

are cassava roots, which contain some calories but pretty marginal nutrition overall, if you ferment it, you get a much broader range of nutrients out of that food.

There is also the live-culture food aspect. Not all fermented foods have live cultures. Some of them have been cooked, like bread, but the bacterial foods that contain live bacterial cultures, particularly lactobacillus and other acidifying bacteria, are the same kinds of bacteria that we all require in our bodies - primarily to effectively digest food, but also as part of our immune strategy because they create a competitive situation for the pathogenic bacteria that we inevitably encounter. So, I would say that the most important reasons for people to eat fermented foods and care about fermentation have to do with nutrition and health. Of course, people are motivated by exciting, strong, complex flavors. I think that flavor was my way into my interest in fermentation, because I go crazy for some of the flavors of fermentation.

Sandor and participants
vegetables in
kimchi. The
pressed until
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KW: And it's a long tradition, right? This isn't something new, fermentation?

SK: No. People have been fermenting ... I mean, really, all of the most ancient texts that we have refer to it's present in virtually all culinary traditions. I say virtually all because I don't know about all of them, but I can't think of an encounter any counter-example. It seems like every culinary tradition that I have come across incorporates or another of fermentation.

KW: So, quickly, what is the definition of fermentation?

SK: The broad definition which I would use is that fermentation is the transformative action of microorganisms. We talk about it in terms of delicious foods that we like to eat, but a compost pile is as much an example as a crock of sauerkraut is. It is dead plant and/or animal matter being digested into more elemental forms by microorganisms.

KW: Can you give me some examples of fermented foods, because, when we speak of fermentation, we mean alcohol.

SK: Yeah, sure ... alcoholic beverages, absolutely. That is certainly the most widespread and famous form of fermentation, but virtually all cheeses are fermented, virtually all breads are fermented, chocolate is fermented, as well as meats that we refer to as "cured meats," like salamis and pastramis and corned beef. The English expression for salted, so it is brined meat. That's what corned beef is. Sauerkraut, kimchi, yogurt, lots of examples. All of the soy foods like miso, tamari, tempeh, natto. I think a lot of people have an undervalued yogurt as being something important for health. People know that after you take antibiotics, you should eat yogurt. It is a much broader group of food, really, that feeds these beneficial bacteria into our bodies.

KW: I've got your book here, "The Revolution Will Not Be Microwaved: Inside America's Underground Food Movements." What are these underground movements and how are they different from just the push to get healthy and eat organic?

SK: Well, the underground aspect of it has to do with the fact that the laws that are in place in the name of health and hygiene were written to serve the needs of mass producers and create a situation where small industry producers can't function in a legal way. An example that I use in the opening of the book is a baker who started off with this fellow who was a very enthusiastic sourdough baker. He spent several months building a brick oven, wood-fired. It's a gorgeous oven, one of the most beautiful ones I've ever seen. He built it out of brick, and he started baking a hundred loaves of bread once every two weeks. He didn't want this to become a slave, waking up at four in the morning every day and baking bread. He did not want to make money from everybody he knew to invest in a kitchen with stainless steel surfaces that would meet all of his needs. He would be in debt, and then he'd have to bake every morning, and he would feel like a slave to his business.

What he wanted to do is make a couple of hundred dollars every couple of weeks and provide bread to his community. He knows and use his skill and his oven and just make the dough in his home kitchen. It is not that unreasonable a model, historically, that a lot of people with skills and no capital have been able to work themselves, by that they sell. Think of somebody making fifty tamales and taking them out to where people have a lunch. It is a brilliant way for people to support themselves and use their skills, but our laws around food don't allow this anymore.

KW: On the other hand, you can have a dinner party and feed fifty people, and you don't have to have a kitchen.

SK: You can. You're not selling anything to them. But here's another example. My sister, who lives here in a friend of mine, who lives in Tennessee, have both received notices from their schools telling them that, for special events, if they want to send food to share with their kids' class, they can't send homemade.

KW: So, moms can't bake cupcakes anymore and send them to school?

SK: It needs to be something that was purchased at a store that came through a commercial kitchen. A couple of years ago, there was a bust at a farmers' market, where the Department of Agriculture came in, who were selling zucchini bread and jam and things like that, they wanted to see their licenses, and they do have licenses. These were small, diversified farms that were just supplemental income for people, and they don't have a licensed kitchen. They are generating \$5,000 a year from their farm products. They don't have \$20,000 to kitchen for this stuff.

KW: So how are you fighting back? How are you organizing?

SK: Well, basically, this book is about the fact that there are all of these underground movements. And one would be raw milk. There are people who are waking up to the fact that pasteurized milk might be safer than that is not pasteurized, but milk from healthy animals is really much more beneficial for your health.

KW: Raw milk from healthy animals is more beneficial than pasteurized milk?

SK: Yes. I would definitely say so, and there is a growing movement of people who are waking up to ways to access raw milk. I would say that this is the largest civil disobedience movement in America right now. There are thousands of people, and they're in every state, and, unlike many other food movements, people are motivated by individual health and family health concerns, this involves community organizing. No person can't just manifest access to raw milk. Groups of people are getting together and organizing what are called cow shares or goat shares, where they buy an animal and then contract with a farmer to maintain the animal on their behalf. They are circumventing the laws, and there is no sales transaction for the milk. Instead, the transaction is a service transaction: paying the farmer to care for the animal on behalf of a group of people.

KW: Interesting.

SK: So this book is about a lot of different underground food movements, and they are quite varied. Another very widespread is the dumpster-diver groups, like Food Not Bombs, which has been popular all around the country.

KW: What is the statistic? Every day, America throws out as much food as Canada eats?

SK: Actually, there is a shocking statistic that I learned from this fellow who is an anthropologist at a university in Arizona, and his area of specialty is dumpsters. He has really explored the food waste of businesses and he has come to the conclusion that fully half of the food that is produced in this country goes to waste, and that doesn't get harvested from fields for purely economic reasons and going on through food service businesses are effectively structured around the idea of overproduction and waste. If you are going to have a restaurant with a hundred choices, you have to have all those on hand all of the time, even though people aren't ordering them.

There is a certain amount of waste intrinsic to a convenience-oriented system such as we have. In addition to the panic about food safety, so people throw away food pretty much as soon as it gets to its prime. So there is a lot of food waste, and people are trying to tap into that waste stream and redistribute it, because we have overproduction and waste at the same time as we hear all of this propaganda suggesting that there is a need for all of this intensifying technology for agriculture in order to produce enough food to feed everybody. It's a bit of contradictory information, but one thing is certain, and that is that hunger remains in our midst, even in the face of all this overabundance. I greatly admire people who are doing the work of redistributing wasted resources.

Another important aspect of the underground food movement is that increasing numbers of people are recognizing that the quality of food that is being produced through the global corporate food system is not good. So, they are seeking to create alternatives.

KW: This is really being brought home now with the food we are getting from China and the lack of control because I think a lot of people assume, "Oh, the FDA is looking out for us, and they are making sure our food is safe and it just isn't true anymore.

SK: What people have to realize is that - I'm sure that there are problems with some food from China - and it's not like food that's produced in the United States is necessarily so safe either. Think of last year's spinach - the E. coli spinach scare that affected people. People got sick in 20 different states. When you have a food system that is built around massive supplies of food being centralized and then distributed widely, the potential for problems is enormous.

The E. coli scare was accidental, but E. coli 0157 is purely a product of the industrial style of agriculture. These contamination problems that people have been worried about lately - salmonella in peanut butter, E.

are really manifestations of the factory style of agriculture. It's not like a nationalistic movement such as "eat American food" is going to make anybody safer, because we have all of these other kinds of scares for food. The only thing that is going to make people safer is disengaging from this globalized food model and of local food systems - becoming food producers, getting to know people who are farmers, and doing some quality control, rather than relying on federal agencies, which are underfunded, subject to corruption, etc.

KW: How would you do grassroots quality control?

SK: Get to know farmers, visit their farms, become better informed about different styles of agriculture questions about how people are doing it.

KW: This seems to also relate very much to the local food movement - the people who are trying to eat miles, the 100-mile diet, and they're doing that, somewhat, for reasons of energy conservation. So, all of these somehow intersecting, is that right?

SK: Sure. I think there are a lot of reasons why people would choose to do that. For myself, I'm just fundamentalist. I can't really get into never eating a pineapple again. If historical forces conspired, and that we be it; I would survive, but I think that, rather than thinking "all globalized food commodities" or "no globalized commodities," we have to think that, okay, well, international trade is not a bad thing. It gives everybody special treats that don't come from their areas, but what's absurd to me is that even the most basic foods that could easily be grown in any environment - are being shipped for thousands of miles. We need priorities so that most of the food that we're eating comes from our local area. That really creates more security for everybody. It invigorates economies because it gets money re-circulating locally, rather than going so far

I have in my book here a chart that the USDA puts out, and, of the average dollar spent at a supermarket it goes to farmers. No wonder we are in a farm crisis where farmers are not able to survive and we're losing them. We're making it economically impossible, but when you buy directly from farmers and give them that whole completely changes the equation for the farmers. It makes farming a viable profession, and we need more regions to have farmers. We can't just have certain regions of the country that are the "farm regions" and ship food to everybody else because, well, that just puts us in an extraordinarily vulnerable position if those regions experience climate changes, where their crops fail, or if there are transportation difficulties, shipping the food for thousands of miles which is certainly contributing to climate change and everything.

KW: At the workshop, you talked about the ferment, and I wonder if you can explain what you mean about the ferment and the culture and what the average person can do to join this revolution.

SK: Sure. The word fermentation ... when we started out, I said that it is the transformative action of fermentation and the Latin word that it comes from is *fervere*, which means to boil, and it is because the visible action of fermentation in liquids is the same bubbling as we see in boiling liquids. But, there is this other connotation of the word "ferment" that people talk about political ferment, cultural ferment, spiritual ferment, intellectual ferment, and it's that sense of excitement. It's when people are excited about ideas and they want to talk to other people about them; they want to share their ideas; they want to use those ideas to propel change, and, as they tell people about it and the people they tell a lot of people about it, the ideas shift a little bit, and that is the fermentation of the culture.

That's really one of the engines of social change - people getting excited about ideas, their excitement motivating them to action so, you know, we get more people at farmers' markets, we get more people growing and trading vegetables with each other, we get more people fermenting their own food and thinking about starting cottage industry making 30 pounds of tempeh a week and selling it to their friends to supplement their income.

KW: Even though it is sort of an act of civil disobedience to do that.

SK: Yeah, well, I think it's an honorable act of civil disobedience to make nutritious food and make it available to you know.

KW: Do you have any sort of vision of the future? I like to call my positive vision a techno-peasant so you know if that evokes an image for you; it does for me. But, how would you describe your vision of the future?

SK: Well ... as a big question mark. I mean, I have no idea what the future will look like. I don't feel excited about it's going to be pretty, but I try to not get caught up in my despair. I would rather put my energy into things that I think it will take to create a better future.

KW: But what's your vision for that - your positive vision - not your projections of your fears, but your

SK: It has to do with decentralization and devolving. I think that, in a mass society of 300 million people, decision-making that can happen at that scale is by actors who have concentrated a lot of resources, and we have to just let that fall away and put our energy into creating community at a more modest scale, creating

decision-making structures at a smaller scale, and decentralizing agriculture and having a lot more locally I definitely reject the model of personal self-sufficiency, but I think that - as communities - self-sufficiency can be a positive thing. So, those are some ideas.

KW: Great, and maybe there is a role for technologies like the Internet, in sharing information between

SK: Sure. It's not like I think the Internet has only been good. I think that the Internet has created some possibilities and created some problems also, but I can definitely see that there is a lot of potential coming from that, and, certainly, for people with obscure interests in things like fermentation, the Internet thing, with lots of great resources. You know, just people putting their old family recipes up on the Internet I've learned a lot of what I've learned about fermentation.

KW: You're in Tennessee. Are there still some old-time farmers there that you are able to learn from?

SK: Fewer and fewer, but yes. When I first moved to Tennessee, 14 years ago, there was a fellow name who was a sorghum farmer, and we used to come and take the spent sorghum stalks, after his horse goin circle, powering his mill, would press the syrup out of the sorghum stalks; we would take them and use them in our garden. I remember, the first year I lived in Tennessee, I couldn't understand a word that Alan Byford he just had such a strong local twang, but, after a couple of years, I could start to understand him. But, I don't know anybody in our area who is doing sorghum anymore. I mean, there must be some old-timers who are still doing it. I do buy sorghum that is locally produced, but I haven't met any of those folks.

KW: So, people like you are going to be a crucial link, it seems to me, between the old culture that knew these things and the new culture that's coming. You're like the yogurt culture that's getting passed along,

SK: Yeah, and I think that these aren't brand new projects. I would think of the Foxfire series. And I also do a lot of WPA documentary projects. But I think, whatever historical moment we are in, it is really important to respect and try to learn what they know and document some of their information so that it can be propelled into the future when they're gone.

Kelpie Wilson is Truthout's environment editor. Trained as a mechanical engineer, she embarked on a career in environmental protection activism, then returned to engineering as a technical writer for the solar power industry. She is the author of "Primal Tears," an eco-thriller about a hybrid human-bonobo girl. Greg Bear, author of "Darwin's Radio," says "Primal Tears" is primal storytelling, thoughtful and passionate. Kelpie Wilson wonderfully expands our definitions of family."

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