For years, retired Air Force colonel Carl T. Griffith was the devoted custodian and disseminator of what he called “the wild yeast born when the West was young”—a sourdough culture originally grown by his own great-grandmother. “All I know,” Griffith wrote, “is that the sourdough culture started west in 1847 from Missouri. I would guess with the family of Dr. John Savage, as one of his daughters (my great grandmother) was the cook. It came on west and settled near Salem, Oregon. Doc Savage’s daughter met and married my great grandfather on the trail and they had ten children. It was passed on to me through my parents when they passed away. I am seventy-six years old so that was some time ago.” If you sent Griffith a self-addressed stamped envelope, he would send you a portion of this sourdough starter, the origins of which predate the Pony Express.

In 2000, when Griffith died at the age of eighty, ten of his friends and devotees founded The 1847 Oregon Trail Sourdough Starter Preservation Society, otherwise known as Carl’s Friends. This group now works together to maintain the starter and to respond to requests for samples. As many as twenty requests arrive each week, and representatives in Australia and the UK can also fulfill requests directly. As a result, Griffith’s family legacy—in the form of active yeast and bacterial cultures—remains, literally, alive.

The efforts of Carl’s Friends suggest that sourdough breeds a distinct, and hardy, strain of devotion among its bakers. Why? It all starts with the starter, suggests one message-poster (“Bob.B”) to the busy Usenet newsgroup rec.food.sourdough: “Many like to think that their sourdough is unique, or their creation, or one that’s been handed down for generations, or been over the Chilkoot Pass, et cetera. Because [starter] is ‘alive’ some tender hearts feel an obligation to its permanent health and survival.” Sourdough guru Ed Wood waxes grander, citing “the innate satisfaction in nurturing a sourdough culture from its resting stage into a vigorous, living, vibrant force that produces something new and special and yet as old as mankind.”

Passing on a family recipe, or lending a neighbor an egg, is one thing. But when you share, purchase, or make and feed your own starter, you’re handling a living being, a benevolent Tribble, a Chia Pet with a past. You are procreating, co-parenting; you are recreating what is—almost literally—the mother of all bread recipes. And even if you’re not sharing batches of sourdough starter with others, you may well be sharing batches of sourdough information via that powerful meta-leavening agent called the Internet. Sourdough is, indeed, a “culture” all its own.

In baking terms, sourdough might be called the ultimate purist’s pursuit—which is a large part of its appeal. “It is the transformation of four basic ingredients into something completely different that sucks me in,” writes Kyle Warendorf (“KyleW”), a frequent poster on the “Pastry and Baking” boards at ChefTalkCafe.com. “If you take a chicken, add all kinds of things on it and in it and throw it in the oven, what comes out of the oven is still a chicken. If you take flour, water, (wild) yeast and salt, and play around with time and temperature, what comes out of the oven is something utterly transformed.”

We now think of sourdough as a type of bread. Before the advent of commercial yeast, however, sourdough was bread, period. Griffith reminisced, “I first learned to use the starter in a Basque sheep camp when I was ten years old as we were setting up a homestead on the Steens Mountains in southeastern Oregon. A campfire has no oven, so the bread was baked in a Dutch oven in a hole in the ground in which we had built a fire, placed the oven, scraped in the coals from around the rim, and covered with dirt for several hours. I used it later making bread in a chuck wagon on several cattle drives—again in southeastern Oregon.” The yeast in the original starters came not from a packet, but from the air, in which it’s already naturally present. When flour and water are combined—in the presence of oxygen and airborne yeast spores—fermentation begins. The compound, which without yeast would be nothing more than paste, eventually bubbles into a foamy brew spiked with sourdough’s two key micro-organisms: multiple strains of the fungi we know as yeast, and lactic acid-producing bacteria belonging to the genus Lactobacillus. The acid provides the “sour,” while the yeast acts as the leavening, or rising agent, of the dough, by creating carbon dioxide gas as it ferments (hence the foam). When the culture has recently been
“fed” (with more flour and water) and is maximally active, it is added to the other ingredients—flours, salt, shortening—and optional flavorings—nuts, seeds, olives, herbs—to create the finished product.

The essential sourdough recipe was probably discovered by ancient accident. Wood writes:

An unbaked cake, perhaps forgotten on a warm summer evening, would be a perfect medium for contamination by an errant wild yeast... A true sourdough is nothing more than flour and water with wild yeast to make it rise and special bacteria to provide the flavor. Before commercial yeast, all bread was made from sourdough. Every baker, every household, had a wild sourdough culture with special and often secret recipes. For nearly five thousand years, it was thought that something divine created the bubbles in dough and made the loaves grow bigger and bigger. Only one essential factor was clearly recognized: from each batch of dough a sample had to be saved and passed on to the next batch, or the divine “thing” was lost. Sourdough is a living remnant of ancient history that has survived for more than fifty centuries and is as alive today as it was in 3000 B.C.7

In fact, in 1993 Wood traveled with a National Geographic team to the site of an ancient bakery near the pyramids of Giza in Egypt, where, trumping Carl Griffith by millennia, he isolated the wild yeast culture that, he maintains, “leavened man’s first bread.”

Sourdough science, such as it was, remained virtually unchanged from antiquity until the late seventeenth century, when the Dutch lens grinder Antonie van Leeuwenhoek got the first microscopic look at the yeast bubbling in beer foam—the first substitute for wild sourdough. By the late nineteenth century, building on Louis Pasteur’s discoveries about fermentation, scientists were able to breed wild yeasts into pliant, predictable, fast-acting replicants that could readily be cultured.8

And with that apparent advance, basic bread was sour no more. Dough made from packaged yeast will usually rise like a tidal wave before the slower-moving lactobacilli even...
have their sea legs. Commercial leavening also short-circuits a key sourdough element: air. That—not baking style—is what makes San Francisco (and Russian, and South African, and Yukon, etc.) sourdough unique. Since yeasts particular to a given region’s atmosphere enter the mix during fermentation, each type of sourdough is, in a manner of speaking, a totally different animal. Even if you purchase starter containing Lactobacillus sanfrancisco, it will change when exposed to the air somewhere else. In other words, you can take the starter out of San Francisco…but you will also be taking the San Francisco out of the starter.

There appear on the internet only a few tales of starter ancestries such as Griffith’s. One message-poster at ChefTalkCafe.com mentions a starter that crossed the Atlantic from France with her father’s teacher; another, a starter ancestries such as Griffith’s. One message-poster at There appear on the internet only a few tales of taking the San Francisco out of the starter. take the starter out of San Francisco…but you will also be exposed to the air somewhere else. In other words, you can taking the San Francisco out of the starter.

There appear on the internet only a few tales of starter ancestries such as Griffith’s. One message-poster at ChefTalkCafe.com mentions a starter that crossed the Atlantic from France with her father’s teacher; another, a professional chef, describes a starter that came from Russia eighty years ago with his wife’s grandmother, but did not survive the refrigerator at his own restaurant: “One of my dishwashers thought it was ‘sour,’ so he dumped it.”

Nor is there much evidence of lengthy “edible chain letters,” vast networks that adopt the siblings of one individual baker’s starter—unless you count the copious recipes for and references to Amish Friendship Bread. According to one entry at Armchairworld.com: “When you’ve made your bread, you can give your friends a sample and the starter that made it! Then your friends can make their own and pass it along to their friends. This is why the bread is called ‘friendship bread.’” Of course, an eager starter-giver should be even more cautious than, say, a generous zucchini gardener, as New York photographer and sourdough dilettante Chris Carroll recalls: “My wife was given a starter that she dutifully divided and gave out to her friends with the handwritten recipe. They pretty much all guiltily threw it out after maybe one baked good. They said it was a gift that made them feel guilty about shirking the obligation, like getting a hamster or something.” Sourdough starter, like advice, is best provided only on request.

Popular starters are available free (such as Carl’s) or commercially from, for instance, Sourdoughs International (www.sourdo.com) or Jedediah’s House restaurant in Wyoming (www.wy-biz.com/jedediahsourdough). The sharing of starters allows far-flung bakers to compare notes on a single culture. (“I have been using Carl’s off and on for a couple of years, but never had the courage to feed it anything other than a white organic flour waffle batter…does anyone feed their Carl’s on other flours? Rye maybe or whole wheat?” But beyond that, observes Kyle Warendorf, “I find that those truly interested in the world of wild yeast would prefer to grow their own. That’s a big part of the mystery and fun!”

Homegrown yeast is also where the experience of proto-parenthood—or at least exotic pet ownership—comes in. Many bakers follow elaborate feeding schedules; some post photos on the Web of their most precious issues (or of their most wayward, with captions such as “Help! What went wrong with this crust?”). Many give their starters names: Herman, Yolanda, Hermione—or, in the case of Anthony Bourdain’s bread baker’s “massive, foaming, barely contained heap of fermenting grapes, flour, water, sugar, and yeast…pushing up the weighted-down lid of a 35-gallon Lexan container and spilling over on the work table”—“The Bitch.” Indeed, domesticated wild yeast may be only one overfeeding away from its feral state: Berkeley, California, resident Robin O’Donnell recalls coming home to a starter that had “pushed the top of the container off, grown onto the counter and scurried underneath the refrigerator and the stove. It covered the cat dish. It [made] its way to the threshold of the bathroom, the doorway to the living room, the edge of the kitchen sink counters.” O’Donnell finally subdued the Blob with a fatal blast from his fire extinguisher. Even archaeologist Mark Lehner, leader of the Giza bakery expedition, describes Wood’s yeast hunt as a small-game safari: “With a dish of flour and water, Ed successfully enticed and captured wild yeast from the balcony of his room in the Mena House Hotel at the foot of the Great Pyramid (he thought the yeast might have been lurking nearby in date palms).”

Raising a little monster is one thing, but beware: any starter that attains near-human status can leave broken relationships in its wake. “While I was feeding/learning/playing with my starter my girlfriend who lives with me got rather resentful of the attention I was paying to the starter. She would say that she felt as if there was a third person living with us, and she had to compete for any attention,” confesses “Big G” at rec.food.sourdough.

For some, sourdough starter is a chemistry set offering an endless and irresistible array of homegrown experiments. “One of the pleasures of sourdough is understanding the rhythms of both the yeast and lactic acid and holding them both at just the right level—optimal acidity, optimal flavour,” writes a rec.food.sourdough frequenter named Roland. While some bakers find that rhythm by feel, others do so with percentages, pH determinations, and even the advice of highly specialized Ph.Ds. “Interesting Correspondence About Sourdough (Long),” another rec.food.sourdough thread, provides an elaborate analysis of Lactobacillus behavior by a doctoral candidate in Stuttgart: “I do not know..."
whether or not you are familiar with the concept of the ‘redox balance’; Degradation of hexoses via the pentose-phosphate pathway as employed by heterofermentative LAB [Lactobacillus] results in phosphorylation of ADP to ATP, and in the reduction of NAD to NADH.”21

With experimentation and quasi-obsession—and the Internet—also come fierce debates or, at least, macro levels of minutiae. Sourdough folks divide the world into two kinds of people, those who cultivate “sour” and those who dump it, but they do not stop there. Consider the following subdivisions:

1. Those who permit vs. revile the use of commercial yeast to jump-start a culture. (Robin O’Donnell: “When is a sourdough [starter] not a sourdough? When any ingredients other than grain and water are added! End of debate.”)

2. Users of bells and whistles such as grapes and milk in their starter vs. flour-and-water minimalists. (Lest you reflexively award moral victory to the purists, note that the grapes side includes such heavy hitters as Nancy Silverton22 and the man Anthony Bourdain describes as “[God’s] personal bread baker”).23

3. Protective vs. permissive starter parents. (Robin O’Donnell: “The California gold rush prospectors made sourdough from whatever they had at hand. River water and whole grain flour. Maybe some old coffee. Hell, throw in some grapes. They fed it whatever they had, however often they could. None of this coddling the sourdough, giving it regular feedings, just the right amount of pablum. You ruin a good sour that way. Turns out to be weak and citified. Doesn’t have the gumption to properly raise a little pancake much less a loaf of bread. Nope.”24)

Other points of discussion include: to slash or not to slash the loaves; wheat flour vs. rye; spelt flour vs. kamut; pizza peels and baking stones; salt content; chlorine content; stir in vs. pour off the “hooch” that pools on top.

New sourdough questions continue to arise, along with their myriad answers. From the bakers of Giza to Great-Grandma Griffith to Internet newsgroups, the culture of sourdough enthusiasts today is reminiscent of the very starters they share, feed, coddle, or neglect. What has emerged is a macrocosm of its own beloved microbiological charges: elements both tart and light, old-time settlers guarding their land, wild newbies sparking fresh growth, active cells hungry for more spores of data and discussion. Like thousands of Carl’s closest Friends, these progenitors will surely keep sourdough culture alive and bubbling.

NOTES
8. Ibid., 18–19.
13. E-mail interview, 31 July 2002.
17. E-mail interview, 11 August 2002.
22. See, for example, Nancy Silverton, et. al., Breads from the La Brea Bakery: Recipes for the Connoisseur (New York: Villard, 1996).
23. Bourdain, Kitchen Confidential, 237. Bourdain is referring to a former restaurant employee he calls “Adam Real-Last-Name-Unknown” or “the psychotic bread baker.” Adam was creator and custodian—when not on a bender—of “The Bitch.”
24. E-mail interview, 11 August 2002.