate nurse, who brushed her hair “a hundred strokes each day,” was suddenly “itching and itching, in a most uncomfortable state with incessant petty attacks; even her head of long auburn tresses was creepy.” Lamb added, “it was her turn to subject herself to the cootie shampoo . . . in the true sense of the word she was a sourdough, for she had seen the ice come—and go—and was lousy.”¹³¹ Daily challenges required both men and women, regardless of their social standing elsewhere, to temper both misfortune and accomplishment with a sense of humor. Everyone in Akiak, even the conscientious nurse, was susceptible to body lice, and anyone who lived in the area could respect her hesitation to cross the swift rapids of the Kuskokwim.

Experience was valuable, but never prosperous or glamorous, ornery Sourdoughs followed a pattern of pragmatism and persistence. Albert Ness, a Koyukuk resident in the 1930s observed that, “always after any stampede, it’s not the successes who build up the country. They go home with the stakes they made. It’s the failures who stay on, decade after decade, and establish homes.”¹³² The “failures” who remained exhibited a certain commitment to remaining the North either by choice or necessity.

¹³⁰ May Wynne Lamb, *Life in Alaska: The Reminiscences of a Kansas Woman, 1916-1919* (Lincoln: University of Nebraska Press, 1988), 50.

¹³¹ *Ibid.*, 50, 115.

¹³² Marshall, *Arctic Village*, 47.

4.5 Sourdough Legacies

In both the American West and the North, ingenuity and grit distinguished frontier veterans from newcomers who had not yet mastered a sourdough rise in the winter. The two legacies diverged in the aftermath of their respective gold rush eras, however. In the West, rapid development changed the economy and lifestyles in former boomtowns, in Alaska and the Yukon however, infrastructure was slower to arrive. The delay in development in the North lasted until World War II revolutionized transportation and infrastructure in Alaska and the Yukon Territory. Most notable was the construction of the Alaska-Canadian Highway in 1942.¹³³

By 1860, just a decade after the 1849 gold strike in California, census records showed that San Francisco was the fifteenth most populous city in the United States, in 1870 it had climbed to the tenth. By 1890, the former territories of California, Montana, Wyoming, Idaho and Washington had all become states in the Union.¹³⁴ Transportation also improved. From 1901 to 1913, railroad companies laid between fifty and one hundred miles of track each year in states west of South Dakota.¹³⁵ In Alaska and the Yukon however, infrastructure was slower to arrive than it was in the West. The population of the epicenters of the Klondike Gold Rush, Skagway and Dawson, declined rather than grew. At the height of the gold rush Skagway had boomed to an estimated 8,000, but by 1900 the population fell to 3,000.¹³⁶ Dawson also waned from an estimated 30,000 in 1898 to 10,000 in 1901, as fortune seekers flocked to Nome.¹³⁷ By 1920, the Alaska population had dropped by fourteen percent from the previous decade.¹³⁸ In the same

¹³³ William Brady, *Skagway: City of the New Century* (Skagway: Lynn Canal Publishing, 2013), 383.

¹³⁴ Walter T. K. Nugent, *Into the West: The Story of Its People* (New York: A.A. Knopf, 1999), 118.

¹³⁵ *Ibid.*, 163.

¹³⁶ Frank B. Norris, *Legacy of the Gold Rush: An Administrative History of Klondike Gold Rush National Historical Park* (Anchorage, Alaska: National Park Service, Alaska System Support Office, 1996), 29.

¹³⁷ Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike*, 191.

¹³⁸ Claus M. Naske and Herman E. Slotnick, *Alaska: A History*, 3rd ed. (Norman: University of Oklahoma Press, 2011), 115.

timeframe the population of the Yukon Territory fell by half, from 8,512 in 1911 to 4,157 in 1921.¹³⁹ Statehood did not come to Alaska until 1959.¹⁴⁰ In 1953 the capital of the Yukon moved from Dawson to Whitehorse.¹⁴¹

4.5.1 The Sourdough Legacy in the West

The sourdough legacy has continued to be an important part of the heritage of the West. In 1915 Montana, the *Ekalaka Eagle* reported on the “Miles City Round-up,” a regional festival that featured an “old cow town show,” a baseball tournament and a parade that honored “Old Timers.” Most participants traveled by automobile, but among the cavalcade was a “‘sour-dough’ squad” that consisted of a “mess wagon” and a “bed wagon,” transport that was emblematic of early ranchers.¹⁴² References to sourdough also appeared in some compilations of Western poetry and songs. Nathan Howard “Jack” Thorp’s anthology, *Songs of the Cowboys*, first published in 1908, praised the skills of the “old round-up cook,” who “learnt all / there is to know / About this cookin’ business and mixin’ sour dough” in the wilderness of Colorado.¹⁴³ In the 1960s, the Journal of the California Folklore Society was titled *From the Sourdough Crock*.¹⁴⁴

In San Francisco, the Boudin Bakery, established in 1849, has built an enduring business on “The Original San Francisco Sourdough™” bread made with the “original mother dough.”¹⁴⁵ Many locals attribute the unique flavors and character of local loaves to the surrounding

¹³⁹ Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike*, 208.

¹⁴⁰ Naske and Slotnick, *Alaska: A History*, 234.

¹⁴¹ Kenneth Coates, *Alaska Highway* (Vancouver: UBC Press, 2011), xvi.

¹⁴² “Big Delegation from Ekalaka,” *Ekalaka Eagle*, July 9, 1915.

¹⁴³ N. Howard Thorp, *Songs of the Cowboys* (Boston: Houghton Mifflin Company, 1921), 25.

¹⁴⁴ *From the Sourdough Crock*, (Sonoma: California Folklore Society, 1960).

¹⁴⁵ “Meet Boudin,” Boudin San Francisco Sourdough, accessed November 15, 2015, <https://www.boudinbakery.com/meetboudin/>.

environment. A tongue and cheek description specifying “loaves must be baked in brick ovens of a pattern long since disused and beyond the skills of modern masons to recreate; that such ovens must be below sidewalk level at a precise but indefinite depth; that they must be fired to a certain temperature by certain woods; and that the resultant baking must be cooled at a certain rate in air moistened by San Francisco fog.”¹⁴⁶ Enthusiasm for artisanal San Francisco sourdough has also grown with slow food and organic movements. Michael Pollan’s *Cooked*, an investigation of the transformative nature of fermentation and heat, included a chapter on bread that documented some of the science of and modern culture of sourdough. In addition to the mysteries of Wonder Bread Pollan documented his own apprenticeships with well-known bakers including Chad Robertson, a baker of near rock star status, who works at Bar Tartine in San Francisco.¹⁴⁷

Western pioneering veterans however, remained part of a territorial heritage of prospecting and ranching, they were not part of the railroad or agriculture that drove subsequent prosperity in the state. Luzena Stanley Wilson was a ‘49er who left her farm in Missouri with her husband and two children to seek fortune in California. After spending much of her adult life following the 1849 stampede and subsequent gold rushes in Nevada and California, she settled in the Vaca Valley, near Napa California. In 1881 Stanley Wilson’s daughter captured her observations of how Vacaville, a former outpost for miners, had become “the center of a thriving country” within two decades. Wilson wistfully observed that stage coaches, the earlier form of transportation, had brought the “rollicking, unassuming fun of the country,” while the railroad ushered in “city airs and the following of city fashions” a pretentious style that differed from previous years.¹⁴⁸ But trains also brought farmers and families that had transformed the mining

¹⁴⁶ Peter Tamony, “Sourdough and French Bread,” *Western Folklore* 32, no. 4 (1973), 266.

¹⁴⁷ Michael Pollan, *Cooked: A Natural History of Transformation* (New York: Penguin Press, 2013), 238.

¹⁴⁸ Luzena Stanley Wilson, *Luzena Stanley Wilson, '49er; Memories Recalled for Her Daughter Correnah Wilson Wright* (Oakland, CA: Eucalyptus Press, 1937), 44.

town, once characterized by “flush times,” into a “blooming garden.” Wilson spoke about the “rags and tatters of my first days in California” and distinguished gold rush era homes from new settlements by their scruffy character.

Dawson and Skagway on the other hand, retained a connection to the Klondike in the thirty years following the rush. When Laura Berton arrived in Dawson in 1907, she described “living with ghosts of an earlier decade.”¹⁴⁹ As she made Dawson her home she noted the “population trickling from it like water from a leaky barrel,” to about one thousand people. She added, however, that over the course of her twenty-five years of residence, “I never thought of Dawson as a ghost town, and I would have been annoyed and flabbergasted if anyone had called it that.”¹⁵⁰ Unlike Vacaville, a town that welcomed infrastructure and new populations of farmers after the California gold rush era. Dawson on the other hand, was declining, and the community was still invested in the history of the Klondike.

4.5.2 The Sourdough Legacy in the North

The connection to Sourdoughs and the Klondike in Dawson and Skagway was strengthened by tourism. The romance of the Klondike boosted the economies of Dawson and Skagway through the twentieth century. As early as July of 1898 the *Daily Alaskan* reported the arrival of tourists with a lengthy headline, “Summer Tourists Come to Skaguay, They Ride Up the Railroad and are Enchanted. They see the Nuggets. And Could Say Nothing Too Good of this Lovely City and the Wealth of Gold Back of it.”¹⁵¹ Tourism on the White Pass continued through the early 20th century. In 1907, Canadian artist and writer Emily Carr vacationed in Skagway, effectively describing “selfies” on the White Pass & Yukon Route journey. “The trip up the

¹⁴⁹ Berton, *I Married the Klondike*, 41.

¹⁵⁰ *Ibid.*, 120.

¹⁵¹ “Summer Tourists Come to Skaguay,” *Daily Alaskan*, July 25, 1898.

White Pass being famed for its beauty, the train stops at stated intervals, and all possessors of cameras and Kodaks alight; and at a signal from the red haired conductor, they press buttons, and squeeze bulbs, immortalizing whatever is before their Kodak's eye (often themselves)."¹⁵²

In 1918, the Skagway based *Daily Alaskan* reported on one of the first excursions of the season with the headline, "Cheechakoes Enjoy Trip Over Famous White Pass Summit."¹⁵³ In the same year the *Daily Alaskan* reprinted an article from the *Douglas News* noting that the "sourdoughs" who had participated in the 1898 rush would "come flocking back to Alaska" in a "stampede" to celebrate the twenty-year anniversary of the Klondike. The White Pass & Yukon Route Railroad also brought tourists to Bennett and then to Dawson where they could visit Robert Service's cabin, "filled with such furnishings as a true Yukon poet should have, even if he didn't."¹⁵⁴ The "Days of '98" show has introduced visitors to the story of the Klondike through the underhanded dealings of swindler Soapy Smith since the 1920s.¹⁵⁵ In the late 1970s, tourists could learn how to pan for gold with Sourdough Ken in the creek outside the Trail of '98 Museum or get a drink at the Sourdough Inn.¹⁵⁶ Tourists can still rent cars from "Sourdough Rentals" in Skagway. The narrative of Sourdoughs earning their stripes on the Chilkoot trail is still very much a part of a journey to Skagway.

In the twenty-first century, Skagway's economy continues to depend on income from Klondike tourism. The Skagway Historic District Commission regulates any changes to buildings in the City's historic district on Broadway to "safeguard the heritage of the municipality by preserving a district in the municipality which reflects elements of its cultural,

¹⁵² Emily Carr, *Sister and I in Alaska: An Illustrated Diary of a Trip to Alert Bay, Skagway, Juneau, and Sitka in 1907* (Vancouver: Figure 1 Publishing, 2014), 15.

¹⁵³ "Cheechakoes Enjoy Trip Over Famous White Pass Summit," *Daily Alaskan*, June 4, 1918.

¹⁵⁴ Berton, *I Married the Klondike*, 200.

¹⁵⁵ Jonathan Baldwin, Artistic Director of the "Days of '98 Show," personal communication, Skagway, June 2014.

¹⁵⁶ Harriet Choice, "Remainders of Gold Rush Linger in Skagway," *Chicago Tribune*, July 1, 1979.

social economic, political and architectural history.”¹⁵⁷ Each year, cruise ship passengers travel up the Lynn Canal as stampeders did in 1898 to arrive in Skagway. In 2016 the town of just over one thousand year round residents welcomed over one million visitors between May and October. With 912,352 visitors in 2016, Skagway’s Klondike Gold Rush National Historical Park is the most visited national park in the state, compared to Denali at 587,412 and Glacier Bay at 520,171.¹⁵⁸ In 2004 tourist dollars composed almost 90 percent of Skagway’s taxable revenue.¹⁵⁹

Sourdoughs and cheechakos continue to surface elsewhere in the North. In Alaska, “Sourdough Jack” has graced the cover of the *Fairbanks Daily News-Miner* since 1952,¹⁶⁰ Sourdough Fuel remains an asset of the Arctic Slope Regional Corporation founded in 1971.¹⁶¹ Similarly, Whitehorse residents hail annual “Yukon Sourdough Rendezvous,” declaring the half-century-old tradition: “The only legal cure for Cabin Fever blues!”¹⁶²

Russell Tabbert, a professor of English at the University of Alaska Fairbanks, began chronicling uniquely Alaskan expressions when he first arrived in Tok in 1972.¹⁶³ Two decades later he published the *Dictionary of Alaskan English*. According to Tabbert, sourdough was primarily an expression indicating “Time in the Country.” Tabbert included a nod to the gold rush era when he cited a 1939 Alaska Sportsman article contending, “The true sourdough is the man who came to Alaska or the Yukon Territory prior to or during the Gold Rush days and

¹⁵⁷ Historic District Commission and Administrative Provisions, Skagway Municipal Code, 2017, Establishment and Purpose 19.10.010.

¹⁵⁸ Daniel Fox, “Klondike Gold Rush Leads Peers in Number of Alaska Park Visits,” *Skagway News*, March 29, 2017.

¹⁵⁹ “Economic Profile and Inventory, Skagway Alaska, Executive Summary,” Skagway Development Corporation, accessed May 28, 2017, http://skagwaydevelopment.org/wp-content/uploads/2013/07/Profile_Summary2005.pdf.

¹⁶⁰ “Life According to Jack,” *Fairbanks Daily News-Miner*, September 19, 2003.

¹⁶¹ “Alaska Owned,” Petro Star Incorporated, accessed June 8, 2017, <http://www.petrostar.com/profile>.

¹⁶² “The Only Legal Cure for Cabin Fever Blues,” Yukon Sourdough Rendezvous, accessed March 28, 2015, <http://www.yukonrendezvous.com/#!/about/aboutPage>.

¹⁶³ Russell Tabbert, *Dictionary of Alaskan English* (Juneau: Denali Press, 1991), 37-38.

remained in the land of his adoption.”¹⁶⁴ His sixteen examples of Sourdoughs, however, ranged from 1898 to 1989. Some definitions would be familiar to a Klondike prospector, a “person who has seen the [Yukon] river freeze up in the fall and open the following spring,” was from a 1916 publication. Tabbert also re-quoted an old Sourdough joke from a 1960s newspaper, describing an unfortunate who was “sour on the country” without “enough dough to leave.” Another newspaper article from 1987 described a “Sourdough skipper” who lived in Homer.¹⁶⁵ Like replenishments of flour and water that keep an heirloom sourdough pot active, stories and events from following generations continued to refresh sourdough meanings. Although the gold rush era has long since ended in the North, Sourdough character infuses the history and culture of Alaska and the Yukon Territory.

¹⁶⁴ *Ibid.*, 37.

¹⁶⁵ *Ibid.*, 37-38.

Conclusion

Microbes transform flour and water through fermentation, but sourdough starter is also transformed when steeped in human culture. Social anthropologist Edmund Leach observed this dual nature of human actions, dividing them into a “technical aspect which does something and an aesthetic, communicative aspect which says something.”¹ The “technical aspect” of a sourdough is the microbial “crop” in each starter, which varies depending on the methods of the baker: how often the starter is fed, what type of flour is used, and where and how long the dough ferments. In the “aesthetic, communicative,” sense, only “Sourdoughs,” veterans of the northern frontier, knew how to manage successful cycles of warming and feeding in temperatures ranging from sixty below zero in the winter to ninety above in the summer. Pancakes fried on the trail and bread baked in a Yukon stove indicated time spent in the country. The dual action of microbial and human cultures also served to differentiate northern sourdough traditions from others around the world.

In Alaska and the Yukon Territory mastery of sourdough cooking was a milestone that indicated time in the country, and the prestige that came with experience. Rooted in the gold rush era, facility with sourdough starter implied familiarity with the realities of camp cooking, food scarcity and the crucible of at least one winter. On the technical side of the equation, the sciences of microbiology and biochemistry have gone a long way to explaining the mystery of how a few species of yeast and bacteria can develop a stable long-lasting culture. Science has shown that these microbes have the ability to complement each others’ needs and mount formidable defenses against a multitude of invading bacteria, yeasts, and molds that would cause rancid, moldy bread.

¹ Edmund R. Leach, "Ritual," in *International Encyclopedia of the Social Sciences*, eds. David L. Sills and Robert King Merton (New York: Macmillan, 1968), 523.

This investigation is an origin story examining why and how sourdough starter, an import, came to represent northern experience. Examining primary source material revealed that sourdough bread, biscuits and pancakes were ideal camp food. Sourdough required flour, a commodity that was relatively easy to transport. The starter itself did not spoil easily, due to the fermentative action of yeasts and bacteria, and sourdough products were quick to prepare using just a skillet or a primitive oven. Aside from these practical considerations, sourdough also provided comfort to those who faced the challenges of loneliness, conflict and adjustment. Long before Sourdough became a well-known moniker during the Klondike Gold Rush (1897-1899), the first scattered settlements of Russian fur traders and the Hudson's Bay Company imported flour and used sourdough starter to leaven bread. In Europe and North America, bread had been a staple for hundreds of years. There, bread was synonymous with life and livelihood, and as much a necessity for psychological health as it was for nutrition.

When I started this research, the longstanding northern connection to sourdough was widely recognized, but few seemed to be able to isolate where, when and why exactly, sourdough became a customary food in Alaska. Some pointed to a connection with California sourdough and western gold rushes. Others pointed to Ancient Egypt. Additionally, questions arose around heirloom starters. Was it really possible to taste the past in a starter that had been nurtured for over a century? Was the weather truly a consideration while cooking with starter? These queries led to my investigation of the microbiology of sourdough, and a study of the evolution of commercial yeast in the United States and Canada. Microbiology offered an avenue to test some of the folkloric claims in sourdough recipes and explained why industrially-produced yeast quickly replaced other leavening methods.

Few historical inquiries include microbiological information, but to fully understand the significance of sourdough, it is necessary to understand the microbial processes that make sourdough possible. Carbohydrate sharing, for example, allows species of yeast and bacteria to coexist. Quantities of antibiotics and acids, produced by each organism, protect the culture from intrusions of unwelcome microbes. Furthermore, the unique potpourri of microbes in the air add distinct regional flavors to each culture. These answers lie in the discipline of biology, and the work of explaining microbiology was the most challenging part of this research due to a lack of interdisciplinary frameworks and the question of vocabulary. Aside from microhistory, few analytical frameworks offer an outlet to investigate microbiology alongside history. Furthermore, the concepts and the vocabulary of microbiology are unfamiliar to a general audience. Without a specialized background, species names and chemical reactions appear indecipherable. When a researcher meets the challenge of explaining these concepts, it fosters a richer, deeper understanding of the links between microbes and human culture. Science literacy broadens our perspective of history, folklore, and indeed the world in general.

From the perspective of human culture, sourdough highlights questions of values in frontier communities. Sourdough pointed to the importance of small victories. Stories about cooking were much less dramatic than often repeated accounts of avalanches and infamous outlaws, but a close reading of firsthand accounts revealed that the daily triumphs, rather than more sensational events, were more important over the course of long-term survival. Daring stories have become part of many frontier narratives, but a focus on daily struggles may elucidate the human experiences in a more relatable way.

The themes of grit and capability have united Sourdoughs through time and place, but like the unique microbial fingerprint of a sourdough starter, each experience of becoming a

Sourdough differed slightly by region and time period. This thesis focused on the Klondike Gold Rush, an event that set a precedent for use of the Sourdough moniker in Alaska and the Yukon Territory. Brief mentions of sourdough customs in post-gold rush Akiak, Homer and Fairbanks offer awareness of regional sourdough customs, but most of the information presented is directly applicable to Skagway and Dawson. A more thorough examination of customs around the region would highlight rituals and challenges distinctive to each area.

Because of its longevity and ongoing association with veteran northerners, sourdough starter provides a unique vehicle to examine how current residents interact with history of the region. Alaskans and Yukoners still value old starters for their connections to the gold rush era. Future research could compare differences between what it meant to become a Sourdough in the North over a century ago and what it means to be a longtime resident today. Sourdough folklore is still evolving, offering the potential to study history and folklore being made. Although few Alaskans and Yukoners depend on sourdough starter today, the moniker Sourdough continues to be part of the regional vocabulary, indicating veteran status. For some modern sourdough bakers, the legacy continues in the sourdough starter itself; a century old starter represents a connection to past owners who have nurtured the same dough in the past.

Sourdough folklore continues to resonate in contemporary communities, contributing to a modern place-based identity with strong historical influence among Alaskans and Yukoners. My hope is that this thesis serves as a springboard for multidisciplinary conversations about human culture. Sourdough offers a tangible connection to the past, a living culture of microbes and a culinary challenge. With stories and humor, sourdough has the potential to include newcomers and longtime Northern residents in a conversation about belonging, values and science.

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Appendix

Database of Sourdough Mentions in Newspapers Compiled from the Library of Congress, "Chronicling America" Archive, and The California Digital Newspaper Collection (1867-1899)

State	Year	Date	Meaning	Location Referenced	Newspaper	Text
TN	1867	6-Mar	Culinary	MO	Memphis Daily Appeal, Memphis TN	A St. Louis merchant bought a quantity of sour dough coated with butter half an inch thick
VT	1869	26-Feb	Culinary	VT	Burlington Free Weekly Press, Burlington, VT	Discussing word usage, Saxon words are in italics " <i>sour-dough</i> for leaven; <i>uncunningness</i> , for ignorance"
WA	1869	31-Jul	Culinary	WA	Washington Standard, Olympia Wash. Territory	(Reprint) Discussing word usage, Saxon words are in italics " <i>sour-dough</i> for leaven; <i>uncunningness</i> , for ignorance"
PA	1869	6-May	Culinary	PA	Ebensburg Alleghanian	(Reprint) Discussing word usage, Saxon words are in italics " <i>sour-dough</i> for leaven; <i>uncunningness</i> , for ignorance"
OH	1871	8-Jun	Culinary	OH	Highland Weekly News, Hillsborough, OH	When bread is raised slowly, especially if leaven (sour dough) is used, some lactic acid is formed
CA	1873	27-Sep	Culinary	CA	Pacific Rural Press	I soon learned to make the sour-dough bread, leaving a piece of dough from each baking

MT	1874	9-Jan	Location	MT	Bozeman Avant Courier, Bozeman, Mont.	The dances on Sour Dough creek are not over yet. They mean to keep them up all winter.
MT	1874	23-Jan	Location	MT	Bozeman Avant Courier, Bozeman, Mont.	Another dance has come off on Sour Dough, and the gay and festive on that historic stream met on Thursday night at the hospitable home of Hugh Coleman
IL	1874	4-Apr	Culinary	MA	Chicago Daily Tribune, Chicago, IL	Thoreau's Experiments With Cornbread "through that accidental souring of the dough, which, it is supposed, taught the leavening process, and through the various fermentations thereafter, till I come to good, sweet, wholesome bread, --the staff of life. Leaven--
MT	1874	27-Aug	Name	MT	Helena Weekly Herald, Helena, MT	"Gallatin Flour Makes Sour Bread"--an undoubted reference to "Sour Dough Jim" --we did not hunt out the vagabond and jail him for really there was no law
MT	1874	13-Nov	Location	MT	Bozeman Avant Courier, Bozeman, Mont.	Dame Rumor has it that a wedding will soon be celebrated in the Sour Dough settlement, which proves that Cupid is more successful with his arrows
NV	1874	23-Dec	Location	CA	Carson Daily Appeal, Carson City, NV	According to the <i>Panamint News</i> , Masterson was buried in "Sour Dough Canyon.'
CA	1874	31-Dec	Location	CA	Marysville Daily Appeal	Reprint: According to the <i>Panamint News</i> , Masterson was buried in "Sour Dough Canyon.'

AZ	1874	31-Dec	Location	CA	Arizona Weekly Miner, Prescott, AZ	Reprint: According to the <i>Panamint News</i> , Masterson was buried in "Sour Dough Canyon."
MT	1875	26-Mar	Name	MT	The New North-West, Deer Lodge, MT	"A Leaf from Frontier Nomenclature" "Sour Dough Tom"
MT	1875	1-Apr	Name	MT	Helena Weekly Herald, Helena, MT	editorial complaining about the arrival of people who do not take care of their cattle, it seems like he is going North "boreal regions" signed "Sour Dough Jim"
MT	1876	16-Jun	Location	MT	Bozeman Avant Courier, Bozeman, Mont.	We understand that the county bridge over Bozeman creek in the "Sour Dough" settlement has been swept away by the flood.
CA	1876	19-Aug	Culinary	CA	Sacramento Daily Union	The condensed yeast man just beyond you confesses with a look of yeasty guiltiness, that the potato contrivances of his Western mother, and the " sourdough " and "emptyin's" of his Yankee grandmother wore manna to
PA	1876	15-Nov	Culinary	PA	Juniata Sentinel and Republican, Mifflintown, PA	Wycliffe Bible "sour dough," leaven;
MT	1877	30-Aug	Location	MT	Bozeman Avant Courier, Bozeman, Mont.	Quite a fire up on Sour Dough creek Monday night

CA	1877	15-Sep	Culinary	CA	Pacific Rural Press	But no, they try some cheap compound that has a little citric acid and soda mixed with a large amount of salt and flour, called, with some grand flourish of trumpets, "(join's incomparable bread raiser," and when the resulting compound is so heavy that it breaks through the cast iron oven bottom, it goes in the swill tub, and they condemn everything but " sour dough ," "salt rising," or "emptyings," and go it alone on their own responsibility and recipes, and don't do quite as bad as they did with such brands of yeast powders. Good yeast powder can't be made out of poor materials any more than good bread can be made of poor
ID	1878	8-Mar	Culinary	ID	Idaho Semi-Weekly World	One strata puzzled me; it is a white, sticky substance, about the consistency of sour dough--tastes, feels and smells like it, and of course can be nothing else.
CA	1878	10-Aug	Culinary	CA	Pacific Rural Press	or from other ranches, sometimes get out of yeast and are obliged to use the condensed yeast cakes, " sour dough " rising or other soda mixture?, which are very unwholesome. To such though following recipe will be quite acceptable: Boil a handful of good hops half an hour in two quarts of soft water;
CA	1879	25-Oct	Culinary	CA	Pacific Rural Press	Of course I knew how and I could tell any novice the whole rigmarole from beginning to end—in fact knew the process of various sorts: Milk raising, salt raising, potato yeast, and sour dough bread—besides
VT	1879	28-Mar	Culinary	VT	Vermont Phoenix, Brattleboro, VT	Leaven as an aid to fermentation is as old as the time of Moses, and we learn that the leavened bread of those days was not baked in a thick loaf but in thin cakes which were always broken. A piece of sour fermented dough called leaven added to the fresh dough "leaveneth the whole." Bread raised by this means is apt to be sour, as the leaven generally induces sour fermentation; but in France where it is much used...

WA	1879	25-Nov	Location	WA	Daily Intelligencer, Seattle, Wash. Territory	Nearly four feet of snow on the northeast slope of Sour Dough mountains, and still snowing very hard
MT	1879	27-Nov	Name	MT	Bozeman Avant Courier, Bozeman, Mont.	Frank Summers has about completed his new cabin and will commence the life of an "Old bach" soon. Look out Frank for sour dough
WA	1879	7-Dec	Location	WA	Daily Intelligencer, Seattle, Wash. Territory	upper foothills of Sour Dough Mountain
WA	1879	10-Dec	Name	WA	Daily Intelligencer, Seattle, Wash. Territory	located in or near mining regions, we may expect to find...business houses with such names ornamenting their fronts as "Ruby Creek Saloon," "Skagit House," "Sour Dough Bakery,"
WA	1879	14-Dec	Location	WA	Daily Intelligencer, Seattle, Wash. Territory	Sour Dough Mountain
ID	1880	2-Jan	Culinary	ID	Lewiston Teller, Lewiston, ID	There are some men so mortally slow/They'd dodge every girl, they'd miss a big prize,/And keep mixing their old sour dough
WA	1880	20-Jan	Location	WA	Daily Intelligencer, Seattle, Wash. Territory	summit of Sour Dough Mountain

ID	1880	23-Jan	Name	ID	Lewiston Teller, Lewiston, ID	You laugh and make sport of the lonesome bach/Because of his sour dough brewing." "You frying-pan martyr, you sour dough man." Signed: Sour Dough
ID	1880	13-Feb	Location	ID	Lewiston Teller, Lewiston, ID	Sour Dough and Colfax communication left over till next week
WA	1880	6-Mar	Location	WA	Daily Intelligencer, Seattle, Wash. Territory	His looks were upward at the peaks of snow,/ And he said to himself, "Which is Sour Dough?"
ID	1880	26-Mar	Name	ID	Lewiston Teller, Lewiston, ID	Read "Sour Dough" from Libbyville
ID	1880	23-Apr	Name	ID	Lewiston Teller, Lewiston, ID	Letter from Libbyville, column about farming signed "Sour Dough"
OR	1880	23-Apr	Location	WA	Albany Register, Albany, OR	"the following stopping places are said to be on the route to Skagit mines: Death Canyon... Sourdough Mountain
WA	1880	9-May	Location	WA	Daily Intelligencer, Seattle, Wash. Territory	"we started up Sourdough Mountain and sour dough it is"

MT	1880	19-Aug	Culinary	MT	Rocky Mountain Husbandman, Diamond City, Mont.	"Crossing the Plains in 1865: Reminiscences, Scenes, Events and Trials of a Pilgrimage to Montana Fifteen Years Ago" "he didn't believe the sour-dough bread their cook made was very wholesome, and he had come to ask me for a piece of good bread for his patient"
MT	1880	27-Oct	Location	MT	River Press, Fort Benton, MT	Giant cabbages (28 lbs) raised on "Sour Dough" Creek
ID	1882	20-Apr	Name	ID	Lewiston Teller, Lewiston, ID	As it were, one of my neighbors conceived the idea if he could furnish a substitute to replace sour dough, the bachelor's friend
ID	1882	1-Jun	Name	ID	Lewiston Teller, Lewiston, ID	"Sourdough the bachelor's friend"
MT	1882	21-Sep	Location	MT	Rocky Mountain Husbandman, Diamond City, Mont.	The farms on Sour Dough creek, south of town, lay equally well and produce quite as good crops as any others
VT	1883	5-Mar	Culinary	MT	Orleans County Monitor, Barton, VT	We ate our breakfast in a snow-storm. Bill of fare: Sour dough bread, bacon and hot coffee. The men were all "old times," (<i>sic</i>) used to roughing it in any shape, did not mind the weather in the least.
NE	1883	18-May	Location	MT	Omaha Daily Bee, Omaha, NE	new steam saw mill "Sour Dough" Canyon

MT	1883	6-Jun	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	McDavitt was engaged in floating logs down "Sour dough creek," near Bozeman, much against the wishes of the farmers living along the stream, who use the water for irrigating purposes
MT	1883	7-Jun	Location	MT	Daily Enterprise, Livingston, MT	Reprint: While floating logs down "Sour Dough" creek a man named McDavitt was fired upon by an unknown person and three buckshots lodged in his body, doing no serious harm, however
MT	1883	16-Jun	Location	MT	Dillon Tribune, Dillon, MT	Reprint: "Sour Dough" creek
MT	1883	1-Aug	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	Sour Dough (creek?)
NM	1883	2-Aug	Culinary	NM	Las Vegas Daily Gazette, Las Vegas, NM	Ladies and Gentlemen:--Prospecting, like politics, has its uncertainties. In fact, it is the beautiful uncertainty about it that gives it its chief fascination. One may be persuading a burro over sandy deserts and banner mountain ranges, eating frijoles and sour dough bread today and tomorrow
UT	1883	8-Aug	Description	UT	Salt Lake Herald, Salt Lake City, UT	Political party: in the matter, and is now wreaking an undignified revenge, thinking that she (Cache) either ought to have been waked up to boss the job, or the representative dough allowed to sour and run over down on the floor and the family go without bread.
MD	1883	30-Aug	Culinary	CO	Catoctin Clarion, Mechanicstown, MD	How on earth do you make yeast, or sour dough, or something to raise dough. I'm sick of baking powder, but have to use it. Tell us the simplest way to make raised bread

OH	1883	20-Sep	Culinary	OH	Democratic Press, Ravenna, OH	"Fermentation of Baker's Dough" It has hitherto been supposed that the fermentation of bread dough set up by sour leaven, or beer yeast, was a real alcoholic fermentation.
MO	1883	30-Nov	Culinary	MO	Weekly Graphic, Kirksville, MO	"Fermentation of Baker's Dough" It has hitherto been supposed that the fermentation of bread dough set up by sour leaven, or beer yeast, was a real alcoholic fermentation.
OH	1884	30-Jan	Culinary	OH	Highland Weekly News, Hillsborough, OH	Talking about a root in the Congo: When worked into a consistence of still dough it is divided into portions, and each portion is wrapped up in a large green leaf until wanted for cooking. Kikwanga tastes and looks like sour dough but it is highly nutritive
MD	1884	16-Feb	Culinary	MD	Democratic Advocate, Westminster, MD	Talking about a root in the Congo: When worked into a consistence of still dough it is divided into portions, and each portion is wrapped up in a large green leaf until wanted for cooking. Kikwanga tastes and looks like sour dough but it is highly nutritive
IL	1884	3-Apr	Culinary	IL	Rock Island Argus, Rock Island, IL	Talking about a root in the Congo: When worked into a consistence of still dough it is divided into portions, and each portion is wrapped up in a large green leaf until wanted for cooking. Kikwanga tastes and looks like sour dough but it is highly nutritive
ID	1884	3-Apr	Culinary	ID	Lewiston Teller, Lewiston, ID	It has been decided that the lonely man, who single handed sinches the sour dough pot is coming to the front and married life is a wild delusion (signed Bug Juice)
MT	1884	28-May	Name	MT	Bozeman Weekly Chronicle, Bozeman, MT	In Memoriam. I lingered and tramped until midnight. Had paralyzed my hopes for that day And then I knew I was "beautifully left." ... Far, far beyond the old "Sour Dough." A kingdom I'd give for a good milk stew For Kittie had "monkeyed" me so, but to-night when Old Murphy has got me

KS	1884	12-Jun	Description	KS	Wichita Daily Eagle, Wichita, Kansas	"like a flaring pot of sour dough, seethes up and over letting fall ever and anon great glumps of sulks with sickening thud on our platform"
KS	1884	19-Jun	Description	KS	Wichita Daily Eagle, Wichita, Kansas	Reprint: "like a flaring pot of sour dough, seethes up and over letting fall ever and anon great glumps of sulks with sickening thud on our platform"
MT	1884	24-Sep	Culinary	MT	Daily Enterprise, Livingston, MT	That twenty years ago--more or less--he baked flour and water into sour dough bread seems considered by the old-timer abundant reason why he should be considered the salt of Montana earth
NM	1884	11-Dec	Culinary	NM	Golden Era, Lincoln, NM	Reports from the different mining camps show that the old timers are about all there, and taking out better ore than ever before, and that they will cling to the rocks and canyons as long as their old shirts and sour dough holds out.
MT	1885	3-Sep	Description	MT	Helena Weekly Herald, Helena, MT	To those of the Southern wing of the Democratic brethren aspiring to but still unprovided with office...give ear to claims of a few Northern Democrats to appointment. Let all Montana have the satisfaction of seeing a couple of such men as Col. DeLacy and Charles Rumley commissioned. They will sweeten and leaven up, somewhat, all this Democratic sour dough. It will have to be done, gentlemen, or look out for broken down, castaway Democrats who will fill these offices from the States
CA	1885	26-Oct	Culinary	CA	Daily Alta California	That is the rock of destiny over which my life was wrecked, sinking into the maelstrom of nothingness. Had it been otherwise, to-day, a poor Prison Director might have been a bloated landlord of Colusa. But there is no use crying over spoiled bread. It either would not rise at all, or elee would go up and over all creation, and I could not help it. It was either smooth and heavy as a sheet of lead, or light and sour beyond comparison. The most trouble was to clean the house of sour

						dough after one of its up nights. Would rather get forty breakfasts than shovel the frothy stuff out. And after one of its soar eruptions, the house was left smelling like a spoiled brewery. Enough ; I quit. Colusa was not to be my permanent home.
MT	1885	28-Oct	Culinary	MT	Bozeman Weekly Chronicle, Bozeman, MT	The skunk went rattling around through the cooking utensils, and every time the herder would yell at him to get out, he would let fly a dose of the only kind of ammunition he had. As he was injuring the sourdough and flour for the taste of any visitors
LA	1885	14-Nov	Culinary	LA	St. Tammany Farmer, Crovington, LA	A trough full of dough under the influence of "a little leaven" shows no more inclination to wait for a man's convenience than do time, tide or the tailor.
MT	1886	5-Mar	Culinary	MT	New North-West, Deer Lodge, MT	A few dollars were expended in some of Judge Jeffries' salt ham and <i>sour dough</i> . With his rations on his back, and his keg full, the old boy wended his way into the mountains to sink on an old \$12 prospect.
MT	1886	12-May	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	trout are brought in daily from Sour Dough
MT	1886	21-Jul	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	a saw mill owned and operated by Mason, Hagaman & Koppel, on Sour Dough creek, seven miles from Bozeman, was totally destroyed by fire
MT	1886	7-Aug	Location	MT	Dillon Tribune, Dillon, MT	On Wednesday morning of last week the saw mill of Mason, Hagaman & Kopple, on Sour Dough creek

ND	1886	6-Nov	Culinary	ND	Devils Lake Inter-Ocean, Devils Lake, ND	On the previous Friday evening he baked an extra batch of sour dough biscuit, loaded sixty bushels of No. 1 hard on his wagon and made other necessary preparations to go to town the next day.
SC	1886	17-Nov	Culinary	CO	Laurens advertiser, Laurens, SC	One bright day, sun high as Lem an' the kid an' me was sittin' at the shaft eating bacon an sour dough bread--nobody made better sour dough bread 'n Lem'--'long comes a big white cloud over Holy Cross mount'n
KY	1886	27-Nov	Culinary	CO	Frankfort Roundabout, Frankfort, KY	One bright day, sun high as Lem an' the kid an' me was sittin' at the shaft eating bacon an sour dough bread--nobody made better sour dough bread 'n Lem'--'long comes a big white cloud over Holy Cross mount'n
IN	1887	23-Jan	Culinary	CO	Indianapolis Journal, Indianapolis, IN	prospectors spent in the cold seclusion of those Colorado mountains, we gave up on our silver mine and abandoned the claim. I was quite ready to return. Two years away from a razor, two years of bacon, beans, syrup and canned corn; two years of struggle with sour dough; two years spent at an altitude where it takes six hours' boiling to cook potatoes (astonishing phenomenon to every tenderfoot), cured my mining fever forevermore.
NC	1887	4-Feb	Culinary	CO	The Democrat, Scotland Neck, NC	prospectors spent in the cold seclusion of those Colorado mountains, we gave up on our silver mine and abandoned the claim. I was quite ready to return. Two years away from a razor, two years of bacon, beans, syrup and canned corn; two years of struggle with sour dough; two years spent at an altitude where it takes six hours' boiling to cook potatoes (astonishing phenomenon to every tenderfoot), cured my mining fever forevermore.
TX	1887	17-Feb	Culinary	AK	Dallas Daily Herald, Dallas, TX	"No intoxicating liquors are allowed either on the Aleutian islands or anywhere else in Alaska. The natives, however, brew a villainous decoction called gvass, with the aid of sour dough and sugar."

PA	1887	13-Apr	Culinary	CO	The Forest Republican, Tionest, PA	prospectors spent in the cold seclusion of those Colorado mountains, we gave up on our silver mine and abandoned the claim. I was quite ready to return. Two years away from a razor, two years of bacon, beans, syrup and canned corn; two years of struggle with sour dough; two years spent at an altitude where it takes six hours' boiling to cook potatoes (astonishing phenomenon to every tenderfoot), cured my mining fever forevermore.
MN	1887	12-Jun	Culinary	MN	St. Paul Daily Globe, St. Paul, MN	you can add water and flour and then you must use more saleratus, then you will have what is know as sour dough biscuits.
MT	1887	6-Jul	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	Uncle Josh came in from Sour Dough to paint Bozeman on the 4th
MT	1887	14-Jul	Location	MT	Philipsburg Mail, Philipsburg, MT	Uncle Josh came in from Sour Dough to paint Bozeman on the 4th
MT	1887	20-Jul	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	Our old friend, Uncle Josh, of Sour dough creek, furnishes us the following
MT	1887	31-Aug	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	Uncle Josh, of Sour Dough, went to the Helena fair last week
ID	1888	6-Jan	Culinary	ID	Idaho County Free Press, Grangeville, ID	In Asia minor... These novel preparations are made of finer and whiter flour than the ekmek, and are rendered light and aristocratic by the addition of sour dough or other leavening substance

MT	1888	17-Oct	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	In ten hours he threshed four thousand and fifty bushels of oats for E. D. Johnson, of Sour Dough Creek
MT	1888	24-Oct	Location	MT	River Press, Fort Benton, MT	In ten hours he threshed four thousand and fifty bushels of oats for E. D. Johnson, of Sour Dough Creek
MT	1888	7-Nov	Location	MT	Bozeman Weekly Chronicle, Bozeman, MT	Not many moons ago, there lived in the region where rolled Sour Dough Creek, a great and gory chieftan
KS	1889	31-Jan	Culinary	KS	Thomas County Cat. , Colby, KS	"The Homesteader's Farewell" "Farewell to my sour-dough pancakes, / That none but myself can endure, / If they didn't taste good to a stranger / They were certain dispepsia to cure."
ID	1889	1-Mar	Culinary	ID	Idaho Semi-Weekly World	Dame Rumor has it that some of our boys are to soon have partners who know how to cook more than bacon and beans and sour dough bread in plain English. Go to it, boys. We will be there with our cow bells.
CA	1889	5-Oct	Culinary	CA	Sacramento Daily Record-Union, Sacramento, CA	stale sour dough bread that is how they feed her
ND	1890	3-Apr	Description	ND	Jamestown Weekly Alert, Jamestown, ND	Farmer Wallace of Bismarck says the "old time Dakota men away from home, or right here among us, make a noise all the time and believe in excitement. They are like chunks of sour dough--dropped anywhere they will raise a barrel of flour."

ID	1890	6-Jun	Location	ID	Idaho Semi-Weekly World	Drowning: as passengers for North Fork, and Mart Findley and Harry Pope for Sour Dough.
MT	1890	29-Aug	Culinary	MT	Helena Independent, Helena, MT	Pioneer Banquet "and they will not altogether forget the best methods then in vogue for making sour-dough bread, of flipping slap-jacks in a frying pan"
ID	1890	22-Nov	Culinary	ID	Wood River Times, Hailey, Idaho	pipe of peace and contentment and never tiring of their daily wrestling with sour dough and soap-suds. Like McClellan's army, the old Lost River "Bach" resolutely maintains the most masterly inactivity in the
ID	1891	9-Mar	Culinary	ID	Wood River Times, Hailey, Idaho	Re: Ranchers in Idaho "His wants are few and easily supplied... in the land beyond, let us hope, he may secure a claim where he will be freed from the burden of his daily wrestling with sour-dough and soap-suds."
MT	1891	25-Jun	Culinary	PA	Helena Independent, Helena, MT	Origins of Light Bread: The chef had merely done what all bread makers do every day. The sour dough had acted as a leaven.
MT	1891	25-Jun	Culinary	MT	Helena Independent, Helena, MT	Same article as above: a large audience assembled in the main room of the Helena Business college to listen to and watch a demonstrative lecture on cooking by Miss Katherine Burge, a graduate of the cooking school of Philadelphia. Among the audience were not a few young men who looked as if they were undecided as to whether they were contemplating continual celibacy and desired to learn the culinary art, or whether they were taking notes for the benefit of some fair pupil whom they would soon tutor.

NE	1892	8-Jun	Culinary	MT	Omaha Daily Bee, Omaha, NE	In a few minutes, with the proverbial hunter's appetite, I had devoured two liberal slices of the juicy venison, a quantity of black "sour dough" bread, and emptied the pot of camp care noir. During the progress of my meal he deer was dressed
PA	1892	22-Jul	Culinary	PA	The Columbian, Bloomsburg, PA	Talking about Asia minor: These novel preparations are made of finer and whiter flour than ekmek, and are rendered light and aristocratic by the addition of sour dough or other leavening substance
KY	1892	10-Aug	Description	KY	Hartford Herald, Hartford, KY	of the stuff that is worked over time and again by Republican papers and orators in the vain hope of making a sweet cake out of sour dough. The State of Kentucky is not bankrupt.
KS	1893	24-Jan	Culinary	AK	Wichita Daily Eagle, Wichita, Kansas	"Oochinoo" is the name given it and the process of manufacture is simple. A quantity of cheap molasses is mixed up with twice as much water. To this is added a little baking powder, or more generally sour dough, and when the whole mass has been thoroughly fermented rice or beans or anything of the kind is boiled with it.
KS	1893	17-Feb	Culinary	KS	The Globe-Republican, Dodge City, KS	When it was that leaven was first used in breadmaking history... was distinctly due to chance... the world is indebted for the discovery to the economy of some person who, to save a little old dough, mixed it with new. Imagine the surprise on finding the bread made lighter and more palatable after the addition of the sour dough.
HI	1893	24-Apr	Culinary	MA	Pacific Commercial Advertiser, Honolulu, HI	Sea Captain's Recipe for Plum Duff: Put your flour in the pan. You want some sour dough. Let it rise. Stir in some baking powder... you want a bag to put it in... put the plums in the bottom of the bag cook till done
PA	1893	3-May	Culinary	MA	Forest Republican, Tionesta, PA	Sea Captain's Recipe for Plum Duff: Put your flour in the pan. You want some sour dough. Let it rise. Stir in some baking powder... you want a bag to put it in... put the plums in the bottom of the bag cook till done

WA	1893	8-May	Location	WA	Seattle Post-Intelligencer, Seattle, WA	The glacial water of Beaver creek noticed by Tilton Sheets in his report... comes in from Sour Dough mountain
NY	1893	24-Sep	Culinary	Plains	The Sun, New York, NY	Range Food: Just what a cowboy's supper consists of.... Either sour dough or baking powder biscuit, fried fresh beef or cured pork, and tea or coffee, with sugar
NE	1893	18-Sep	Name	NE	Omaha Daily Bee, Omaha, NE	A mill test was made of four pounds of ore from a claim owned by Jack Summers and Sour Dough Tom, in the Squaw creek country, and it yielded 49 cents
OR	1893	21-Oct	Location	WA	Dalles Times-Mountaineer, Dalles, OR	I am compelled to admit that in comparison with one of the Cascade mountains, old Sour Dough is scarcely large enough to dig a cellar under.
MT	1893	23-Oct	Culinary	MT	Anaconda Standard, Anaconda, MT	Sheep was introduced and flock masters, making their permanent homes along the water courses, began a system of accessory agriculture and improvement of meadow lands for the production of winter feed, and the reign of the cattle baron, whose mounted followers gypsy-like lived in covered wagons and baked their sour dough bread by open camp fires while he spread his legs under club tables
MT	1894	22-Feb	Name	MT	Philipsburg Mail, Philipsburg, MT	Re: The National Park (Yellowstone est 1872) "Those of our people who may visit the park will probably go as "sagebrush tourists" or "sour dough tourists," as the hotel keepers call them. These tourists are those who go by their own conveyance, fitted with tent, blankets, cooking utensils, food, etc., stop when they want to, go when they please, and in fact do about as they desire with the exception of killing game.

WV	1894	16-Mar	Description	WV	Wheeling Daily Intelligencer, Wheeling, WV	The best thing Colonel Breckinridge can do for himself is to drop out of the public gaze as quickly as he can. His cake is sour dough.
MT	1894	17-Mar	Name	MT	Red Lodge Picket, Red Lodge, MT	The "coupon" tourists of the Yellowstone park last year numbered 3,645. Those who went by the more comfortable and satisfactory way and styled the "sour dough" tourists are not included in the above figures.
WA	1894	13-Aug	Location	WA	Seattle Post-Intelligencer, Seattle, WA	north of a mountain called Sour Dough mountain on the state maps," is not Beaver creek at all, but Baker river
MT	1894	19-Aug	Location	WA	Anaconda Standard, Anaconda, MT	leave for a week's camping on "Sour Dough"
VA	1894	9-Dec	Culinary	Plains	The Times, Richmond, VA	Sally Ann she telled him she done use up all of her last bakin' of bread, but she was knowd in 'the Point' for her fine vinegar pies, and she'd fix him a lay-out of them pies, and when supper time came he should see how she could make sour-dough biscuit to go 'long with coffee.
WA	1894	12-Dec	Location	WA	Seattle Post-Intelligencer, Seattle, WA	The only difficulty is Sour Dough ridge, where the trail to avoid the almost vertical bluff next to the river, zig-zags and crosses at a slight depression
MT	1895	31-Jan	Location	MT	Fergus County Argus	A sheepherder who attended the sale of the Montana Stage company effects last Friday was a successful bidder on one of the coaches and would have been the proud possessor of a "Tally-ho" Line between this point and Sour Dough had not the sale been declared off.

MT	1895	2-Mar	Description	MT	Neihart Herald, Neihart, Mont.	The HERALD has more yet to say upon the water company, as soon as the official correspondence relative to the company's taxes are returned from the courts. If this town hasn't been hobnobbed then we give up the sour dough can. But the Miner says we are ungrammatical.
DC	1895	7-Mar	Culinary	MT	National Tribune, Washington, D.C.	Vande took his can of sour dough from a nail in the log supporting the apex of his cabin roof. He carried the can to the low, wide window, removed the cover and sniffed judiciously. The mess had arrived at a satisfactory state of sourness, for Vande proceeded to manufacture the staff of the Montana bachelor's life--sour dough bread. He poured part of the sour batter into a pan of flour, added salt and soda, then began stirring it with a knife...I golly, it's me the new-comer replied adding an admonitory sentence to his dog...Vande divided his dough, slapped it into shape for the tins, and placed them in the oven.
AZ	1895	9-Mar	Culinary	SD	Mohave County Miner, Mineral Park, AZ	In the early days every man was more or less his own assayer. He would pulverize the ore in a mortar until it was as fine as dust and then pan it down until nothing was left but the gold. A pestle and mortar and pan were as much of the prospector's outfit as a pick and shovel or sour dough and bacon, or pipe and hard tobacco.
VA	1895	14-Mar	Culinary	CO	National Tribune, Washington, D.C.	"But you can't make a place look the way women do, nor you can't cook the way women do--none of us can. Sour-dough bread is all right for us fellows to make, but it don't equal my mother's light biscuits."
OR	1895	14-Mar	Name	OR	Corvallis Gazetter, Corvallis, OR	Kindly feelings of the girls for the forlorn bachelor was forcibly illustrated on Monday last at the sour dough residence of Oscar Waggoner and Z.W. Boyce on Excelsior prune farm. About eight o'clock, and during the first state of fermentation indulged in by the pancakes which had been eaten for supper, a suppressed giggle was heard on the front porch and in walked no less than thirty beautiful young girls

CA	1895	17-Mar	Culinary	SD	The Herald, Los Angeles, CA	In the early days every man was more or less his own assayer. He would pulverize the ore in a mortar until it was as fine as dust and then pan it down until nothing was left but the gold. A pestle and mortar and pan were as much of the prospector's outfit as a pick and shovel or sour dough and bacon, or pipe and hard tobacco.
WA	1895	30-Jun	Location	WA	Seattle Post-Intelligencer, Seattle, WA	Sour Dough mount.....641/2
CA	1895	9-Jul	Name	CA	San Francisco Call, San Francisco, CA	Mebbe he might not have been bragging much, and only showed you his stamped leather ear, which he got in place of the one Sour Dough Pete chewed off on the water frount (?)
WA	1895	27-Dec	Culinary	ID	Mason County Journal, Shelton, Wash. Territory	The frugal, lonesome dinner of bacon, coffee, and sour-dough bread was undergoing the process of re-incarnation,
ID	1896	17-Jan	Culinary	ID	Idaho County Free Press, Grangeville, ID	"Experts" vs. people who know (no mention of sourdoughs) cannot distinguish the difference between white quartz and sour dough? One of these gentlemen visited my cabin the past fall and his eye caught sight of a chunk of sour dough bread laying on the ground outside the door.
MT	1896	23-Mar	Name	MT	Anaconda Standard, Anaconda, MT	Sour Dough Tom
MT	1896	23-Mar	Culinary	MT	Anaconda Standard, Anaconda, MT	"Tales of Early Settlers" It was a notable gathering of intrepid men and women, many of whom whacked bulls across the plains, fought Indians, swam rivers, walked over burning sands and waded through drifting snows; who subsisted on wormy sow-belly, sour dough bread, flap-jacks and camas roots; who

						boiled their alkali-water coffee, and bean soup over fragrant (?) buffalo chip fires; who blazed trails, mined the bars
MT	1896	28-Mar	Name	MT	The Madisonian, MT	Sour Dough Tom
MT	1896	28-Mar	Culinary	MT	The Madisonian, MT	"Tales of Early Settlers" It was a notable gathering of intrepid men and women, many of whom whacked bulls across the plains, fought Indians, swam rivers, walked over burning sands and waded through drifting snows; who subsisted on wormy sow-belly, sour dough bread, flap-jacks and camas roots; who boiled their alkali-water coffee, and bean soup over fragrant (?) buffalo chip fires; who blazed trails, mined the bars
ID	1896	23-Mar	Name	ID	The Silver Blade, Rathdrum, ID	We also have here the very best brand of sour dough ranchers for husbands; they run loose in the streets without brand or ear-marks; you meet them everywhere. If you are a young woman full of golden visions and would like to pick up a first class husband, come to Idaho.
MT	1896	2-Jul	Culinary	MT	Anaconda Standard, Anaconda, MT	The boss of the camp is the man who can bake bread. Any one can mix baking powder and flour into dough and bake stuff that tastes good while it is hot and plays havoc with the digestion afterward, but baking bread is a different matter. There are two ways of making bread, one is with flour and water alone, when it is called damper; the other way is to use either yeast cakes or sour dough...To make sour dough you must let a sloppy mixture of flour and water remain in a tin can for 48 hours...
ID	1896	1-Aug	Culinary	ID	Caldwell Tribune, Caldwell, ID	"The Sage Brush Gorilla" His mouth is a stowaway for tough beef and sour dough bread. Dried apples to him is a luxury.

UT	1896	4-Aug	Culinary	KY	Salt Lake Herald, Salt Lake City, UT	gather some flowers for de mantel, I'll go and get some sour dough dats a layin' on de biscuit boa'd top ob de flour bahrel an'ell make you a beauty mask.
MT	1896	16-Nov	Location	MT	Anaconda Standard, Anaconda, MT	John Hanson of Sour Dough creek raised 40 bushels of apples the past season,
OR	1896	22-Nov	Culinary	OR	Daily Morning Astorian, Astoria, OR	I make elegant sour dough bread, boil beans and cook fruit, and that is about all I have to cook.
KS	1896	8-Dec	Culinary	OK	Wichita Daily Eagle, Wichita, Kansas	J.J. has long been accustomed to making a square meal on sour dough biscuits and bosom of the pig, all his own cooking.
MT	1897	28-Jan	Name	MT	Anaconda Standard, Anaconda, MT	"A. ka Yerkes of Sourdough creek," whose "Pieces for the Paper' in the Bozeman Chronicle have made his name famous in Montana journalism..."Sourdough Yerkes arrived last night" (baby)
ID	1897	26-Feb	Culinary	ID	Cottonwood Report, Cottonwood, ID	At the Mock trial of the Morrow Literary Society last Thursday night Wallace Lemons was convicted of assault with a deadly weapon for throwing sour dough biscuits at Ossia Downs.
ID	1897	26-Feb	Location	WA	Idaho County Free Press, Grangeville, ID	I will not attempt to explain the mineral properties of "sour dough."

WA	1897	24-Mar	Location	BC	Seattle Post-Intelligencer, Seattle, WA	The city has an ever-growing colony of Seattleites. Among the first to come from the Queen City was Mrs. N.F. Shaw owner of the Butte hotel. There are now in addition, Dr. G.H. Randell and R. C. Pollett, who have formed a partnership as mining brokers; Billy Pyott, who is feeding the hungry on Sour Dough alley http://www.virtualmuseum.ca/sgc-cms/expositions-exhibitions/dewdney/english/map/rossland/img_sourdough2.php
MT	1897	7-Apr	Location	MT	Ravalli Republican, Stevensville, Mont	And Bozeman, the home of Bro. Yerkes, the democratic wheel horse and the philosopher of "Sour Dough Creek," not only elected a republican mayor and city officers, but most of them McKinley republicans at that!
MT	1897	9-Apr	Culinary	ID	New North-West, Deer Lodge, MT	Talking about the exodus of gambling from ID and MT: The festive sheep-herder, with six months' wages in his overalls, and the wood-chopper, who has spent the winter in camp living upon sour dough bread, bacon, beans and prunes will have to be rolled hereafter to secure from him his pay-day wad.
MT	1897	29-Apr	Location	MT	Anaconda Standard, Anaconda, MT	where runs Bozeman or Sour Dough creek, and horses, dray, trunks and driver were precipitated into the muddy waters of the stream
NY	1897	2-May	Name	MT	New-York Tribune, New York, NY	"The Wild West Has Passed" Where is the wild country now? What has become of the Alkali Ike and Broncho Bill and Sour Dough Tim and Liver-Eating Johnson? Do they any longer exist outside of the pages of the Eastern comic weeklies
CA	1897	8-May	Culinary	AK	Livermore Herald	"Alaska's Mountains" half a brass band, and crying babies. We have sour-dough biscuits, beans, bacon and fried rice with tea for ...

VA	1897	9-May	Culinary	KS	The Times	A philosopher who is also a cook is such a valued adjunct to a cow outfit that we were all attention when, after we were served with coffee and sour-dough bread, Cookie said briefly, addressing himself to the foreman
VT	1897	14-May	Culinary	KS	The Times	A philosopher who is also a cook is such a valued adjunct to a cow outfit that we were all attention when, after we were served with coffee and sour-dough bread, Cookie said briefly, addressing himself to the foreman
MT	1897	19-May	Name	MT	Ravalli Republican, Stevensville, Mont	"The Wild West Has Passed" Where is the wild country now? What has become of the Alkali Ike and Broncho Bill and Sour Dough Tim and Liver-Eating Johnson? Do they any longer exist outside of the pages of the Eastern comic weeklies
OR	1897	28-May	Culinary	OR	Hood River Glacier, Hood River, OR	Our line of Groceries is better than ever. If you have sour dough or butter milk you can Make a Raise Cheap! (Ad for Arm and Hammer Soda)
MT	1897	7-Jun	Description	MT	Anaconda Standard, Anaconda, MT	"He is a Typical Man The Life and Lot of the Restless, Energetic Prospector." He imagines he is getting queer, and perhaps he is. He knows he is "cranky." He wonders sometimes if he is not getting "sour dough" on his brain as well as on his overalls. He can't get along with a partner any more
ID	1897	3-Jul	Description	ID	Caldwell Tribune, Caldwell, ID	The Record is human, very human. Two weeks ago it was tickled nearly to death over finding an absurd typographical error in The Tribune, and felt called upon to depart from its usual gravity and give its readers a diversion by treating them to a bit of scintillating wit at our expenses. Last week we selected at random a few gems in English compositions from the comic edition of the Record and now it is up to its ears in the doldrums, and can't sparkle or effervesce any more than a keg of sour dough.

WA	1897	30-Jul	Culinary	AK	Seattle Post-Intelligencer, Seattle, WA	"Evaporated Vegetables' They are readily made available for use, and are highly prized by men who during a great part of the long Alaskan winters subsist principally on bacon and sour dough bread. The evaporated eggs, so a Post-Intelligencer representative was informed yesterday by a wholesale dealer, are warranted not to evolute into spring chickens
TX	1897	29-Aug	Culinary	TX	Houston Daily Post, Houston, TX	Talking about old English; "The leaven of the Pharisees' is with him 'the sour dough of the Pharisees."
MT	1897	4-Sep	Culinary	MT	Neihart Herald, Neihart, Mont.	We received a long letter from Hon. C.B. Nolan, Attorney General of Montana, ... since reading his effusion we offer to be \$100 against a can of sour dough that Mr. Nolan is the prince of circumlocution
OR	1897	10-Sep	Culinary	OR	Oregon Union	Persons who do not know any better, use saleratus, pearlash, baking powders, soap suds, alum, and heaven knows what else, to "raise" their bread and sweeten their sour dough.
WA	1897	18-Sep	Location	WA	Seattle Post-Intelligencer, Seattle, WA	Mr. Bogardus' description would suggest placer possibilities on Ruth creek and the streams between Mount Baker and Sour Dough mountain
CT	1897	22-Sep	Culinary	AK	Daily Morning Journal and Courier, New Haven CT	French Canadians in the Klondike: As long as they have plenty of strong tobacco they do not think sour-dough bread, beans and bacon three times a day, and every day in the year, few of them can read at all, the lack of news, one of the worst features of living so far from the rest of the world, does not appeal to the French Canadians.
MT	1897	20-Oct	Name	MT	Ravalli Republican, Stevensville, Mont	W.A. Stotesburg las week received a handsome aluminum boat, which he is using for duck hunting... On Thursday it was launched with proper ceremonies such as cracking a bottle over its stern and christened "Sourdough Sis."

MT	1897	18-Dec	Location	MT	Neihart Herald, Neihart, Mont.	Five year old son of Wm. Metcalf on Sourdough creek, near Bozeman, drinks carbolic acid and dies
MT	1897	19-Dec	Culinary	MT	Anaconda Standard, Anaconda, MT	Christmas Day Dream: Irregular Train of Thought of the Lonely Prospector. Much Honor is Due Him "but such old-time acquaintances as salt pork, beans dried prunes (may be apples) sour dough bread, onions with added odor, "biled taters" and the rest of 'em will be there,
NY	1898	16-Jan	Location	BC	The Sun, New York, NY	Both men were in the back apartment of a cabin on Sour Dough alley, where they had kept out of sight during Sunday.
MT	1898	29-Jan	Name	MT	Red Lodge Picket, Red Lodge, MT	The Bozeman Chronicle has passed its fifteenth mile post and the brilliant author of "Sour Dough Ballads" yet survives. May his can of sour dough carry him through a long life of happiness to that destination from which no return editorial tickets are issued.
WI	1898	17-Feb	Name	YT	Wood County Reporter, Grand Rapids, WI	I'll be able to call my son to my knee and tell him how the old man was an old sour-dough stiff of a Yukoner, and how he left a good comfortable country to shiver in a land were nothing but ice is cheap. (Note: article incorrectly names Dawson, Alaska)
KS	1898	23-Feb	Culinary	OK	Wichita Daily Eagle, Wichita, Kansas	And when he goes to the "chuck box' to get a pocket-full of matches to light cigarettes, he sees his gloves stirred up in the "sour dough" bucket...no class of men were ever more bent on making all things--good or bad, bitter or sweet--appear in a comical light, than the careless, jolly, light-hearted creature of the American plains.
OK	1898	25-Feb	Culinary	OK	Guthrie Daily Leader, Guthrie, OK	As soon as McDonald of G county, heard of the blowing up of the Maine he filled his pockets with sour dough biscuits, mounted his bronco and started off at a gallop toward Oklahoma's war department headquarters

CA	1898	26-Mar	Name	AK	Evening Sentinel	A surprised resident of Dawson writes: The mildness of this winter has been a sad blow to the "old timers," and one of the oldest of the " sour dough boys" was heard to remark to a friend the other day: "Holy Mackinaw, Jim, this hot weather is giving me the sun-grins!" "Me, too," said Jim, "and if it don't get cold pretty soon we old forty-niners will be made out to be 1S-karat liars 100 fine."
ND	1898	22-Apr	Culinary	AK	Devils Lake Inter-Ocean, Devils Lake, ND	We take turns at cooking, each taking a week of it at a time. I never cooked before in my life, but my biscuits, bread, etc. are as fine as can be made. We have no yeast and of course there is none to be had, so we have a substitute in sour dough. I was surprised to find my first seven pans of sour dough bread turn out as good as any I ever ate.
MN	1898	4-May	Culinary	AK	Mower County Transcript, Lansing, MN	... "Chechawkoes" as the new-comers are called. The Chechawkoes call the old-timers "Sour Dough Stiffs," for how to make sour dough bread is a question among them never quite settled. This brings one to the culinary art, in which I flatter myself that I have become reasonably proficient
MT	1898	6-May	Description	MT	Anaconda Standard, Anaconda, MT	Bozeman can't help feeling that Senator Carter has thrown the sour dough into her.
OH	1898	7-May	Culinary	YT	Perrysburg Journal, Perrysburg, OH	Will try to tell you what kind of a cook I am getting to be. I can make sour dough bread and sweet cake that is good enough for a king, and I can eat bread that Don would not touch.
KY	1898	10-May	Culinary	YT	Mt. Sterling Advocate, Mt. Sterling, KY	Charley and I spent this morning wading in the snow up to our thighs collecting a week's supply of wood. We have to carry it some distance. Charley is now baking some sour dough bread.

ID	1898	8-Jul	Culinary	ID	Idaho County Free Press, Grangeville, ID	Nor would they sell at a reasonable price, but eke a miserable existence in a 2x4 cabin, living on sour dough bread, bacon and beans, hoping that some day someone would come along and give them a fabulous price for their claim.
WA	1898	9-Aug	Name	YT	Seattle Post-Intelligencer, Seattle, WA	From Dawson: the inflation being such that the place, in size and character, has now passed entirely beyond the recognition of all the old "sour-dough stiff" living up the creeks who come to town for the periodical sprees. The latest reports, officially received at headquarters here from Capt. Strickland on Lake Tagish, were to the effect that 28,000 people--1,000 of them women--had passed that point in open boats bound for the Mecca of the Klondike.
NV	1898	9-Aug	Culinary	YT	Morning Appeal, Carson City, NV	We had pretty good eating in comparison with some of the other parties, in the morning for bread we would have coffee or tea and sour-dough flap-jacks than baking powder, the dough is allowed to sour (in a warm place) for about 24 hours, and before using is sweetened with some baking soda and sugar. It rises fine and makes a very light cake, lighter a good deal than baking powder.
WA	1898	19-Aug	Culinary	YT	Ellensburg Dawn, Ellensburg, WA	In Dawson: thinking of the time when they were in God's country, where they got their mail for 25 cents once in every three months, and got decent food and no sourdough bread, and sheets to sleep between
VA	1898	25-Aug	Name	VA	Tazewell Republican, Tazewell, VA	As Gen. Walker poured hot shot into the record of the Democratic party their faces did not look like a mass of sour dough. We saw their unhappy, sour faces but did not see anything like a "buzzard element" in the meeting or in the town that day.
KS	1898	3-Sep	Culinary	YT	Western Kansas World, WaKeeney, KS	Nothing is sold over the bar in Dawson for less than 50 cents, and just now there is nothing in stock but whisky and "hootch," a vile concoction distilled from rice and sour dough or almost anything else that chances to be available. I have paid \$1 up at the mines for a glass of so called root beer served in a little

						cracked teacup.
ND	1898	3-Sep	Culinary	YT	Dickinson Press, Dickinson, ND	Nothing is sold over the bar in Dawson for less than 50 cents, and just now there is nothing in stock but whisky and "hootch," a vile concoction distilled from rice and sour dough or almost anything else that chances to be available. I have paid \$1 up at the mines for a glass of so called root beer served in a little cracked teacup.
UT	1898	30-Sep	Culinary	CA	Salt Lake Herald, Salt Lake City, UT	Utah Cavalrymen in CA Dinner--Irish stew, squirrel pie, sour dough bread, cheese, tea and soda water.
MT	1898	19-Oct	Location	MT	Ravalli Republican, Stevensville, Mont	"Hartman refused to file his resignation until too late" statesman from Sour Dough Creek
NY	1898	27-Nov	Name	YT	The Sun, New York, NY	"Just back from Dawson" While the guileless sour-dough miners set around the stove an' lie /'Bout the good old times at Circle, 'fore the smooth promoters came / An' set the country boomin' in a way that is a shame.
MT	1898	18-Dec	Location	MT	Anaconda Standard, Anaconda, MT	"Abel Kelsey Yerkes" His first name is Abel--Abel Kelsey Yerkes. Quite a mouthful when you get it all together. I suppose there were not a dozen people in the state who knew the full name of the Bard of Sourdough before reading It here.
MT	1898	19-Dec	Location	MT	Anaconda Standard, Anaconda, MT	Dr. Featherston tried to get the council to turn aside the rushing and uncontrollable waters of Sour Dough and make them run down another channel... finally came to the conclusion that the Sour dough chose its own course

MT	1898	29-Dec	Location	MT	Anaconda Standard, Anaconda, MT	Sourdough vs. Silver Bow "He'd got a local mention sure down on the Sourdough" But I presume the telegraph takes best in Silver Bow"
MT	1899	7-Jan	Culinary	MT	Anaconda Standard, Anaconda, MT	...of Butte... He was an old Frenchman, evidently living alone. He took in the situation, Christian-like, and bestowed blessings upon the men in the shape of salt pork and sourdough bread, with plenty of coffee to boot.
KY	1899	10-Jan	Name	YT	Mt. Sterling Advocate, Mt. Sterling, KY	"Squaw Dance" Of course, a number of the boys arrived much earlier and commenced to spend their money at the bar pretty freely for heutch, the only strong drink to be had here... I takes quite a quantity to fill one up, so that by the time the ordinary knock about "sour dough" miner has an edge on he is financially "broke." Of (price of whisky)
KY	1899	17-Jan	Name	YT	Hopkinsville Kentuckian, Hopkinsville, KY	"Squaw Dance" Of course, a number of the boys arrived much earlier and commenced to spend their money at the bar pretty freely for heutch, the only strong drink to be had here... I takes quite a quantity to fill one up, so that by the time the ordinary knock about "sour dough" miner has an edge on he is financially "broke." Of (price of whisky)
MT	1899	31-Jan	Location	MT	Daily Inter Mountain, Butte, MT	The sage of Sourdough was "smote" in the house of his friends. (election--not sure if this is a place or a name)
MT	1899	1-Feb	Name	MT	Daily Inter Mountain, Butte, MT	The Anaconda Standard exultingly exclaims that that while the Sourdough statesman received the support of three silver republicans in that body, Senator Mantle received the support of but one.
MO	1899	2-Feb	Culinary	YT	Mexico Weekly Ledger, Mexico, MO	We didn't wish to lay ourselves liable to dyspepsia or other diseases by eating too much turkey, and were content to celebrate on the following bill of fare, served in Klondyke style by two noted chefs: Roast moose, macaroni with cheese, sour

						dough biscuits, dried fruit, butter, coffee, chocolate, mince pie and doughnuts.
MT	1899	5-Feb	Location	MT	Anaconda Standard, Anaconda, MT	A. Kelsey Yerkes left for the east this week for the purpose of interviewing eastern publishers with reference to his book, "Epics of Sourdough."
MT	1899	6-Feb	Name	YT	Anaconda Standard, Anaconda, MT	To be a goo cheechako...To be a good sour-dough you must see the ice come and go in the Yukon, pilot your own boat through the White Horse rapids and live on beans straight for four months. To be a good pioneer you must have been five years in the country and be guilty of every crime in the Decalogue.
MT	1899	7-Feb	Name	MT	Billings Gazette, Billings, MT	A.K. Yerkes, the Sour Dough poet and editor of the Bozeman Chronicle passed through Billings Sunday...He was en route for a trip to the...national capital where he will witness the doings of congress
MT	1899	9-Feb	Location	MT	Daily Inter Mountain, Butte, MT	Statesmen from the Sour Dough district.
MT	1899	10-Feb	Location	MT	Anaconda Standard, Anaconda, MT	in the great hench lands along the Yellowstone, at the head of Sour Dough canyon, in Gallatin county
MT	1899	11-Feb	Name	MT	Daily Inter Mountain, Butte, MT	A.K. Yerkes, the Sour Dough poet and editor of the Bozeman Chronicle passed through Billings Sunday...He was en route for a trip to the...national capital where he will witness the doings of congress

MT	1899	17-Feb	Name	MT	Billings Gazette, Billings, MT	poet of Sour Dough, will publish books Yerkes
MT	1899	19-Feb	Name	MT	Anaconda Standard, Anaconda, MT	Bard of Sour Dough, Yerkes
MT	1899	25-Feb	Name	MT	Daily Inter Mountain, Butte, MT	But the wrong guy-ropes were pulled on the sourdough statesman, and he did nothing to prevent the filibustering that forced Senator Mantle's bill to defeat after it had met the approval of both houses and acquired the right way of victory
MT	1899	28-Feb	Location	MT	Anaconda Standard, Anaconda, MT	Since Carter did not mention the fact that I am a democrat and thus bring down the reproach the president would naturally express to one who tried his best to defeat his high aspirations and who, with a fuller registration on Sourdough creek, would have jarred him for place...Ed Yerkes will leave for home via Charlottesville, VA
MT	1899	4-Sep	Name	MT	Daily Inter Mountain, Butte, MT	"Gubernatorial Guesses" The Billings Times is accused of a deliberate and cold-blooded attempt to spring the name of Charles Hartman, the Sourdough statesman, upon the public as a democratic candidate for governor. It is claimed that Hartman has thoroughly identified himself with the democracy and is eligible to any of its political favors. The mention of his name for gubernatorial honors it not without political significance at this time. General Hoffman of Bozeman has been widely mentioned as a possible candidate, and he is understood to be in sympathy with the Clark wing of the party...The fact that Hartman's right bower, Colonel Chisholm, was in Helena last winter during the senatorial contest, watching the anti-Clark democrats getting ready to swing to the Sourdough statesman at the opportune moment which did not arrive, indicates that the ex-representative is ready to be struck by lightning whenever

						the democratic dynamo is on exhibition.
WA	1899	14-Mar	Name	YT	Seattle Post-Intelligencer, Seattle, WA	T.A. Davies, the Post-Intelligencer representative, who left Seattle Jan. 5 with a big load of Post-Intelligencers, arrived at Dawson Feb. 9, sixteen days from Skagway... Mr. Davies had as competitors such "sour doughs" (old timers) as Jack Carr, W.H. Schultz, Stark Humes...
NY	1899	19-Mar	Culinary	MT	The Sun, New York, NY	Antoine returned with the liver almost as soon as the grease was hot, deftly sliced and washed it, and in a few minutes the hunters sat down to a breakfast of liver, strong coffee, sour dough bread and baked beans.
MT	1899	21-Mar	Name	MT	Daily Inter Mountain, Butte, MT	Mr. Conrad to the Sourdough statesman
MT	1899	25-Mar	Location	MT	Anaconda Standard, Anaconda, MT	Sourdough Creek
MT	1899	25-Mar	Name	MT	Neihart Herald, Neihart, Mont.	Dedicated to the Sage of Sour Dough Yerkes
MT	1899	25-Mar	Location	MT	Anaconda Standard, Anaconda, MT	Sourdough Creek
VT	1899	7-Apr	Culinary	YT	Vermont Phoenix, Brattleboro, VT	Below you will see a bill of fare of our Christmas dinner: ...sour dough bread without butter

MT	1899	20-Apr	Location	MT	Anaconda Standard, Anaconda, MT	The historic Sourdough creek has made it interest for some of the householders along the banks
WA	1899	23-Apr	Name	AK	Seattle Post-Intelligencer, Seattle, WA	I'll love and protect her, this maiden so frail, / From the sourdough toughs on the Koyukuk trail
MT	1899	29-Apr	Name	AK	Anaconda Standard, Anaconda, MT	I'll love and protect her, this maiden so frail, / From the sourdough toughs on the Koyukuk trail
CA	1899	25-May	Name	AK	Los Angeles Herald	I'll love and protect her, this maiden so frail, / From the sourdough toughs on the Koyukuk trail
KS	1899	25-May	Name	AK	Topeka State Journal, Topeka, KS	I'll love and protect her, this maiden so frail, / From the sourdough toughs on the Koyukuk trail
MT	1899	9-Jun	Location	MT	Daily Inter Mountain, Butte, MT	ex-Congressman Hartman of Sourdough
NE	1899	16-Jun	Name	YT	Omaha Daily Bee, Omaha NE	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.

UT	1899	16-Jun	Name	YT	Salt Lake Herald, Salt Lake City, UT	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.
MN	1899	16-Jun	Name	YT	St. Paul Daily Globe, St. Paul MN	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.
CA	1899	16-Jun	Name	YT	San Francisco Call, San Francisco, CA	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.
IN	1899	16-Jun	Name	YT	Indianapolis Journal, Indianapolis, IN	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.
MT	1899	16-Jun	Name	YT	Daily Inter Mountain, Butte, MT	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.
MT	1899	16-Jun	Name	YT	Anaconda Standard, Anaconda, MT	For a time Dawson was threatened with a flood. After a short time the ice broke with a crash and the river was open for good. The breaking of the ice marked the graduation of the Cheecharkos, or tenderfeet, into the ranks of the Sourdoughs, or old timers.

MO	1899	18-Jun	Name	AK	Kansas City Journal, Kansas City, MO	I'll love and protect her, this maiden so frail, / From the sourdough toughs on the Koyukuk trail
MT	1899	22-Jun	Location	MT	Anaconda Standard, Anaconda, MT	The water in Sourdough or Bozeman creek has been very high
MT	1899	24-Jun	Location	MT	Daily Inter Mountain, Butte, MT	anchored off the lighthouse on the Sourdough
MT	1899	29-Jun	Name	AK	Daily Inter Mountain, Butte, MT	I'll love and protect her, this matden so frail, / From the sourdough toughs on the Koyukuk trail
MT	1899	13-Jul	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough statesman
MT	1899	15-Jul	Location	MT	Neihart Herald, Neihart, Mont.	Gov. Smith, Supt. Carleton and the man who wrote "Fishin' on the Sourdough;"
MT	1899	26-Jul	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough statesman

MT	1899	4-Aug	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough statesman
MT	1899	23-Aug	Name	MT	Daily Inter Mountain, Butte, MT	Hon. A.K. Yerkes, editor of the Bozeman Chronicle, has issued a book entitled "Pieces for the Paper." Mr. Yerkes is the recognized humorist of the Montana press, a gentlemen whose keen, incisive pen has given to the world a wealth of mirth-producing material, and who has taken front rank among the best of the writers of that class. His new book is a compilation of the most interesting of his productions in poetry and prose...the Inter Mountain predicts for the Sourdough humorist a call to greener pastures and wider fields where the profits of his pen will be larger...
MT	1899	26-Aug	Culinary	AK	Neihart Herald, Neihart, Mont.	Pat will stop at Neihart long enough to work off some of the pork and bean and sour dough of Alaska, and get a few square meals, and then he will go to Yoho creek to do the assessment work on two copper claims which he holds there
MT	1899	26-Aug	Location	MT	Daily Inter Mountain, Butte, MT	cast anchor on the Sourdough Sunday and spent the day in quiet meditation
MT	1899	27-Aug	Culinary	AK	Anaconda Standard, Anaconda, MT	Pat will stop at Neihart long enough to work off some of the pork and bean and sour dough of Alaska, and get a few square meals, and then he will go to Yoho creek to do the assessment work on two copper claims which he holds there
WA	1899	2-Sep	Name	YT	Seattle Post-Intelligencer, Seattle, WA	Friends and acquaintances who wish to see Mrs. M.P. Rothweller, of the Magnet road house, No 18 below on Bonanza, are kindly invited to a social gathering to be held at her home at Oak Lake farm, Sunday, Sept. 3, before her return to Dawson; "Sour Doughs" especially invited...

NY	1899	3-Sep	Culinary	AK	The Sun, New York, NY	I was goin'to borrow a log-bit from Old Joe Gee. When I started I'd put a couple of sour-dough biscuits and some sow-belly in my pocket in case I might get hungry. And I'm tellin' you that little lunch came in right handy
MT	1899	4-Sep	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough statesman
MT	1899	6-Sep	Name	MT	Daily Inter Mountain, Butte, MT	Ex-Congressman Hartman of Bozeman is said to be arranging to start a weekly journal and has already selected a site for a private graveyard where he will bury those who do not subscribe to his opinions and his paper. It will be called the Sourdough Pancake
MT	1899	7-Sep	Name	MT	Anaconda Standard, Anaconda, MT	Yerkes, It is surprising to me that among all these editors of Montana there have not been developed more poets to sing the praises of Montana. It is true the bard of Sour Dough
MT	1899	7-Sep	Name	MT	Daily Inter Mountain, Butte, MT	Yerkes, It is surprising to me that among all these editors of Montana there have not been developed more poets to sing the praises of Montana. It is true the bard of Sour Dough
KS	1899	11-Sep	Culinary	YT	Topeka State Journal, Topeka, KS	When I started I'd put a couple of sour-dough biscuits and some sow-belly in my pocket in case I might get hungry.
CT	1899	12-Sep	Culinary	YT	Daily Morning Journal and Courier, New Haven CT	When I started I'd put a couple of sour-dough biscuits and some sow-belly in my pocket in case I might get hungry.

OR	1899	28-Sep	Culinary	OR	Hood River Sun, OR	Being an old bachelor, he also raises his own bread--with sour dough.
MT	1899	29-Sep	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough statesman
ND	1899	7-Oct	Name	YT	Dickinson Press, Dickinson, ND	Potatoes--Cheechokos, 25c. Per lb. sourdoughs, 35c to 75c. Per lb, onions cheechakos 20c. Per lb
ID	1899	13-Oct	Location	ID	Cottonwood Report, Cottonwood, ID	Listen to the music of the Sourdough as its waves
MT	1899	17-Oct	Location	MT	Anaconda Standard, Anaconda, MT	Bard of Sourdough disposes of his Bozeman Paper Aka Yerkes
IA	1899	24-Oct	Name	AK	Evening times-Republican, IA	When Jim was a chichako shy, he never told a fib;/ But now whene'er he tells the truth, he makes it awful big,/As any sour-dough miner would and think it was no sin.
MT	1899	2-Nov	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough statesman

MT	1899	3-Nov	Name	MT	Anaconda Standard, Anaconda, MT	"Yerkes in Seattle" This is the manner in which the Seattle Post-Intelligencer introduces Montana's own Sour-Dough poet to the people of Puget sound
NY	1899	25-Nov	Culinary	AK	The Sun, New York, NY	moonshine of Alaska... the only true way is to fix up a mixture of flour and water, sour dough, they call it, and then put molasses or spoiled syrup into it
MT	1899	1-Dec	Name	MT	Billings Gazette, Billings, MT	Bard of Sourdough in Seattle
MT	1899	4-Dec	Name	YT	Anaconda Standard, Anaconda, MT	The he said all sorts of complimentary thing to his female preserver and introduced himself as 'Bill Staley, sour dough stiff, at your service.'
ID	1899	13-Dec	Culinary	ID	Lewiston Teller, Lewiston, ID	This hotel will make a specialty of sour dough bread
MT	1899	13-Dec	Name	MT	Daily Inter Mountain, Butte, MT	the distinguished statesman from the mossy banks of the pellucid Sourdough. It attempts to justify the conduct of Mr. Hartman last year
MT	1899	17-Dec	Culinary	MT	Anaconda Standard, Anaconda, MT	My first Christmas dinner in Montana was eaten in the year 1857 a little below Melrose... Our menu was on that day: Roast mountain mutton, black coffee and sour-dough bread. No vegetables all winter, and later we had a long siege of meat straight

MT	1899	23-Dec	Name	MT	Daily Inter Mountain, Butte, MT	Sourdough Hartman see to it that a free coinage bill was presented and the democracy pledged to its support?
NY	1899	24-Dec	Name	AK	The Sun, New York, NY	The advertising columns of the little paper (Nome)...one reads "Cabinet Saloon. Headquarters for the Sour Dough Boys of the Yukon Country"
MT	1899	27-Dec	Location	MT	Daily Inter Mountain, Butte, MT	Statesman from Sourdough creek
MT	1899	29-Dec	Name	MT	Billings Gazette, Billings, MT	A.K. Yerkes conveys the information that the Bard of Sourdough has purchased the Ballard News, a weekly paper published four miles from Seattle