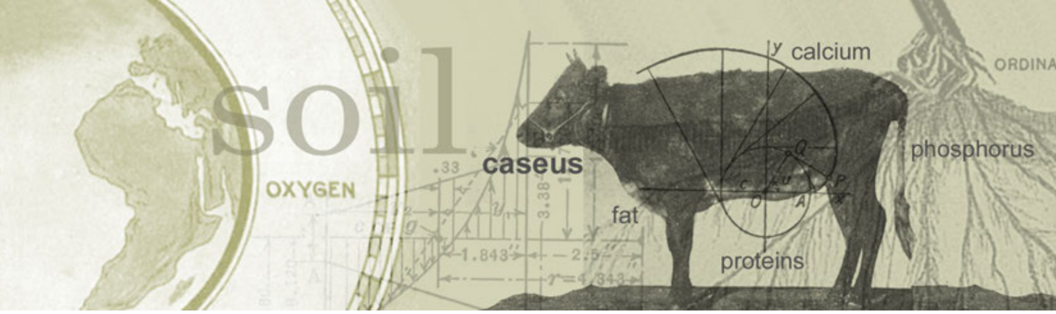

SLOW MONEY JOURNAL

WINTER 2016/17

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SLOW MONEY PRINCIPLES

1. We must bring money back down to earth.

2. There is such a thing as money that is too fast, companies that are too big, finance that is too complex. Therefore, we must slow our money down—not all of it, of course, but enough to matter.

3. The 20th century was the era of Buy Low/Sell High and Wealth Now/Philanthropy Later—what one venture capitalist called "the largest legal accumulation of wealth in history." The 21st century will be the era of nurture capital, built around principles of carrying capacity, care of the commons, sense of place, diversity, and nonviolence.

4. We must learn to invest as if food, farms, and fertility mattered. We must connect investors to the places where they live, creating healthy relationships and new sources of capital for small food enterprises.

5. Let us celebrate the new generation of entrepreneurs, consumers, and investors who are showing the way from Making a Killing to Making a Living.

6. Paul Newman said, "I just happen to think that in life we need to be a little like the farmer who puts back into the soil what he takes out." Recognizing the wisdom of these words, let us begin rebuilding our economy from the ground up, asking:

   What would the world be like if we invested 50 percent of our assets within 50 miles of where we live?

   What if there were a new generation of companies that gave away 50 percent of their profits?

   What if there were 50 percent more organic matter in our soil 50 years from now?

These principles have been signed by tens of thousands of individuals as part of a new public conversation and an accompanying process of local investing. To learn more, go to slowmoney.org.

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Editor WOODY TASCH
Production Manager KYLE BAHR
Copy Editing RICK KILLIAN
Proofreading MELISSA KILLIAN & KELLEE KATAGI
Design VICKI HOPEWELL

COVER ART BY JERE DEAN

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Slow Money Journal is published twice per annum by the Slow Money Institute, a nonprofit dedicated to catalyzing the flow of capital to local food systems, connecting investors to the places where they live, and promoting new principles of fiduciary responsibility that bring money back down to earth. Dozens of Slow Money local networks and investment clubs across the United States, Canada, and France have catalyzed the flow of more than $50 million to over 500 small food enterprises since 2010. The *Journal* aims to capture the voices of this process—local leaders, organic farmers, food entrepreneurs, thought leaders, donors, and investors. For more information, go to www.slowmoney.org or email Michael Bartner at michael@slowmoney.org.

OPENING LETTER

Donald *Who?*
(Or, A Few Things for Which We Can Be Forgiven)

Dear Slow Money Friend:

When I was a foundation treasurer, I used to end every finance committee memo with a quote from Wendell Berry. It seemed to me that no finance committee, particularly one attached to a foundation whose mission is sustainable agriculture, should be allowed to convene without a call to action from Berry.

In his 1969 essay, "Some Thoughts on Citizenship and Conscience in Honor of Don Pratt" (Pratt being a University of Kentucky student who had been arrested for refusing to take part in the war in Vietnam), Berry wrote:

> *Too many are now expending themselves utterly in the service of political abstractions, and my guess is that this is because of a growing sense of guilt and a growing belief that this guilt can be expiated in political action. . . .*
>
> *We are so little at peace with ourselves and our neighbors because we are not at peace with our place in the world, our land. American history has been to a considerable extent the history of our warfare against the natural life of the continent. Until we end our violence against the earth—a matter ignored by most pacifists, as the issue of military violence is ignored by most conservationists—how can we hope to end our violence against each other?*

This kind of thinking and speaking has been, for me, a steadfast call to action over many decades. But the action I've been engaged in isn't protesting. The action is investing—investing that takes personal responsibility for the long-term social and environmental consequences of consumerism and economic growth. As I put it in the following pages: "I prefer conscientious investing to conscientious objecting."

At this political moment, in this season of presidential campaigning, I will be forgiven, I hope, for adding, "I prefer conscientious investing to conscientious voting." Because a political campaign only offers a narrow set of options. When you invest, the world is your oyster. Well, except for the fact that oysters are imperiled by rising ocean acidity and the world is imperiled by investing that is amoral.

The amorality of investing has been evinced by none other than George Soros:

> *If you hurt people deliberately, that's immoral. If you break the law, that's immoral. If you play by the rules, then the market itself is amoral.*

This is the inevitable philosophical landing place for the line of thinking put forth by Adam Smith (his *An Inquiry into the Nature and Causes of the Wealth of Nations* was published in 1776, no less), whose "invisible hand" of the marketplace has garnered the unmitigated allegiance of generations of economists. If you believe that the greatest economic good for the greatest number is the result of each person maximizing his or her own personal economic gain, then you must be forgiven for also believing that markets and investing are amoral. Actually, upon further reflection, why not go all the way, because if you do so believe, wouldn't it actually be the case that investing and markets are inherently moral and steering us to the good? Like driverless cars. Program your destination—*prosperity*—and the flow of capital and the workings of market forces naturally will take the economy where it needs to go.

We can be forgiven, in the face of such moral imponderables, for holding Wendell Berry close to our hearts. We can be forgiven for wanting to put our faith in poets and farmers as much as in presidents. And we can be forgiven for turning away—for a few, slow moments—from the current war of political words (yes, we all know only too well that the more money there is in politics, the narrower the political discourse becomes, the shorter the news cycles, the more violent the warring sound bites) in search of historical context. In 1861, Abraham Lincoln, using rhetoric both more soaring and more grounded than that of today's candidates, concluded his first inaugural address with words that have since become famous. Calling for national unity, he evoked “the better angels of our nature.” A few paragraphs earlier, Lincoln had said:

> *My countrymen, one and all, think calmly and well upon this whole subject. Nothing valuable can be lost by taking time. If there be an object to hurry any of you in hot haste to a step which you would never take deliberately, that object will be frustrated by taking time; but no good object can be frustrated by it.*

Which is a reminder that the *slow* of Slow Money does not betoken lack of urgency or seriousness. It is a matter of deliberation and long-term thinking, a matter of our faith in the power of the slow, the small, and the local to address some of our most pressing global problems, a matter of our sense that, in the 21st century, the rush of fast money is becoming one of the greatest impediments to the good that is our common object.

We will also be forgiven, despite the rush of presidential politics, for asking ourselves whether, as a countervailing force to the excesses and imbalances of markets, it is enough to put our faith in political candidates, public policy, and governmental regulation.

Among us earthworms, that’s a bit of a straw man, isn’t it? No, we are not willing to put all of our faith in the government to fix what needs fixing. Just as we are not willing to put all of our faith in markets or all of our faith in CEOs or all of our faith in the military-industrial complex—or all of our faith in financial returns. We must reserve a goodly portion of our faith for our neighborhoods, our community, our households, our land, for the places where we live. We must believe in the possibility of a journey that started with Gross National Product and is trying to make it past Gross Domestic Product to Gross National Happiness (and thence, were things to actually work out happily, on its way to Gross Neighborhood Happiness).

This is the problem with macro-economic concepts and too, with such concepts as faith and morality. They become abstractions that distract us from the places where we live. They become abstractions in whose name we destroy the places where we live and go to war.

And this is why I think of Slow Money investors as “return agnostic.” We don’t believe that, as investors, we have to put all our faith in abstractions. That is, when we provide a local farmer with a very low interest or zero-percent loan (a few dozen of us have started to make zero-percent loans, as you will learn later in these pages from the "Scribblings of an Affectionate Foodishiary"), we are stepping out of the realm of abstractions. We are moving from risk-return *calculation* toward the realm of *care*.

This is something no finance committee can ever do, or at least, can ever do completely or unambiguously. Because institutional thinking—along with the conventional wisdom and fiduciary constraints and all the ins and outs of investing of, by, and for arithmetic; investing of, by, and for index and algorithm; investing of, by, and for management fee and share price; investing of, by, and for liquidity and volatility; investing of, by, and for irrational exuberance and consumer confidence—always seems to end up with *calculation* and *war* as default positions, rather than *care* and *peace*.

Not so for you and me, Mr. and Ms. Slow Money Investor, Mr. and Ms. Earthworm in the Soil of a Restorative Economy. We can choose *care* and *peace* as our defaults.

Marco Vangelisti, from whom you will also hear in the pages that follow, has taken the *return agnostic* idea and run with it, all the way to a new default position. Loosely paraphrasing him:

> *In the name of maximizing financial return, we have been agnostic about pretty much everything else—air, water, soil, community, health. So, why in the world wouldn't we invest in air, water, and soil, and let our agnosticism be about the arithmetic?*

I'm tempted to say "Agnostics of the world, unite!" but that would be way too charged and would only get us bogged down in all manner of religious confusion and ideological struggle. Let's just leave it at: "Conscientious investors of the world, invest!"

(And please forgive me, in the midst of presidential politics, for asking "Donald *Who*?" and coming up with a very different answer.)

Sincerely,
Woody Tasch

Woody Tasch is founder of the Slow Money Institute and author of Inquiries into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered (Chelsea Green, 2008).

INTERVIEWS

A fiduciary and a farmer, a man who has been working for decades as an entrepreneur and financier, and a woman who went back to the farm after graduating from college—Don Shaffer and Zoë Bradbury contribute their voices to a new conversation about food, money, and the soil.

Don Shaffer

Don has served as President & CEO of RSF Social Finance since 2007. He has been a social entrepreneur for many years, growing an education business, a software company, and a sporting goods manufacturer, in addition to the nonprofit Business Alliance for Local Living Economies. Don and the team at RSF are constantly asking the question, "How can we model financial transactions that are direct, transparent, personal, and based on long-term relationships?" Under Don's leadership, RSF's total assets have grown to more than $160 million.

Q: If I told you that I think of you as the least fiduciary fiduciary I know, would you consider this a compliment or an insult?

I like that designation. For one thing, at RSF we don't have any institutional investors. All investors and donors are individuals or families. We know each of them quite well. That makes an extraordinary difference in terms of how we show up. We know their intentions, and so we can represent them well. We're in actual relationship with them. We give agency to their desire to question assumptions, to put money to work as directly as possible. We try to be a thin layer of intermediation that helps people deeply align their money with their core values. We are not conventional investment advisors who have all sorts of institutional constraints and who are typically not interested in questioning the core assumptions of modern portfolio theory.

Q: The core assumptions of modern portfolio theory?

Actually, I sometimes avoid the phrase "modern portfolio theory." Financial jargon is part of the problem. People get buried in a blizzard of financial terms that obfuscates—makes opaque—what is going on, furthers the paradigm of, "We'll just take care of you. Here are the reports—full of jargon and charts and analytics that are virtually meaningless to you."

Q: You're making me think of a recent impact investing report from a major investment bank. It covers billions of dollars of impact investing, has all manner of survey data from institutional investors about their social and environmental concerns, about the allocation of capital and return objectives and metrics, but does not mention a single individual transaction. It is all about large, aggregated pools of capital, sliced and diced analytically in various ways. But you can't tell where the money is going in terms of specific investments.

That's why at RSF we do not think of trying to be a leader in the impact-investment industry. The impact-investing industry is mimicking the structure and presentation of institutional finance—the culture of Wall Street. So, what we do, to counter this, is to bring investors and social enterprises as close together as possible. When this is accomplished, investors and entrepreneurs can experience a visceral sense of how we are all connected. When you experience where your money is going and, as an entrepreneur, where your money is coming from, we find that, pretty much every time, it nurtures a spirit of generosity.

Q: That reminds me of the words of a woman from Ashland, Oregon, who said, a few years ago, after a half-day public Slow Money discussion, "The innate value of this kind of investing is so obvious to me that I don't care how much money I make." Innate value—a truly beautiful way of expressing it, since the word *innate* has connotations of the natural and the intuitive. This is a way of getting at the visceral sense of connection that you are talking about. It happens when people are in direct relationship to one another and the soil and to the places where they live. And, being

the devotee of Wendell Berry that I know you to be, this is where we should throw in the word *affection*.

Yes, affection. There isn't much of it when the workout team of a bank gets down to business, getting whatever financial value they can out of a troubled loan. RSF doesn't have a workout team. We have a work-*through* team. We can be more patient, more flexible, and can work toward an effective resolution in situations where commercial banks just cannot. Is this generosity? Or *affection*? Is it simply a matter of working at a smaller, more-human scale? These are all great ways to think about what we are doing.

A mission-driven distributor of local foods to the Mid-Atlantic region, Common Market has grown rapidly through integrated capital financing from RSF. Featured are cofounders Haile Johnston and Tatiana Garcia-Granados.

Q: We're finding the same to be true in the Slow Money investment club in Boulder. There is strong consensus among our few dozen members that, although we don't use the words "affection" or "generosity," we are using that spirit to evaluate our success. Success for this group is not a particular rate of financial return. It is the enhanced impact on the local food system of the small food enterprises to whom we have made loans.

This is our primary concern. I've started using the term "return agnostic" to describe this mentality. As we become more grounded in terms of our shared mission, and as relationships strengthen, we become more agnostic about the arithmetic.

If you want to talk about arithmetic, let's talk about LIBOR—the London Interbank Offered Rate. Trillions of dollars a day globally are pegged to LIBOR, a rate which has been shown many times to be rigged for the benefit of the big banks. At RSF, we don't use LIBOR. LIBOR is part of the black box of the banking system. No one knows where the money in a big bank goes. It could go to hedge funds. It could go toward community investments. You don't really know.

So, we use *Community Pricing Meetings* as part of an entirely different approach. We bring together the investors in our $100-million loan fund, the entrepreneurs who are our borrowers, and RSF staff, and we talk about each others' needs. Some investors focus on reducing risk. Some want only a little bit of financial return. Some care only about the depth and potency of social and environmental impact and want to support the modeling being done by social enterprises. You'd think the entrepreneurs would care about nothing more than paying as little as possible. Yet at every meeting, some of the investors are inspired to say to some of the entrepreneurs, "I'd be willing to take less, if it will help you be more successful." Then some of the entrepreneurs say, "We'd be willing to pay a little more if it will enable you to help other entrepreneurs." This experience of interdependence changes the arithmetic.

Q: Perla Ni, who used to be editor of the *Stanford Social Innovation Review*, named that tune in three words: "Numbers suppress empathy."

There's a lot of truth to that. If you are so busy doing the numbers, you don't have time for empathy. I'm constantly surprised by how often I get asked, "Am I *allowed* to have a portion of my assets invested in deep social and environmental assets and either just get my money back or have a small financial return?" It's fascinating that so many people ask if this is "allowed." And the frequency of this question, whether from folks of significant means or not, is increasing dramatically—it's ten times what it was five years ago.

Q: We're all trying to get permission from the "Big Fiduciary in the Sky."

This is why I like your mantra about "bringing our money back down to earth." It's about giving ourselves permission. Investing in food and farming brings a lot of this to the forefront.

Q: Can you share an example of one of your recent investments in food?

A recent example is a multipronged loan/investment/grant to Veritable Vegetable, the oldest local organic distributor in northern California. They ran out of warehouse space and needed a new building, but San Francisco real estate is extremely challenging. We split the mortgage loan on the new building with New Resource Bank—a $3.2 million loan, split 50/50. Then we financed leaseholder improvements for them with $800,000 of subordinated debt, half of which came from a philanthropic fund at RSF and half from five RSF investors who participated alongside the fund. On top of that, they got a grant from the USDA, but needed a lead gift to catalyze this. RSF put in $30,000; then USDA came in with a $100,000 grant. So, that's an example of what we are doing in the food sector. We're taking an integrated capital approach, working to break down the compartmentalization of transactions.

Q: Say more about what you mean by "integrated capital."

Integrated capital is the coordinated use of different kinds of financial capital and nonfinancial resources to support an enterprise that's working to solve complex social and environmental problems. We're talking about *direct* investments, loans, grants, etc. What we find constantly is that this is very nuanced work—to figure out how to provide the right combination of funding at the right time. Often the entrepreneurs need quite a bit of counsel. It's a deep listening process.

So we're launching an Integrated Capital Academy in the fall of 2017 to train the next generation of integrated capital specialists. Basically, there is a big need right now for hundreds of finance professionals who have what I call "the whole enchilada": technical knowledge of direct investing/

The Veritable Vegetable team. Front row, left to right: Gerilyn Botting, CFO; Bu Nygrens, purchasing manager; Mary Jane Evans, CEO; Chris Adams (holding Scamper the dog), transportation manager; and Nicole Mason, marketing communications manager. Back row left to right: Laura Parker, assistant transportation manager; Nanette Viellieu, human resources manager; Peggy da Silva, former education and training manager; Tom Howard, transportation systems manager; and Shira Tannor, CAO.

lending/giving, a fundamental disposition for listening, a spirit of service, and the impulse to go beyond "impact" transactions to relationships.

Kate Danaher, who is our lead manager for integrated-capital deployment in food and agriculture, has it. Esther Park, who led our lending team for years, has it. Esther is CEO of Cienega Capital now, one of the most innovative family offices in our field. We want to create a peer-learning experience for about 20 people initially. I can't wait to see how it goes.

Q: It's interesting that you are introducing a new curriculum and calling it integrated capital, because Slow Money is introducing something new as well. We're calling ours a Decelerator. You know, venture capital has accelerators and pitch fests; nurture capital needs decelerators and harvest fests. We've done all kinds of meetings around the country and the Decelerator is a next iteration. We hosted our first one in October in Colorado. The challenge in all of this is balancing the need to develop a new kind of financial intermediation—I did say you were the least fiduciary

fiduciary I know, didn't I?—that gets more money flowing from the wealthy and also empowers and engages small investors. I love the prospect of many more Esther's working with many more Cienega Capitals. And I love the idea of hundreds of thousands of small investors and crowd-funders connecting to do lots of small investments through a network of CSA-like local investment initiatives.

A: Sounds like a plan.

Zoë Bradbury

Zoë grew up on the southern Oregon coast, birthing lambs in the spring, watching salmon spawn in the fall, and canning plums and tomatoes all summer. After Stanford University and a stint in the nonprofit world, she returned. Since 2008, she has run a diversified fresh-market farm on land shared with her mother and sister. Zoë cultivates a couple hundred varieties of vegetable, berry, fruit, herb, and flower crops for 115 CSA shares, supplies local restaurants, grocery stores, and food banks, and runs a farm stand and u-pick. She cultivates with horse power whenever possible. She has a master's degree in Community Change and Food Systems, is a Kellogg Food and Society Policy Fellow, and coedited Greenhorns: 50 Dispatches from the New Farmers' Movement.

Q: In my day, we had a word: *countercultural*. You don't hear it any more. Do you think that applies to what you are doing? Is a small organic farm—using horsepower when you can—countercultural?

I suppose so, if you define culture as "mainstream American farming."

Q: What do you mean by "mainstream American farming"?

Big equipment, monocrops, glyphosate, commodity markets. If that's *culture*—if that's where most American calories come from—then we are countercultural.

Q: Funny, the way you said it: "if that's where most of the calories come from—" That's quite a quantitative definition of culture, isn't it?

I guess it is. All the mainstream calories are subsidized. What would the food on our plates look like if the government subsidized what we small, organic farmers are growing instead? If energy, corn, and soy weren't subsidized? I'm not saying I wish we were subsidized—and the good news is I don't need a government subsidy in order to make a living. I'm grateful for that.

Q: One person's making a living is another person's—*what*? Countercultural adventure?

Coming home to start up a small-farm business has been quite an adventure. Most days you depend on natural forces beyond your control to make your living. The money part has definitely been a wild ride, particularly in the beginning. The financial stress of farming doesn't ever go away completely. We have good years, and we have bad years. We have business growth spurts that require elusive capital, and we routinely weather unforeseen, expensive disasters: storms, floods, droughts, barn fires, broken tie-rods, runaway horses, diesel thieves, global economic meltdowns, cucumber beetle infestations, hungry deer, and the neighbor's bloodthirsty dog. Sometimes things knock us flat, but they don't leave us completely broke or broken.

Q: What does making a living mean to you in terms of money?

I value lifestyle more than money, but I care that the farm is profitable for the sake of paying a living wage to our crew, for the sake of succeeding as a small business, for the sake of being able to afford a few weeks of vacation each winter. It's a fun challenge, particularly in an out-of-the-way rural place like ours. This isn't Portland or San Francisco in terms of having millions of potential mouths to feed who want to eat from local farms.

We're on the southern Oregon coast, up Floras Creek a few miles from Langlois, a town of a few hundred. The nearest markets are a string of small coastal towns north and south of us from Gold Beach to Coos Bay. There are lots of cranberries grown for the commodity market in our area. There's livestock, cattle, sheep, hay, pastured chickens, and eggs in the region—not much veggie production. We sell to a handful of grocery stores and food co-ops. We also have some wonderful long-term relationships with restaurants.

My sister, mom, and I run four businesses: we each have a farm business, and then everyone markets under the fourth business, which is Valley Flora—our distribution entity and brand. My farm entity supports me, one full-time employee, and a few part-time employees. My husband has an off-farm job. We have 115 members in our CSA. On a summer day, we have about 70 customers show up at the farm stand.

We grow five acres of diversified vegetables and have a few acres of orchard—we are in the process of developing another nine acres across the road in order to improve our crop rotation, grow more of our own fertility, and keep a third of the farm in the year-round cover crop.

Our sales are half CSA, with the other half split 60/40 between sales to restaurants and our farm stand. It all adds up to around $200,000 a year in sales, with my farm making up 68 percent of that. The rest is from my mom's and sister's operations.

Q: When you graduated from Stanford, did you know you were going to end up back on your family farm?

Not at all. I launched out of school to save the world via nonprofit work. I did a stint in Minneapolis at the Institute for Agriculture and Trade Policy. Then I went to the Bay Area and worked for ALBA (the Agriculture and Land-Based Training Association) and the Center for Urban Education about Sustainable Agriculture, which was then spearheading the development of the Ferry Building. Years later, I went back to see the place.

The San Francisco Ferry Building

Q: And what did you think?

My first question was: “Wow! How was this financed?” My opinion of the Ferry Building would be heavily influenced by knowing how it was financed. Public dollars? Private investment? I’m not sure public dollars should go to such a high-end commercial venue. Even at my level—and I consider myself middle class—I have to keep my hand on my wallet when I’m there. I chew my cud a lot about the whole elite charge and the organic food movement. The Ferry Building is beautiful and there’s certainly a public awareness component, but I’m not quite sure what to make of it in terms of the balance of elitism and greater access to good food.

Public funds shouldn’t exacerbate wealth disparity. There’s already too much of it. But the Ferry Building is a very beautiful public space. Lots to marvel at. One shop had a basket of five violetto artichokes for $9 a pound on a chic display shelf. That didn’t quite seem

Violetto artichokes

like a real food-buying experience. Actually, I get more excited by putting together a CSA box.

Q: When I'm in the Ferry Building—and I have to say that two of my favorite restaurants in the world are there: Hog Island Oyster Co. and Boulettes Larder—I cannot help but think that we, the many tens of millions of Americans who own stock, and also the much narrower we, the one percent who own a wildly disproportionate amount of that stock, we like to wander through the food bazaar consuming or just ogling the most expensive olive oil and wine and artisan cheese, while at the same time our investments are streaming to sweatshops in Bangladesh and smokestacks in China.

For me, that tension became apparent when I found myself working 60 hours a week at a nonprofit to change the world, but the 401(k) options that were offered to me were all traditional, all about getting the most bang for my retirement buck. Isn't this tragically hypocritical? Investing in the very things we are fighting to change.

What perfect job security! Feed the root of the problems that you spend all of your working days trying to fix.

I was dumbstruck. I couldn't invest. I decided I was unwilling to buy into the conventional stock market, even if it means having no retirement and being a destitute old geezer someday. I just can't compromise my values for the sake of personal gain. It's an ethical thing for me.

Q: How do you feel about elitism when you are at home on your farm?

The same issues permeate my thinking. A handful of our CSA members pay with food stamps, and we take WIC (Women, Infants, and Children Nutrition Program subsidies) at our farm stand. Of our members, 70 percent pay in full at the beginning of the season—$800 for 28 weeks. The other 30 percent pay on a monthly pay plan. When I go to the grocery store, I'm struck by how expensive comparable food to ours is in the store. We sell a head of lettuce for $2.50 at our farm stand, but it's the size of a beach ball. In the store, for $2.99, there's a much smaller head of lettuce that is tired, wilted, conventionally grown and you have no idea where it came from. So that makes me less self-conscious about our prices. It makes me feel like we are providing a great value. I also have to remind myself that it is not only the farmer's job to make food affordable, but also to be a careful steward who produces high-quality calories as efficiently as possible.

Access to food is also a conversation about living wage, overlooked expensive externalities, and government policy that for decades has favored and subsidized big and corporate. I would love to know how much a bag of Fritos or a McDonald's burger and fries would really cost if you took away corn and soy subsidies; if you paid everyone who helped produce, process, and serve it a living wage; and if you were paying for the environmental and health externalities of conventional agriculture: dead zones in the Gulf of Mexico, obesity and diabetes epidemics, antibiotic resistance, loss of biodiversity, etc., etc.

I read a study that said the true cost of a Big Mac is $12, not $4.50, if you factor in all the environmental, health, and subsidy externalities. That means we're all out seven bucks every time McDonald's sells a burger. Not to pick on Mickey D's too much, but I can get a local, grass-fed burger with organic greens on organic bread for $10 here in Langlois at our greasy spoon. Whoever labeled the organic/sustainable food movement as elitist was conveniently not looking at the whole price tag of conventional food. Unfortunately, despite these facts, the label has stuck.

And there was nothing elitist about the way we funded ourselves at the start.

I saved, I penny-pinched, I scrapped and scavenged in anticipation of the cash outlay it would take to get the farm off the ground. Nevertheless, come April, I had spent everything, and my first hope of income was still two months out, growing slowly through a cold, wet spring. I had hoped to qualify for a USDA Beginning Farmer Loan, a federal program that until then had stirred up feelings of pride and patriotism in me. What a great government to earmark funding specifically to support young farmers! But when I told the loan officer that I needed the money to pay for a buried irrigation mainline on the family land I was row-cropping, he shook his head unapologetically. "Sorry, no money for permanent improvements on leased land." No matter that it was family land that I intended to lease for a lifetime, and maybe someday own. Never mind that I was the very demographic they were purporting to serve: a young, limited-resource female who was just starting out. It was a bitter pill, getting a USDA slap-down in my very first season.

I resorted to a 12-month, zero-percent credit card to finance my first year of farming—the scariest, most out-on-a-limb financial risk I'd ever taken. Thanks be to a good growing season, I was able to pull myself out of credit-card debt before the 18.9-percent interest rate kicked in. Then, we started our CSA and that became my bank.

No, despite my concerns about elitism, my passion for farming and for the movement is alive and well.

Q: The movement?

Regenerative agriculture—leaving things better than we found them. All those years in college were in the context of something called "sustainability." But sustainability is not adequate, given the challenges of climate change. So, I keep taking the farm more aggressively toward less till, year-round cover crops, thinking about what we can do to nurture the soil for the really long haul. That's what the new nine acres we're expanding to are all about. Growing more of our own fertility. Feels like we are still on the very tip of farming as well as we might. There's still so much more to do if we are going to make a real difference.

REPORTS FROM THE FIELD

The boundaries between transactions and relationships are rich with possibility. Each person brings money down to earth in their own way. Marco Vangelisti (Berkeley, California) shares his journey from conventional finance to Slow Money. Linda Best (Wolfville, Nova Scotia) affords us a glimpse of the progress at FarmWorks. Eric Becker (Norwich, Vermont) traces the growth of investments in sustainable agriculture at Clean Yield. Suzan Erem (Iowa City, Iowa) gives an example from the portfolio of Iowa Pollinators Investment Club. Jarred Maxwell (Austin, Texas) assesses the trajectory of Austin Foodshed Investors. Martin Ping (Ghent, New York) describes farmland preservation efforts around Hawthorne Valley.

A Refugee from Conventional Finance

BY MARCO VANGELISTI

I am a refugee from conventional finance.

It all started in the most innocent and promising way: a graduate student in math and economics at the University of California in Berkeley lands a job with a think tank spearheading the quant wave in the 1980s—when everyone was turning to quantitative analysis as a way to determine the best places to invest. We were applying mathematical models, statistical techniques, and state-of-the-art computers (imagine a computer the size of a large refrigerator with the brain of your iPod Nano) to the field of investing, which at the time was the purview of fundamental analysts and stock pickers. (Just for reference, at that time our office had no email and no Internet!)

It was thrilling to find what I thought to be real-life applications for the many years of theoretical math that had been the staple of my education.

Fast-forward 30 years: that graduate student was now part of a team managing $20 billion in emerging markets equity at a very well-respected investment management firm. It was a glamorous job. I had smart colleagues and influential clients around the world. We were also doing great—we were managing the best-performing emerging markets equity fund with a ten-year track record, and our clients loved us.

The only glitch was my curiosity about how our quantitatively constructed, 300-company portfolio achieved such amazing performance. (You must know that I have always been a passionate and committed environmentalist. I never applied for a job that required me to commute, and I currently do not own a car. I am also passionate about social justice.)

When I looked at some of the best-performing stocks in the portfolio that year, I found a Maylasian palm oil company that had destroyed tens of thousands of acres of original rain forest in Borneo to plant a monocrop of palm oil trees. In the process, it had also eliminated massive swaths of orangutan habitat. I was then amazed to learn that part of this company's stock performance was predicated on obtaining carbon credits for planting trees!

Ironically, most of our clients were foundations and endowments. Some of the best-known environmental foundations and nonprofits had invested in our fund and celebrated our strong performance. I had even donated to

Palm oil plantation

one of them for their work protecting orangutan habitat. Yet, the capital of this very environmental organization was invested in activities directly contrary to its mission.

That was when the cognitive dissonance between my personal values and my livelihood became too great to ignore. So in early 2009, when the economy was tanking and the stock market was in a nosedive, I quit my glamorous job. It was not an easy decision to make, but I felt I had no other choice.

Through my experiences, I have come to believe the intermediation of global finance is at the very core of the many environmental and social problems our world faces today. We live in a global economy driven by global financial capital, which is for the most part managed by fiduciaries legally bound to strictly confine their attention to financial risk and return considerations and nothing more. All the non-financial impacts of an investment—what an economist calls "externalities," such as the destruction of the rain forest, the pollution of rivers, and the displacement of communities—cannot be considered. Through this intermediated arrangement, we render these externalities invisible to the owners of capital. As a result, the vast majority of us are all collectively unaware of what our investments are really doing out there in the world.

The Economics of Ecosystems and Biodiversity, a UN initiative focused on "making nature's values visible," published an important study in April 2013 called "Natural Capital at Risk: The Top 100 Externalities of Business." It was a result of a massive global, 15-year study that measured—in dollar terms—the value of the natural capital we use for free—air, water, land—as well as the cost of polluting them. The results of the study are staggering. Our global economic activity in 2009 alone caused a loss of unpriced natural capital of $7.3 trillion, more than 10 percent of global GDP (the total output of goods and services produced worldwide that year), which was about $62 trillion for the same period. In other words, we have been using natural capital to subsidize economic activity, as well as financial returns on global investment capital. We have been treating nature as a business in liquidation!

I came to realize that through my traditional investments I was involved in a massive intergenerational injustice. The financial returns I relied upon to provide for my comfortable retirement came at the expense of future generations, since a large part of those returns were predicated on extractive activities that diminished the natural capital future generations will need to survive.

And thus, as I said, I left my rather cushy job.

A couple of years later, I realized that I had to overcome my concerns about the increased risk of giving up broad diversification in my investment portfolio and the potential loss of investment return. I divested from all international investments, all large capitalization stocks, and all mutual funds. Basically, I sold all investments for which I did not have a complete understanding of their ultimate impact on communities and ecosystems. Then I shifted to mostly local investments.

Over the past six years, I have invested in many local food enterprises. The process has called for a significant investment of time as well as money, since direct investing requires taking a close look at each business or project and, at times, advising the entrepreneur receiving funding. (Yes, local investing can be risky.) Over that time, I've experienced investment losses in two areas: pre-revenue start-ups and direct personal loans to entrepreneurs whose character I did not know well enough. But at the same time, local investing is greatly rewarding. Seeing local businesses thrive and knowing your investment had a part in their success is wonderfully gratifying. People's Community Market is one example.

Local investments are also investments for the long haul, since there is no developed secondary market to provide liquidity (the ability to sell the investment to someone else for cash). Risk, liquidity, a steep learning curve,

People's Community Market will be the first full-service grocery store in West Oakland's underserved food desert.

and time commitment are the primary challenges in realigning our values with our investments. Yet I consider such realignment to be the moral imperative of our time. This is our responsibility toward future generations.

This year I started offering daylong workshops on local investing in California, Oregon, Washington, DC, and Vermont. The starting point in these workshops is the realization that money and investment capital are constructs, and that the safety promised by global investing is illusory. The next step is building our own personal investment compasses, clarifying the issues we care about.

Local investing requires reframing the very concept of investing to include the non-financial aspects of our lives. If we are blessed not to be trapped in the positional game that keeps the wealthy from ever experiencing "enough," we can recognize that the money we save and invest will eventually be converted into life experiences. From a financial standpoint, spending our money is equivalent to a -100 percent investment return. In other words, if money is at our service rather than the other way around, we will eventually experience a -100 percent financial return on our investment capital as we spend it to support and enrich our lives.

Local investing is a way of buying a better future for ourselves and our community and should be framed as a spending decision—it is like buying "livable future" insurance. The question is, then, "What percentage of our portfolios is prudent to devote to such spending decisions right now?" The type of "due diligence" we engage in needs to be expanded. Traditional due diligence, with its exhaustive lists of things to check, only engages our minds. Yet if we want to bring about a better future through our investing, we also need to engage our hearts and our values, and this is best done with local investments.

Through my Slow Money activities in Northern California and the half-dozen workshops I've run so far, I have been privileged to get to know a wonderful group of souls who are striving to take responsibility for their agency in the world, as expressed through their investments. Slowly, together, we are making a difference for the future of our communities and our planet.

Marco Vangelisti has been a coleader of Slow Money Northern California for seven years. In that capacity, he has helped host dozens of local meetings and several larger regional gatherings, including three Food Funded events, which featured dozens of food entrepreneurs. Since 2010, Slow Money Northern California has facilitated the flow of $4 million to more than 20 local food enterprises.

The Port Grocer Café and Art Space

A how-to manual for growing a community. Small investment, big deal.

BY LINDA BEST

In the small township of Port Medway on Nova Scotia's South Shore, Annabelle Singleton and Debra Melanson, their husbands, and their staff have made The Port Grocer into the heart of the community.

Port Medway was settled around 1760 by fishermen who helped develop this area into a thriving shipping community. Cargoes of salted and dried fish were shipped to the United States, the Caribbean, and South America. Lumber from the sawmills of Greenfield, Charleston, and Mill Village were loaded on ships and sailed to foreign ports.

Although it's still a working port, as is the way of many villages, population decreased over time and elements essential to vibrant community expired.

But that sense of community has been revived in this beautiful seaside village. The 200 full-time and 100 summer residents support a writers' festival, art shows, history exhibits, and restoration of the 1832 "meeting house" and a cemetery dating back to the late 1700s.

So there was fertile ground for Annabelle and Deb to envision turning the general store and post office—which had long been for sale—into a space for the whole community.

They have accomplished this by providing healthy, wholesome, mostly local food; providing a venue for art, music, and culture; being a fair and equitable employer of six to eight local residents; supporting other local, small businesses; creating an inviting outdoor space through edible and native landscaping; providing community space for continuing education and wellness; and, most importantly, being the most welcoming, friendly, kind people you could imagine!

Annabelle's passions include rural community development, environmental protection, and healthy food. Her background as an environmental consultant has enhanced her appreciation for rural living and the value that an entrepreneurial spirit brings to healthy, economically sustainable communities. With more than 23 years of restaurant kitchen experience,

Deb has turned her passion for cooking and baking into The Port Grocer's great-quality food, all prepared from scratch.

But, it almost didn't happen. With a little bit of their own capital, they met with every lender they could find and heard nothing but "no." Then they were intrigued to discover that FarmWorks "Gentle Dragons" wanted to hear from farmers and food businesspeople.

FarmWorks Investment Co-operative Limited is a Community Economic Development Investment Fund that in four years has raised $1.4 million from 314 investors and made loans to 56 businesses across Nova Scotia to increase the availability of healthy food. As loans are repaid, the capital is available for new loans. Shareholders receive 35-, 20-, and 10-percent provincial tax credits for five, ten, and 15-year investments. The volunteer directors administer the investments and the loan portfolio, and provide mentoring and other support to clients.

Annabelle and Debra came and discovered that these "Dragons" were lending Nova Scotian shareholders' money to support food-related community economic development across the province. Just one month later, after many conversations and visits, all FarmWorks due diligence was done and The Port Grocer received a check.

The next chapters are being written. Friday Night Port Jam sessions bring people from near and far to enjoy dinner together and listen to wonderful music—and the musicians include the owners! Brunches bring locals together with tourists who learn about the good things growing in this

A Friday Night Port Jam session

community—including things right behind The Port Grocer. A garden for everyone—not to mention the vineyard—is attracting people outside, then inside to enjoy food grown 50 feet from the kitchen.

The Port Grocer is meeting the need for acceptance and companionship in this community, and in Anabelle's words, "Part of our job at The Port Grocer is not just to be there to take cash across the counter, but to pick up the phone and spend an extra couple of minutes talking to people who may be home alone." Every day, volunteers come to ask what they need help with, including bartending on pub nights, cutting the grass, and now building a three-season deck onto the building to expand their seating.

The Port Grocer has to grow to accommodate the increasing numbers of people attracted to the warmth of the owners, the quality of the food, the music, and the art. The vision of "a healthy, sustainable community centered around food, music, art, and education" has become reality.

Across Nova Scotia, more than 100 jobs are directly or indirectly linked to FarmWorks loans, and research is underway to more clearly define outcomes to date. The successes of The Port Grocer and the other businesses supported by $5,000 to $25,000 FarmWorks loans demonstrate that small investments, done right, can be a very big deal.

Linda Best grew up on a farm in the Annapolis Valley of Nova Scotia, graduated from Acadia University, and has been involved with the Queen Elizabeth II hospital in Halifax as a medical microbiologist, gastroenterology researcher, author and presenter, and director of the Capital District Health Authority. She operated an apple orchard on weekends while working at the hospital and founded Frame Plus Art, which grew to three stores, a production facility, and ten employees. Awareness of food-related health issues led to research into potential solutions for the decreasing production of food in Nova Scotia. She helped establish Friends of Agriculture Nova Scotia and is a founding director of FarmWorks Investment Co-operative.

A Slow Money Journey

BY ERIC BECKER

The idea was simple at the beginning, back in 2006: find a fund in which my clients could invest their money that would finance farms and businesses involved in sustainable agriculture. I quickly discovered that no such thing existed. Instead, the inquiry set me off on a rewarding decade-long journey of learning, collaboration, and co-creation.

I have served as a portfolio manager for high-net-worth individuals and families for almost 20 years. All of our clients at Clean Yield aim to align their money with their values, and for many that means finding ways to invest in their local communities and regional economies, especially in the food and agriculture sector. Ten years ago, just about the only vehicles for doing so were preferred shares in the Organic Valley and Equal Exchange cooperatives. They were a great start, but we were looking for more options, in particular something structured like the already popular community loan funds that support a range of economic-development activities around the globe. My search led me to Woody Tasch, who I already knew from Investors' Circle.

Woody was busily brewing up the ideas that would eventually become Slow Money, but we came to the issue from different investment perspectives. My clients and I were familiar and comfortable with lending money through relatively safe and predictable community loan funds, but had little experience with angel or venture-capital investing, the part of the world in which Woody had been operating. Putting our clients' assets in illiquid investments in individual farms and small food enterprises was more risk than was appropriate for most of my clients at the time.

There were also myriad administrative challenges around these potential investments: how to value them on client statements, whether to charge for our services, and how to custody the assets (our standard custodian, Charles Schwab, was reluctant to hold them). So my energy went into helping develop the organizations laying the groundwork for a more robust financing landscape for these types of businesses.

Woody invited me to participate in the gatherings that helped craft Slow Money, and Dorothy Suput asked me to join the board of the nascent

Carrot Project, which aimed to address financing gaps for farmers in the northeast. The discussions that took place in both organizations deepened my understanding of the challenges to rebuilding healthy local and regional food systems, as well as the role that access to capital can play in catalyzing that process.

The Carrot Project developed relationships with existing community investment institutions in New England and launched specialized funds focused on small loans to farmers. This gave us an appealing investment option for some of our clients to begin directing capital into local and regional agriculture in a relatively low-risk way.

But it was the push we got from a handful of our clients who are deeply committed to sustainable agriculture that accelerated the flow of capital into this space. They had the risk tolerance and inclination to take the lead. So we started in late 2007 in our own backyard with an investment in High Mowing Organic Seeds, a Vermont-based company that needed capital to meet soaring demand.

High Mowing Organic Seeds staff harvesting garlic.

At the time, I was at Trillium Asset Management, but through my research on High Mowing, I got to know Clean Yield founder Rian Fried, who was the one conducting due diligence on the deal. I eventually joined Rian at Clean Yield in 2009, in large part so that I could spend more of my time working on Slow Money opportunities. The move allowed me to cofound Slow Money Boston and, later, Slow Money Vermont.

Meanwhile, as the Slow Money movement emerged and its networks launched in Boston, Maine, the Pioneer Valley, and eventually Vermont, the pipeline of investment opportunities in food and agriculture businesses significantly increased. The establishment of the Vermont Sustainable Jobs Fund's Flexible Capital Fund in 2010 played a key role in allowing more of our clients to participate, by offering a professionally managed, diversified investment vehicle focused on agriculture and clean energy. This was a dream come true for Rian and me, and I can't thank Janice St. Onge enough for her imagination, leadership, and persistence in creating and managing that fund.

By 2011, having had a positive experience with High Mowing Organic Seeds and having become more comfortable going beyond straight lending, we were ready to ramp up our direct investments in food and agriculture businesses—and we had clients who were more than ready to take the plunge. In particular, the Lydia B. Stokes Foundation set ambitious goals for the percentage of its endowment to be allocated to impact investments in sustainable agriculture. Happily, our home state of Vermont was fertile ground for these types of investment opportunities. Vermont Smoke & Cure, Vermont Natural Coatings, the Northeast Kingdom Tasting Center, and Ayers Brook Goat Dairy all raised capital between 2011 and 2013 with our clients' participation.

Although investing in private companies is inherently different than investing in the stock or bond market, we applied the same rigorous analysis to these offerings. Given that we were sticking our necks out in considering these investments at all, we wanted to have a high degree of confidence that these businesses would succeed and be able to pay back their investors. As fiduciaries, it was also essential that we ensure that each investment we made was suitable for each client's financial objectives and risk profile. This entailed increased communication with clients and increased administrative costs on top of the time being put into researching

Ayers Brook Goat Dairy

the prospective investments. However, we weren't earning any additional revenues from these activities.

It was clear that this would not be a profitable line of business for Clean Yield, but there was never a question as to whether or not to do it. Our clients were enthused by the opportunity we had given them to go beyond having a "clean" portfolio of stocks and bonds to having holdings in their portfolios that reflected their deeply held vision of a truly sustainable local/regional economy and food system. Once they had a taste of it, they clamored for more. The feeling was mutual. We took great satisfaction in the service we were providing, both to our clients and to the local economy. We accepted that this would lower our profit margins somewhat, but we also found that our leadership in this arena started to bring us new clients.

Rian's untimely death in 2013 was a critical moment for us. He had been a pioneer not just in Slow Money investing, but in the broader realm of socially-responsible investing. In attempting to honor his legacy, we settled on hiring two people instead of one. The first would focus primarily on impact investing. Karin Chamberlain filled the role that fall and brought additional concentration and structure to our impact program, catalyzing even more activity. In the three years since she came on board, our impact

Addie Rose Holland, worker-owner and cofounder of Real Pickles

investments have soared from about $5 million to nearly $15 million in 25 different vehicles for more than 50 clients. The Stokes Foundation has continued to push us to bring them new opportunities and has ratcheted their allocation to impact investments to nearly 50 percent of their portfolio. Not all of that is in food and agriculture, but we have continued to find new companies and funds to invest in, including Real Pickles, Iroquois Valley Farms, Root Capital, and Fresh Source Capital.

With more than five years of very active Slow Money investment behind us now, we're beginning to see meaningful financial returns. Our first investments have matured or been renewed or extended. Our clients continue to receive regular interest payments from those investments where it was expected. We've even had one unexpected "home run" where a private-equity firm took a majority stake in a company, resulting in a quadrupling of our clients' investment value.

While we fully expect that the reverse will be true as well—that despite our due diligence some of our investments will lose money—the early results are encouraging, especially given the ultra-low interest rates available from conventional investments.

The social and environmental returns remain hard to measure, but are undeniable. Our clients' commitment to financing the food system makes capital more accessible—and often cheaper—for the companies that are building a more just and sustainable food system.

We recognize that in the context of the global food system, it's barely a drop in the bucket and that the playing field remains tilted in favor of industrial, petroleum-drenched agriculture, but we also know that our efforts are making a difference in our region and hope that our example will inspire others.

Eric Becker is chief investment officer at Clean Yield Asset Management. He has been engaged in social and environmental investing since 1993. Eric cofounded Slow Money Boston and Slow Money Vermont, as well as the Vermont Food Investors Network. He is a founding board member of Soil4Climate. Eric serves as a trustee of Sterling College in Craftsbury Common, Vermont. He was also a founding board member of The Carrot Project.

Breaking New Ground in Iowa

BY MEMBERS OF IOWA POLLINATORS

We had a lot of good intentions and excitement about adding local finance to our local food movement when we launched Iowa's first Slow Money investment club two years ago. First, we studied other Slow Money clubs. Then we borrowed the operating agreement from Maine's No Small Potatoes, and a member of our group got it in compliance with Iowa law. It took a few months to find a dozen people in the Iowa City area with $5,000 to invest—*ones who were actually willing to risk it to the cause of living our values!*

When we got together the first time, we joked that it felt a little like forming a club when we were kids. We named ourselves "Iowa Pollinators LLC." We decided on terms—$5,000 to $10,000 loans that would be loaned at three to five percent over three to five years. We printed business cards and fliers. We built a webpage, handed out cards at farmers' markets, posted to list servers, and announced ourselves at community events. We even got an article in a couple of local magazines.

We hung out our proverbial shingle. No one came.

A year into it, we were feeling pretty dejected. "Well, they call it 'slow' for a reason," one member joked. We had made one loan, to Cesar Garrido, who wanted to turn his taco-truck business into a burrito restaurant.

He was from a community 40 miles away that most of us seldom visited. In general, we found farmers were reticent to go into debt, retailers didn't understand us, our application was intimidating, and no one wanted to bother with our process for such small amounts of money at five percent.

When I communicated this to Slow Money Institute staff, I learned about the master class coming up at the next national gathering. The club sent my husband, Paul, and me to pick up some tips. We sat next to more-experienced Slow Money types. We showed up early to chat over coffee. We grabbed lunch with people. We listened. (Thank you, Slow Money community!)

Then we brought their ideas back to Iowa. First, we identified our members' goals. About a third of us needed to see a profit, another third could tolerate breaking even, and the remaining third didn't care if they came out ahead or not. So we lowered our interest rate to three percent, raised our loan amount to $20,000, and created a simple "pre-application"

James Nisly, Organic Greens LLC

form. We sent letters to every producer in the food co-op, too. Then we sought out farmer James Nisly, an unassuming man who grows micro-greens, keeps an immaculate farm, and sells to the co-op, the regional grocery chain, and more. He refinanced a walk-in cooler and saved himself some money. He became the face of a Pollinators' borrower.

We started getting more queries, and by early this year, we had all of our funds invested in a kombucha business, a French chef, and a local café.

Soon we'll be ready to lend again. We're hoping the folks we want to support will show up a little sooner this time!

Iowa Pollinators is a group of 13 eastern Iowa residents who came together in 2014 to form Iowa's first Slow Money Investment Club. They invite other Iowans to borrow their operating agreement posted online at iowapollinators.com and start a club in their community.

The Right Shirt

BY JARRED MAXWELL

One of the most difficult things I've experienced about working within the Slow Money community is the uncertainty that comes with trying to move in a fundamentally new direction. We are moving away from decades of centralizing, governmental, regulatory, and social institutionalization toward local investing in local food systems and a more hands-on and direct form of financing such ventures. It's a bit unnerving, because there are no road maps for what we are doing—we have to create them as we go.

Sometimes, I wonder if this is what it felt like for folks working at NASA in the '60s. They wanted to get to the moon, but no one had ever done anything like it before. There was no well-defined path, just lots of very smart people, a strong vision, and gobs of optimism and passion.

I see Slow Money in a similar light—except working in the opposite direction, of course, *toward the earth*, the soil, and in a highly decentralized, low-tech way. However, I think what we are up to, collectively, is just as important as getting to the moon, if not more so. We are confronting problems of soil degradation, erosion of community, lack of sense of place, high-frequency trading, the decline of small-scale agriculture, and all the related cultural and economic impacts of these detachments. I feel lucky to be playing a small part in this important social experiment.

I have immensely enjoyed my time as the local Slow Money leader here in Texas. I am excited when we try something new. I keep learning. I draw from what others are doing around the country—what has worked for them and what hasn't. As my Austin Foodshed Investors cofounder, Curt Nelson, once said, "We're just trying on new shirts until we find one that fits. Then, we'll wear it for a while until we find one that fits better, and then we'll start wearing that one." I think that perfectly summarizes how we operate here in Texas, and I believe it's the same for the entire Slow Money family.

We have tried on many shirts to see what fits with central Texas. We have borrowed ideas from other networks, and we have come up with some ideas on our own. In the process, we have learned a great deal from each project/opportunity we have explored and each has contributed to the successes we've had in our Austin Foodshed Investors model.

So what have we learned?

After returning from Slow Money's third national gathering in San Francisco in 2011, a few of us decided to get to work facilitating the flow of money into small food enterprises in and around Austin. We looked at what Arno Hesse and Marco Vangelisti were doing with their Northern California network. We also looked at the No Small Potatoes investment club structure in Maine.

Our first effort was modeled after the latter. The Sustainable Texas Investment Club had 13 initial members, all contributing a minimum of $2,000 to our funding pool. Our initial total was $28,000, which we used to make low-interest loans of up to $5,000 to local food entrepreneurs.

At the same time, we were deeply engaged in other Slow Money Austin enterprises. We held potlucks, annual events, dinners, and funding forums. We hosted four different Pitchfests for entrepreneurs looking for funding—one attracted more than 150 people. One was organized around entrepreneurial videos, with the winners invited to speak at Earth Day Austin. At times, we were flying high, after pulling off what, by all accounts, were wonderful events, generating considerable public interest, and promoting a great Slow Money conversation in the community. However, when the dust settled, we still had not generated much in the form of investment. Money just wasn't moving.

The group of volunteers and community activists that made up Slow Money Austin was good at hosting events, generating excitement, and driving new discussions around local food systems and local investing. Our Facebook and Twitter followings grew quickly and attendance at our events met our expectations, but we were still lacking a vehicle for getting enough capital to flow.

You may not be surprised to learn that we were not entirely satisfied with our limited impact. After about two years in operation, we were still making small loans, most less than $3,000. We had a handful of thank-you letters and letters of support from the companies that we did lend to—a gluten-free baking-mix maker, a grass-fed cattle rancher, a small-scale farmer, a small recycling-collection company, and a startup aquaponic-farming outfit. There were plenty of good things that came out of the group, which brought together both accredited and nonaccredited investors and fostered quite a bit of learning.

However, in the end, we felt that the overhead and the management of the LLC—creating K1s, annual filings, payment handling, etc.—was too much work to justify the size of the loans that we were making. When this was paired with our struggle to get a quorum for voting decisions at our monthly meetings, we questioned our next steps. Was it time to fold it up? Should we change our membership guidelines? Should we double or triple our contributions and increase our loan sizes? Did we need to expand our membership and develop a more cohesive and active group of investment-club members?

We were also learning that the prevailing startup-financing ecosystem and the conventional wisdom of angel investors in and around Austin were not a good fit for small-scale, locally-focused businesses—especially small food enterprises. Austin has a strong startup ecosystem, with plenty of private capital changing hands, but it's all focused on tech and companies with exceptional growth objectives. It was becoming clearer all the time that we would never see a salsa company turn into the next Facebook or what folks in Silicon Valley call a unicorn: something that would eventually be valued at more than $1 billion. So, if that is the case, why should we use the same funding paradigm to value and support a local, small food enterprise as we would to evaluate a tech company?

When our local food entrepreneurs and farmers got in a room full of these kinds of investors, they were doomed from the start. "What do you mean, there's no exit? How will I get a return on my participation in a convertible note?" The entrepreneurs were out of their element, and so were the investors. They couldn't communicate. It was like getting the engineers and salespeople from a tech company together for a meeting—they just speak different languages.

So, it was time to try on a different shirt. How could we organize ourselves so that we could be nimble enough to make quick decisions on small loans, while still having the ability to complete a half-million-dollar raise when that was warranted? Could we find a group of investors who understood how self-liquidating vehicles work, why they are important, and when they are necessary? How could we help small businesses navigate the minefield that is the fundraising process, filled with convertible notes, recaps, unit holders, preferences, and the like?

Out of all these questions, Austin Foodshed Investors was born (borrowing its name from Foodshed Investors NYC).

We started with the idea of an angel network, but one whose mission would be more in line with a community development financial institution, complete with impact reporting. We quickly realized that our little project would also have to integrate some of the elements of an incubator, educating both investors and entrepreneurs on alternatives to the "fast growth, top-line revenue-at-all-cost, burn-'til-you-exit" mentality. We would call this new approach "Bootstrap+."

From the back of a napkin in mid-2014 to formally launching in early 2015 and then on to today, this seems to be the shirt that fits here in Austin. In our first 18 months, we have talked to over 120 companies and more than 75 investors. We predetermined to take things slow, to take the time to clearly define our internal processes. We brought on a third partner with small-business-development and CFO experience. Then we built a network of more than 30 angel investors—no dues, but with a clear sense of direction and intention.

2016 has proven to be a breakout year for us, with seven deals totaling over half-a-million dollars in the first six months of the year. As of this writing, we have another $500,000 term sheet in the works. So, it looks like funding for the year should easily exceed our lofty goal of $1 million.

Sweet Ritual co-owners Amelia Raley and Valerie Ward received $20,000 through Austin Foodshed Investors.

Our deals have ranged from $11,000 for a pasture-raised chicken farmer to buy hoop houses to $210,000 for a small-scale commercial kitchen/incubator. A larger deal that is in the works is for a regional, sustainable lamb producer and distributor—think Niman Ranch for lamb. All of these deals have followed our Bootstrap+ model, with companies taking smaller, incremental amounts of money to reach a finite milestone before repeating the process in a pace-appropriate, stair-stepped approach to growth. All but the largest deal currently in the works have been debt-based via self-liquidating vehicles, designed to allow the companies to grow at their own pace without giving away large chunks of equity or requiring an exit that would inappropriately loom over decisions on how best to manage their businesses.

I'm regularly amazed, inspired, and now and then, to be honest, a little puzzled by the continuing complexity of Slow Money around the country. We're all heading in the same direction and yet there is an amazing amount of individuality in the efforts that are making progress here, in North Carolina, in Maine, in Vancouver, and elsewhere. It is the beautiful combination of a common good coming to fruition at many local levels, each network finding their own way—finding the shirt that fits them the best for their current place and time.

Tandem Farm Co. received $11,000 from AFI members to construct new hoop houses.

Jarred Maxwell (left) and Tandem Farm Co. owner Jordan Bednar (right)

Jarred Maxwell is the cofounder of Austin Foodshed Investors. He has been the local leader for Slow Money Austin since 2011. He is an active angel investor in more than a dozen local, socially-responsible companies. In 2010, Jarred founded The Happy Land Company, which specializes in the acquisition, restoration, and preservation of rural land. He started his career as an engineer at Dell. A lifelong Texan and rancher, managing more than 400 acres of family ranch outside Lampasas in northern Burnet County, Jarred lives in central Austin with his wife, Sommer, and their young son.

Patient Capital Preserves Soil

BY MARTIN PING

Hawthorne Valley Association is a diversified enterprise that has been operating in the Hudson Valley since 1972 and is currently farming 750 acres of biodynamically certified farmland. Like many farmers in the region, Hawthorne Valley Farm is leasing much of the land it farms from neighboring landowners. In many instances, these leasing relationships go back decades, and one can say that the leased fields are as much a part of the farm organism as those owned by Hawthorne Valley itself. They provide pasture and forage for the dairy herd, grains for our bakery, and bottom land for growing vegetables. We are grateful for the relationships we have with our neighbors who share our commitment to steward the land in a regenerative way. That being said, we are also at risk of losing access to this land at any moment. (More on that later.)

To say that farmers face myriad challenges and risks would be an understatement. The additional risk to farmers who lease land is always present. Situations can change quickly and can lead to disruption and even devastation. The question of land tenure for farmers looms large,

and addressing it seems foundational to creating the conditions for a resilient and restorative agriculture. This is the very ground on which our work depends.

There is a role for patient capital to play in the preservation of our agricultural soils. Thanks to the inspiration and thought leadership coming from the Slow Money impulse, there are new initiatives that are responding to this challenge/opportunity. Dirt Capital, Iroquois Valley Farm, North East Farm Access, the Local Economies Project, and the Local Farms Fund (cofounded by nine Slow Money NYC folks) are just some of the examples in the Hudson Valley that are creatively addressing land access and ownership for farmers.

Hawthorne Valley has benefitted from long-term relationships based on shared values and trust. Over the years, friends have made very patient loans to Hawthorne Valley to help us achieve our mission of social and cultural renewal through the integration of education, agriculture, and the arts. Chartered as a 501(c)(3) nonprofit corporation, Hawthorne Valley is an association of educational, research, and cultural initiatives embedded on a working farm with a variety of food-related enterprises.

On the cultural side, Hawthorne Valley includes a pre-K through grade 12 Waldorf School; a place-based learning center that welcomes over 1,200 children annually for a variety of residential and day, hands-on learning experiences; a farmscape ecology program conducting agro-ecological research; a variety of farmer training programs, including the Institute for Mindful Agriculture; adult education and teacher training; a center for social research; Free Columbia and Walking the Dog Theater, both offering artistic training; and a small publishing press.

On our biodynamic farm, we have a dairy herd; a creamery; a bakery; and a lacto-fermented vegetable processing kitchen making sauerkrauts and kimchi. We serve four CSA groups and six greenmarkets (five in NYC and one in Hudson). We also manage an on-site natural foods retail grocery store.

Growth in all of our initiatives and enterprises has been organic, with added care required to maintain the balance and occasional creative tension between our cultural offerings and our other lines of business. Although we are a nonprofit organization, 92.5 percent of our funding is earned income, with the other 7.5 percent coming in the form of gifts and grants. This ratio has contributed to Hawthorne Valley's overall resilience. The diversity of

our operations and the staggered rhythms of the different enterprises have provided an opportunity for us to manage our cash flow and avoid short-term borrowing. When appropriate, we do borrow money for growth, sometimes from conventional lenders and other times from individuals or foundations on very patient and innovative terms.

As stated earlier, Hawthorne Valley Farm is leasing hundreds of acres from neighboring landowners. Last autumn, one of those owners informed us that they were putting the land on the market—54 acres with a barn and a separate two-acre parcel with a house. We have been grazing cows and cutting hay on this land for decades. Because NYC is a mere two hours south, the value of land is inflated for the second-homeowner market and overpriced for agriculture, especially if the primary use is grazing and forage. At the same time, losing access to this land would have serious consequences for our herd and overall farm management.

Conventional borrowing and immediate amortization of a loan would have been cost prohibitive. This was a situation that called for very patient capital. It may be worthwhile to interject here the notion that decommodification of the land is an underlying goal. Speculation that leads to inflated land prices tends to elbow agriculture out of the picture pretty quickly. This will have deleterious long-term consequences for those of us who like to eat, especially as open fields and bottom land—that is, prime agricultural soils—tend to be the easiest to develop and the first to fall to competing uses.

Thanks to two inspired friends (one individual and one through a foundation), Hawthorne Valley was able to borrow the funds needed to purchase the land and barn, with an option to buy the house. The terms are five years at only two-percent interest, with an option to renew at the five-year point and renegotiate the rate. This low-cost debt allowed Hawthorne Valley to make the purchase and gives us the time to develop a business plan for generating additional income from the land beyond grazing cows and cutting hay.

No sooner did we close on this deal than the landowner who owns over 200 acres across the road—land we also lease and farm—came forward and offered to sell us a 50-acre parcel that had originally been part of the land we had just purchased. The view from the top hay field on this parcel offers a magnificent panorama of the Hudson Valley and Catskill Mountains, making it an extremely desirable building lot.

What an opportunity! Wendell Berry appeared in my consciousness as I thought about the implications of buying this parcel and stitching back together a farm that had been subdivided. In a small but significant way, could this contribute to the resettling of America? The descendants of the original farmer were equally delighted at the prospect of our purchasing this land. The problem was that it was valued at development prices, and

to compound things, the closing had to happen within two weeks of agreeing on a sale price. Enter patient capital (quickly!), this time from an inspired friend who saw this land as sacred and worthy of sensitive stewardship.

As soon as it was evident that we could move forward with the purchase, we applied for a state grant, in partnership with Scenic Hudson, to purchase the development rights and put the land into an agricultural easement in perpetuity, just as we'd done for the rest of Hawthorne Valley's land. Hawthorne Valley was eventually awarded funding amounting to roughly 50 percent of the purchase price. Thanks to the initial deployment of patient capital, Hawthorne Valley was given the time needed to go through the easement process and to explore options for creating additional revenue streams made possible as a result of owning the land as opposed to leasing it.

We have benefited from patient capital loans at various points in our development, allowing us to purchase equipment, build capacity, and retire existing, more costly conventional debt. This kind of innovative financing creates values-driven relationships for both borrower and lender.

We are grateful for the many funders who are actively seeking more creative and compassionate ways to use their capital in support of vibrant communities and local living economies that uphold and celebrate life. And we are grateful to the vision of Slow Money and the action of Slow Money networks for contributing to our efforts to cultivate the soil for the future.

Martin Ping is the executive director of Hawthorne Valley Association, a 501(c)(3) corporation promoting social and cultural renewal through the integration of education, agriculture, and the arts. Martin has been at Hawthorne Valley for more than 25 years. During that time he taught practical arts and economics in the high school, was director of facilities, and served as project manager on several new construction projects. He is cofounder and storyteller for The Magical Puppet Tree, has served on the boards of several not-for-profit organizations, and is a founding member of Slow Money.

INVESTMENT TRACKING

The Slow Money Institute (Boulder, Colorado) tracks dollar flows through the Slow Money network. Each small food enterprise is a test plot for efforts to fix the economy from the ground up. Below are a few samples of recent Slow Money investments.

Two Roots Farm *CARBONDALE, COLORADO*

Harper Kaufman and Christian La Bar | $7,500 | 2Forks Club

Christian and I fell in love with farming not too long after falling in love with each other. Before graduating from the University of Montana, we had our first farming experiences at PEAS farm, the university farm near campus. It was there that we began to grasp the serious consequences posed by our current food system, but more importantly, we learned how it can be completely reversed through sustainable agricultural practices.

Propelled by enthusiasm to change the world one small farm at a time, we set out to California for a full-season internship.

What we didn't know then was just how many giant hurdles were in the way for not just our country to reverse its habits, but for each individual who sets out to farm sustainable products. We knew that we wanted to own and operate our own farm, but the road was not clear. How would we find the land? The money? The tools?

We decided the first thing we needed was experience and knowledge. We read every book about sustainable agriculture and small-scale farming that we could get our hands on. We enrolled ourselves in an online course for beginning farmers and completed a local course on farming business. After our internship, we spent two years as the agriculture managers at Rock Bottom Ranch with Aspen Center for Environmental Studies, where we gained invaluable experience growing in this mountain climate.

Four (farm-filled) years later, we have now started our own farming business, Two Roots Farm, aimed to fill a simple mission: to provide sustainably produced, freshly harvested, nutrient-dense vegetables to the Roaring Fork Valley community. We are leasing land from friends in Missouri Heights and selling our produce to restaurants, the Aspen Saturday Market, and through a CSA program. We received a loan from Slow Money for $7,500 to help us purchase the materials for a mobile walk-in cooler, drip-irrigation system, and a season-extension structure. By the time June came around, we were hitting our stride. We felt good about the tools we had, the crops we were growing, and the direction our business was headed.

Recently we hit a pivotal moment for our first year. Crop loss is inevitable; no matter how wonderful a grower you are or how carefully you prepare, there is simply nothing that prepares you for flood, fire, tornado, earthquake, or drought. For us it was hail—chunky, powerful, unexpected hail—on an otherwise summer-like July third day.

We came home to it, confused to see white piles spread around the property. Did it snow? We walked into the garden. It was a traumatic sight: kale leaves ripped into fragments or torn off the plant entirely, heads of lettuce that looked like they had been put into a paper shredder, cucumber plants reduced to bare twigs.

It became evident right away that our community cared and supported us—a farming friend donated produce for our CSA, chefs agreed to buy "hail kale," and many friends offered a hand.

It has been two weeks now, and I am reminded of the resilience of plants. Many of the longer-season crops are valiantly bouncing back to life; regrowth continues and has popped up everywhere. We replanted a great portion of the garden in preparation for fall.

Christian and I were able to respond with a level head and a sense of calm because we knew that we had lenders who cared and understood. Our loan from Slow Money allowed us to absorb this shock because we had the tools we needed to get back on track.

All entrepreneurs will hit hurdles like this, so you must be the kind of person who can pick yourself back up. However, when you choose a business as risky as farming, you also need to be able to ask for help. We feel lucky to have found a place where people are willing and able to offer it.

Reported by Harper Kaufman, cofounder of Two Roots Farm.

Zephyros Farm and Garden *PAONIA, COLORADO*

Don Lareau and Daphne Yannakakis | $23,500 | 2Forks Club

Zephyros Farm and Garden has always sought diversity and quality in its organic production. When Daphne and I started this farm 13 years ago, like many young couples starting out, we wanted it all; every vegetable under the sun, flowers, sheep, goats, chickens, turkeys, children, worms, compost, and a life for ourselves. After many years and struggles, we came to focus on a niche that made it possible to make a living and have a life with our kids. Years of practice brought us to the thing we do really well: growing flowers.

At Zephyros, we grow more than 1,000 different varieties of flowers. When you grow 99 different dahlias, it is easy to reach these numbers. Passion helps, too. We still grow a couple of acres of vegetables. We only have eight chickens though, just enough for eggs for ourselves. Oh, and we have a few goats.

When we expanded our flower operation, we realized that we had outgrown the farmers' markets appetite for the quantity of flowers we could grow. So we started doing weddings. Then we started to sell to florists. We became immersed in the movement of flower growers across the country. We became early participants in the Slow Flowers movement.

Don Lareau and Daphne Yannakakis

When we first started out, people thought about what went in their bellies, but not much about what adorned their tables.

We have taken it a step further by being certified organic. Today, 80 percent of the flowers you see in a store, a florist shop, or a hotel are from another country and are not organic. We are part of a growing movement that has not only localized the production of flowers, but is also increasingly organic. This is important not because you eat the flowers, but because growing organically is good for the planet, for people who work in the fields and the greenhouses, and for florists. It's also awfully nice to know that the bouquet on your table is not coated with pesticides.

We started getting more and more orders from our florists, not because our flowers are organic, but because they were local—that is, not "jet fresh" from Ecuador. We can grow a lot of flowers that a producer thousands of miles away cannot get to market alive.

As we grew, we had a hard time delivering all the orders in our Honda Pilot. Our farmers' market trailer could hold a lot, but it was hard to drive down tight alleyways and maneuver into the parking lots where the florists and our private clients have their businesses and homes. Also, the flowers would arrive quite hot, which they do not like. If we wore sweaters and hats, the Honda A/C did an okay job, but we needed something else.

After local banks scoffed at us and loans for a new truck seemed way too expensive, we heard about the 2Forks Club, a local Slow Money investment club. We sent a proposal to have them help us buy a used refrigerated truck. They gave us a $23,500 zero-percent loan, which we are paying back over a few-year period.

The part that amazes me to this day is the degree to which the members of 2Forks worked with us to customize the loan for our benefit. For example, they said, “You are not asking for enough to get a good truck,” so they gave us more than we were originally asking for. *“This is not how a bank works!”* we thought. If that wasn’t enough, they also looked at our cash flow and structured a bit more time to pay the loan back, with some discretion built in. They understood that we are not selling widgets, that we are dealing with Mother Nature and biology and many variables not in our control, such as late frosts, early heat, hot winds, and the like.

The 2Forks loan has allowed us to load our truck full of flowers that stay fresh, so now we throw on extra flowers and invite florists onto the truck. They usually cannot resist buying more. If we do not sell them all, they stay cold and we can sell them through our other market channels.

It has been a fast season, with temperatures in the high 90s much earlier than other years, so flowers are blooming quickly. It has been a great peony season. This is why we are diverse: one flower does well, while another does not. We are well underway in our repayment to 2Forks, and they have been actively making other loans. Access to capital is the bane of the small farm, given all the risks and slim profit margins. So loans from 2Forks feel like a cool breeze in summer.

Thanks.

Reported by Don Lareau, cofounder of Zephyros Farm and Garden.

CatSpring Yaupon *CAT SPRING, TEXAS*

Abianne Miller and JennaDee Detro | $365,000 | 6 investors

Photograph by Jo Ann Santangelo

This article originally appeared in Edible Austin *and is reprinted with permission from Nicole Lessin.*

To many, yaupon holly is considered an ornery weed. Cut it down and it'll grow right back; try to dig it out and you'll probably unearth a root as thick as your forearm, and its Latin name, *Ilex vomitoria*, is hardly inviting. "Cows don't eat it and even deer don't really eat it," says Andrea DeLong-Amaya, the director of horticulture at Lady Bird Johnson Wildflower Center. "They are just really vigorous growers."

Yet Abianne Miller and her sister JennaDee Detro suspected that this small, multi-trunked evergreen tree—which grows in dense thickets across 100 acres of their parents' land in Cat Spring, Texas—might have a redeeming quality. "We were looking for something positive, and a use for it in the same way there has to be something good about fire ants," Miller says with a laugh. "This is such a tenacious plant that [my sister] was thinking maybe the wood properties would be good for furniture or something like that—but definitely not for consumption."

After some online digging, however, Detro soon learned a startling truth: Despite yaupon's somewhat toxic berries, the small oval leaves of the plant had been used for centuries by Native Americans to brew a delicious, antioxidant-rich tea that contains some caffeine and generous amounts of theobromine, a non-jittery type of stimulant also found in chocolate. In fact, the leaves of this cousin to the South American mate plant were used throughout the southern United States to prepare a "poor man's tea" up until the early 20th century. Not only had the pair come across a viable alternative to imported coffees and teas as a caffeine source, they were also sitting on a major crop of it and it only needed rainwater and sunshine to thrive. "We kind of were like *What? This stuff?*" says Miller. "This is something that people had been literally cutting down and burning."

Enter CatSpring Yaupon Tea, the sisters' joint venture, which features their sustainably grown and harvested native Texas yaupon leaves roasted as a black tea and unroasted as a green tea—both versions comparable in flavor to those made with the leaves of *Camellia sinensis* (the plant family that the majority of teas are made from), but with an earthier and more nuanced flavor. "It's lovely," says Detro. "It's not unfamiliar because of the Asian tea and yerba mate that we drink, but it has a little bit more complexity. The taste profile is hard to explain without tasting it."

And then there's the pick-me-up factor. "I think there is just a need for local caffeine," says Miller, who has substituted the teas for coffee, even during the height of a raging caffeine addiction she experienced while in

Photograph by Jo Ann Santangelo

business school. "It's kind of funny to think about. The Boston Tea Party was because of our dependence on tea and yet it hasn't changed. We still import everything."

Another distinguishing feature of CatSpring Yaupon Tea is the business's focus on second-chance employment for harvesting and processing, which means the sisters are working with different agencies and organizations that help vulnerable groups of people dealing with homelessness, previous incarceration, addictions, and other obstacles. Keith Turman, who helps coordinate workdays and other employment opportunities for fellow residents at an independent sober-living facility in Houston, says processing the yaupon leaves has been a big boost for the men. "One of them said to me the other day, 'I haven't had a real job in two years, and since I've been doing this, I feel like I have wind in my sails again,'" Turman says. "It has given them a sense of purpose."

The sisters also have plans to test the energy and antioxidant properties of their yaupon tea. But for now, they say they're simply honored and inspired to play a role in bringing attention to an oft-overlooked-and-maligned native plant.

Central Grazing Company *LAWRENCE, KANSAS*

Jacqueline Smith | $45,000 | 5 investors

I have been a sheep farmer for 15 years. It is my life calling. Quite an unexpected path for me, since I didn't grow up in farming and my knowledge of sheep was very limited. I was, at one time, one of those people who didn't know the difference between sheep and goats—and yeah, I can admit that now.

My career in sheep farming began with my former business partner. She had a dream to open a sheep dairy and creamery, and she wanted my help. Neither of us had any background in farming, so it took us a very long time to learn how to wear all the hats small-scale dairy farmers wear: businesswomen, grass farmers, mechanics, electricians, animal-welfare experts, and more. Together, we put in the years and created one of the best-known sheep dairies and creameries in the Midwest. We started selling our cheeses and yogurts at farmers' markets and, finally, through national distribution.

By 2014, we had expanded our operation through collaboration with other small family farmers. We shared experience with and purchased

sheep milk from these farmers. We built a great new revenue stream for our farmers and ourselves. However, we didn't anticipate the problem this expansion would create—the fact that with the increase of milk came an increase in lambs. We grew from one sheep dairy to 10, and all of our lambs were sold directly to the livestock auction. They likely became feeder lambs and spent the rest of their lives in confinement, being fattened on GMO grains. This problem weighed heavily on me and fueled my desire to seek an alternative market for these lambs.

In 2014, I went to the Slow Money National Gathering in Kentucky. I was very curious about Slow Money. I had a lot of reservations, but I went with an open mind and what I experienced affected me profoundly.

It was at the Slow Money national gathering that the seeds for Central Grazing Company were planted. I was proud of the work my business partner and I created. However, when I returned home from the conference, I started to piece together my exit from the dairy business. My business partner was very supportive in my desire to start Central Grazing Company—something I will always be grateful for. I contacted Nancy Thellman, the founder of Slow Money Northeast Kansas, and applied to be an entrepreneur for their first-ever Entrepreneur Showcase. At the showcase I made my pitch for the company to a room full of potential investors.

Central Grazing Company's mission is to provide consumers with Animal Welfare Approved (AWA) raised lamb, while providing the farmers a value back for raising their animals with high animal-welfare and

environmental standards. We encourage these high standards by sharing profits with our farmers. Central Grazing Company purchases lambs directly from farmers at a very fair commodity rate. At the end of the year, we share 50 percent of all net profits with our farmers. My family farm is one of seven farms currently providing Animal Welfare Approved lambs to Central Grazing Company.

My partner, ReGina, and I (along with our two small sons) rotationally graze our sheep just northeast of the Flint Hills in Kansas. We purchased this land when we decided to start Central Grazing Company. Much of the surrounding prairieland had been converted to crop or hay fields. We chose to purchase hay land instead of cropland, because we needed to start rotationally grazing immediately. Our soils are very poor and will need a lot of work to restore them, but I know that holistically grazing livestock is one of the best practices for prairie restoration. One year into grazing, I can already see some signs of our soils coming back to life.

My pitch at the Slow Money Northeast Kansas event went very well. A few days after the showcase, one investor loaned me $5,000. This money was used to get Central Grazing Company on its feet. We purchased labels and marketing material for our lamb with this money. In 2015, our first year in operation, we processed 105 lambs from two sheep dairies in Missouri. We placed our lamb in natural grocery stores in five states. Demand grew. I went back to our local Slow Money network looking for more funding to help us meet this new demand. We received $10,000 from two local investors and $30,000 from Cienega Capital, a California-based Slow Money lender. We have used this money to increase our supply of lamb inventory by purchasing 500 lambs directly from our producers and paying for processing of the lambs. With this increase in lamb inventory, we will expand our market into 15 states.

Slow Money allowed me a new perspective on how our individual financial decisions influence our local economy, our sustainable food systems, and our relationships in our community. As a farmer, I was impressed that people actually *wanted* to invest in companies like mine and I've been pleased that we can provide new opportunities for investors. Slow Money hasn't just been a tool I used to fund my business. It has provided me with a community—a community that has helped me to create an alternative market for farmers, allowing our animals to live and behave naturally, while also preserving our precious grasslands.

After launching Central Grazing Company, I joined my local Slow Money network as a planning-committee volunteer. Through Slow Money I have developed relationships with neighbors, investors, mentors, and new friends, all of whom share the same values with regard to money and sustainable agriculture. The relationships formed around Slow Money principles elevate our entire community by supporting a sustainable approach to investing in the land we farm. It has been gratifying and exciting to be a small part of this movement.

Reported by Jacqueline Smith, founder of Central Grazing Company.

Buttercup Farms *HOWARD, COLORADO*

Bonnie Yarbrough | $16,000 | Local Matters Investments

Bonnie Yarbrough, owner of Buttercup Farms, was referred to Local Matters Investments, our Denver-based Slow Money investment club, by Tamara Campfield, one of our founding members and treasurer. Tamara had previously made a personal loan to Buttercup Farms. In November, 2014, Local Matters loaned Buttercup Farms $6,000 for the purchase of two cows. She paid back that loan on time. Then in May 2016, Local Matters made another loan to Buttercup Farms in the amount of $10,000, enabling the purchase of three more cows and Bonnie's enrollment in artificial insemination school. Bonnie planned to breed her cows with Miniature Jerseys in order to increase the profitability of her business.

As Bonnie put it: "I am living out my dream! As a young girl, I would go to a farm in Coaldale, Colorado, to get raw milk. I vividly remember everything about this dairy farm and the milk room. A spring ran through the barn in a concrete trough. Stella, the owner, would chill her milk in that spring water, and the locals would come pick it up with their jars. I loved going there: I loved the cows, the atmosphere, and the smell of the milk. Even as a young girl, I told myself that if I ever got the chance to have milk cows and do what Stella did, I would.

“After years of working in various areas of agriculture—raising beef cows, breeding quarter horses, working on ranches and for veterinarians—and seeing the interest in local, raw, and organic foods, I decided to start a small raw-milk dairy.”

She started with Buttercup, her first cow (and, she reports, still one of her favorites), and now has seven. She has some customers from more than 100 miles away and more inquiring every week. She sells raw milk and cream, cottage cheese and yogurt, and all the butter she can make. The “girls” currently produce about 28 gallons of milk a day. Bonnie still works for a local veterinarian several days a week, but looks forward to when she can spend all day at home with her girls, making cottage cheese, separating cream, and churning butter. She also sells cow shares—shareholders pay a boarding fee for their cows and are then entitled to milk.

From Local Matters’ perspective, Bonnie and Buttercup Farms are just the type of person and business we desire to support. Our investment club has 21 members, who have put in a total of $107,100 in capital. Since 2013, we have made 11 loans to eight small food enterprises.

Reported by Tom Abood, founder of Local Matters Investments.

Lone Tree Foods *OMAHA, NEBRASKA*

Justin Jones, Ben Gotschall, and Mark Roh | $10,000 | Let's Eat Investment Group

When farmers in Iowa and Nebraska started working together, they found ways to aggregate their products in order to more effectively distribute wholesale to grocery stores and restaurants. Then, with help from Iowa's Golden Hills Resource Conservation & Development, Lone Tree Foods began to take shape. This food hub is now owned and operated by farmers Justin Jones of Jones Produce, Ben Gotschall of Davey Road Ranch, and Mark Roh of Abie Vegetable.

While business is booming, Lone Tree is facing the same growing pains that food startups generally endure—flow of products and flow of cash aren't exactly on the same timeline. And, like those before them, they discovered financial institutions aren't keen on lending money to startup operations, let alone those that sell perishable food items.

Fortunately, good old-fashioned networking introduced them to Slow Money. Omaha-based Let's Eat Investment Group member Jim Steffen says, "I'm glad that our members can play a small part in helping locally grown food reach more people."

Left to right: Erin Schoenberg, sales manager; Chris Schoenberg, sales and delivery; Ginger Muhlbach, bookkeeper; Mark Roh, Ben Gotschall, Justin Jones, owners.

A Slow Money loan immediately appealed to Jones and his partners. “Slow Money aligns perfectly with our mission,” he states. “We like the idea of keeping food dollars circulating right here in our local economy.” Let’s Eat investors offered Lone Tree Foods a one-year, $10,000 working capital loan at five-percent interest. Jones says, “This loan will allow us to access more markets, serve more producers, and increase sales of local foods.”

“We need to rebuild our local food system,” says Steffen. “As investors, we’re just helping to bridge the gap in order to keep everything moving. Little by little, we’re changing the way people think about and purchase their food.”

Lone Tree recently hired two staff members and a contract delivery person. Customers shop through Lone Tree’s website, which features weekly food items. Among the products Lone Tree regularly delivers to restaurants are beef, bison, chicken, turkey, lamb, grains, dried and fresh mushrooms, milk, cheese, and a vast variety of produce. Farmers don’t pay to participate. Buyers pay a ten-percent commission on top of the farmer’s price.

Lone Tree Foods more than tripled—to 45—the number of farmers they represented last year. This is especially impressive considering 2016 is just their second year of operation. Nebraska’s third and newest food hub is not

Ellen Walsh-Rosmann and Daniel Rosmann (Pin Oak Place, Harlan, Iowa) distribute produce through Lone Tree Foods.

only keeping up with the ever-growing demand for a variety of locally sourced food, but they are also revving up to explore other business models and alternative sales channels.

Reported by Kimberly Stuhr, Let's Eat Investment Group member.

Boulted Bread *RALEIGH, NORTH CAROLINA*

Sam Kirkpatrick, Fulton Forde, and Josh Bellamy | $22,000 | 4 investors

> *Note: to "boult" flour is to sift out the unwanted excess of the milled product, leaving only the finest, most desirable parts.*

When Sam Kirkpatrick and Fulton Forde got together to open their bakery, Boulted Bread, in downtown Raleigh, North Carolina, they had an ambitious goal. They wanted to use fresh-milled, locally sourced grain and improve the design of currently available commercial stone mills. Fulton had traveled in Europe and North America learning from bakers who use heirloom grains and researching various age-old mill designs, and creating a plan for a new type of stone mill using locally quarried, natural granite and American-made motors and parts.

The current consumer market, Sam and Fulton believed, was "shifting away from inexpensive conventional practices and beginning to value high quality and process." Their business would honor this shift toward intentional consumerism and serve the growing number of people interested in sustainably produced food in the greater Triangle area of North Carolina. Their customers would experience "the inherent value, sublime flavors, and simple elegance of bread as craft."

A Slow Money lender provided $3,000 to cover the construction of a custom stone mill that was more effective, more attractive, and less expensive by thousands of dollars than the few other commercial mills

available. Another Slow Money loan for $10,000 covered build-out costs, and Boulted Bread opened for business in August 2014. Sam and Fulton added another partner to the team, Josh Bellamy, who brought along excellent baking experience and a shared philosophy.

The bakery supports numerous local farmers by purchasing heirloom varieties of Southern grain that might be otherwise unavailable or lost, as well as vegetables, eggs, milk, and cheese for their breads and pastries. And they have hundreds of happy consumers. “Bread respects and pays tribute to all the players—farmer, miller, baker, and consumer,” Fulton explains. “Many of our customers are avid home cooks,” Sam told me, “and our moist, naturally leavened, seeded levain is something they can’t find anywhere else.”

Their business has been so successful that they paid off the smaller Slow Money loan two years early. “Our lenders were thrilled for the opportunity to help us get started and proud of us for paying it all back so soon,” said Sam. “We are enormously grateful.”

“My next project,” Fulton shares, “is building stone mills for sale to the public. I first wanted to build a mill when I worked at Farm & Sparrow in Candler, North Carolina. We used a German-made mill that allowed us to

Slow Money NC cofounder Carol Peppe Hewitt and Fulton Forde use a wide variety of locally sourced grains, but it had many shortcomings. There is an American mill-building company, but their mills also often leave people disappointed and dissatisfied."

So, he investigated possible design improvements that could make the mill both much more effective and user friendly. He traveled around North America to research mills new and old, and slowly his ideal mill design emerged.

"I built a 26-inch stone mill for a small grain farm in California, another for Boulted Bread, and a third for Farm & Sparrow, to replace the German mill on which I first learned about milling," Fulton explained. "There is a nascent local-grain movement seeking to extricate grain from the industrial model and in desperate need of high-quality American-made mills. I had orders from four bakers and two mill/grain projects. I began construction on the first three mills ordered. We needed $12,000 to help finance these orders. We planned to pay the money back in 18 months or less."

Two Slow Money NC lenders who are frequent customers at Boulted Bread made loans of $9,000 and $3,000, and New American Stone Mills is on its way.

Fulton is now collaborating with Andrew Heyn, owner of Elmore Mountain Bread in Vermont, to offer a larger, 40-inch stone mill for use in medium-production bakeries or specialty gristmills.

Farmers are planting more heirloom grain varieties, local milling is growing, and for us eaters, the bread and pastries just keep getting better—for the planet *and* for us.

Reported by Carol Peppe Hewitt, cofounder of Slow Money NC and author of Financing Our Foodshed: Growing Local Food with Slow Money.

Finn Meadows Farm *CINCINNATI, OHIO*

Claire and Marc Luff | $11,500 | 5 investors

Three years ago, we noticed our soil was beginning to deteriorate rapidly. After rainstorms, we would see the dust we created around the farm flowing away in our nearby creek. We needed to find a way to replenish our soil and keep it on our farm. Through some experimentation, we discovered that when we mixed locally available wood chips with our animal manure, and then composted that mixture, we could create great soil, virtually eliminate erosion, and grow some of the best cherry tomatoes we'd ever produced. But moving this wood chips compost was cumbersome. At first our only option was to do it with shovels and trash cans. That was hard on our arms and backs, not to mention our spirits.

Once we had demonstrated that this compost worked, though, we knew it was the answer we were looking for. We had to find an easier way to move it, and we soon decided that a Bobcat Skid-Steer would be the best tool to do that. However, when every cent that comes in the door goes right back out as electricity, insurance, taxes, vehicle costs, seeds, fertilizer, small tools, repairs, fuel, rent, and health care, how can a small-farm couple scrape together $11,500 for a single tool?

We were encouraged by a few members in our local Slow Money group to see if they could help. After a 30-minute presentation, followed by a meet

Claire and Marc Luff

and greet, we had a promise for the money. We went home and drafted three-year contracts with five different people for enough to cover payback in both food and wages. Within a month, a 1999 diesel-powered Bobcat was on our farm-lifting 3,000 pounds of manure with a flick of a switch.

From that point forward, our five acres of gardens were transformed from a dusty patch of crops to an innovative field of produce. Before, we could only afford to cultivate the ground and add purchased organic fertilizers to feed the plants for that year. After getting the Bobcat, we could add a million pounds of organic materials per acre to feed the soil and totally alter the quality of our crops and our farm's ecosystem. With the new investment, our income grew almost immediately, our workload diminished, and we took one step closer toward becoming a business that could sustain the two of us.

Things improved and soon our income came solely from the farm. During this time, other CSA members provided loans we used to purchase cows and a tractor. What started out as a two-cow operation grew to 55 head under management, with 35 owned by us.

But we still had to look to the future. The more we did, the more we realized that our rented land—our permaculture, mulched, closed-loop, regenerative farm—will soon be attractive to housing developers who would offer far more for it than we ever could. This is land we'd poured ourselves into. We hadn't been driving our rental property like a rental car; rather, we'd been waxing it, installing a new sound system and chrome rims, changing its oil on a regular basis, and gold-plating its interior. Looking forward, we knew that one year, Hertz was going to call our bluff and take back the car. If we were going to keep farming, we knew we needed to own the "car" ourselves.

To create a lasting regenerative farm and be paid for that work, a farmer must own land. Many will counter this claim, stating that rental land is still the most affordable means to building a farming business. This mantra may be true for ranches or for field crops, but it is by no means true for a farm system where the animals and gardens work in a closed-loop symbiosis that take years to mature. Our investments in the soil and orchards are, by their nature, decades-long investments. We needed to buy our own place.

Our search to own began at the outer reaches of a 60-mile loop around the greater Cincinnati area. Unfortunately, even marginal properties came with mortgage payments that were way too high for us. Then we met a local developer who was creating an agri-community less than 20 miles from our current farm. It was time to take all we had learned and start again.

We have since moved out to this new community farm, where we have been building our first manure-chip garden. Construction will begin this winter on the first round of houses. A CSA share is part of the homeowners' community fees, so farm and homes will be intimately connected. Farmland will be preserved at the center of the community, and by agreeing to work the farm for the benefit of the community, and maintain our buildings in a certain manner, we could purchase our land at fair farmland prices. We would also have a built-in market, providing fresh produce to our neighbors every year. Such a connectedness between farms and the people who eat from them is a true foundation for health and the ethical management of farmland and animals. We couldn't have found a better situation.

Thoreau once observed, "Men have become the tools of their tools." He stated this 160 years before the half-a-million-dollar combine, 160 years before the costs associated with land ownership would virtually indenture a farm family for decades, and 160 years before hogs would be raised 20,000 to a farm. With only five-percent of principal farm operators today

under the age of 35, it is obvious that farm economics are not healthy. To address this, we need to formulate new models—ones that allow farmers to "cash in" on deeply investing in their soil and land through long-term ownership rather than leasing, and ones that will connect farms and those who eat what they produce in more immediate and tangible ways. Connecting customers and farmers in their journeys toward healthier living is one step toward again becoming masters of our tools, building permanent farms and a good way of life.

Reported by Marc Luff, cofounder of Finn Meadows Farm.

SCRIBBLINGS OF AN AFFECTIONATE FOODISHIARY

Reflections on the design and function of the first Slow Money investment club organized as a nonprofit—2Forks Club (Carbondale, Colorado).

The Route to Simplicity

BY WOODY TASCH

Driving south out of Carbondale on Route 133, your attention is immediately commanded by Mt. Sopris—well, not exactly commanded, the mountain being too gently majestic for that, too caressed by sacred sunsets and diurnal illuminations for that, too forgiving in the way it elicits and sheds all notions of sovereignty, overlooking the valley where the Crystal River joins the Roaring Fork on the way to the Colorado. For a 12,965-foot peak that

Morning at the entrance to Sustainable Settings rises more than 6,000 feet from the valley floor in less than three miles—a vertical rise matched by few other peaks in the Rocky Mountains—Mt. Sopris seems curiously openhearted. There is something in these broad slopes that suggests benevolence and equanimity. Native Americans have long thought the mountain to be feminine.

I was heading to Sustainable Settings Ranch, situated along the eastern bank of the Crystal at the northern edge of Sopris's base. There, Brook and Rose Le Van, with the support and participation of many hundreds of folks, tend their 244-acre nonprofit, biodynamic farm, CSA, and learning center.

On the passenger seat beside me lay two $2,500 checks—one from me and one from Susan Brady—both made out to Sustainable Settings. Two small checks, as small as their intentions were large. My smile could have filled the whole valley.

This was a simple act: two individuals in tandem lending modest sums to a farmer down the street. But in the age of globalization and algorithms, the route to Simplicity is awfully convoluted.

First, you have to head west out of Bretton Woods. Just past Prospectus, go north on the I-30 business loop, past Dow Jones Stadium and the Industrial Average Tower, toward La Farge (where all the yogurt is organic, all the fiduciaries are good-looking, and all the investments are above average). You'll pass Redstone, Marble, Rome, Paradise, Hope, Gold Hill, Libor Lakes, Erisa, and Gini Gorge. You're almost there at that point, but you have to watch carefully for the turn off to Silver City—the sign is overgrown with kudzu and financial razzmatazz, so it's easy to miss. (You'll know you missed it if you get to the Distant Markets billboard.) Take the service road 3.14 percent—oops, I mean, miles—to County Road 79. Turn left. In a few hundred yards, you'll see a farm stand on your left. That's Red Wagon Farm. Across from it, you'll see Sellhigh Road, but there's no road sign. Take Sellhigh for a quarter mile, just past where it crosses over Cache Creek. The historic Buylow Farm is on the right. Park in front of the barn. Around back are a bunch of big compost piles. Then you'll see the greenhouses, which are named and have signs on them: First is Irrational, then Exuberance, then Simplicity. You'll likely find Eliot in Simplicity, tending tomatoes.

Brook Le Van, immediately prior to receiving $5,000

Which has everything and nothing to do with those two checks for $2,500 that were sitting on the passenger seat beside me. Under the watchful presence of Mt. Sopris, I turned off Route 133 into Sustainable Settings Ranch, where I found Brook outside the milking shed.

I was hand-delivering these checks because the night before, at a meeting of the 2Forks Club, the Slow Money investment club in these parts, we hadn't had time to process this request from Brook and Rose. At that meeting, we'd already been full up hearing presentations from a handful of young farmers: Harper Kaufman and Christian La Bar, Casey Piscura and Jimmy Dula.

We approved all of their loans, in an amount totaling $31,330. In tandem with last summer's loan of $23,500 to Don Lareau and Daphne Yannakakis of Zephyros Farm in Paonia, this brought our total loan portfolio to $54,830, out of a total available pool of $126,930 that had been contributed by 27 members.

It had been a jam-packed evening. Each of the farmers had demonstrated excellent local knowledge, production experience, and established marketing relationships. Each was well under way in their process of planning and execution. Each was well known to a number of club members. Each had modest needs for capital and was interested in minimizing borrowing. As a group, their combination of humility, grit, competence, and vision was compelling.

That was Part A of the recipe for inspiration. Part B was the group dynamics among the club members.

The members of 2Forks Club came together over a period of two years. Susan Brady, longtime resident of Aspen, and more recently, Carbondale, spearheaded membership recruitment. I'd originally met her at—where else?—Sustainable Settings, at the annual Harvest Dinner, a rustically gala affair that takes place every September, bringing together a few hundred CSA members and friends to enjoy puppetry, mixology, music, dance, and the localest of local, organic food prepared by some of the area's leading farm-to-table chefs.

Before long, we'd come up with a name for the club, 2Forks, not for eating utensils, but for rivers—the Roaring Fork River and the North Fork of the Gunnison River, which loosely define a small foodshed. The Roaring Fork Valley runs from Aspen to Carbondale to Glenwood Springs. The North Fork of the Gunnison is on the Western Slope, running through the communities of Paonia and Hotchkiss and Delta, home to many orchards and organic farms.

2Forks is the 14th Slow Money investment club to be formed in the United States, and it is the first to be organized as a nonprofit. Most of the others, of which three are also in Colorado, are LLCs, copying the model pioneered by No Small Potatoes Investment Club of Maine. In such clubs, each member contributes the same amount of investment capital, typically $5,000. Loan decisions are made by two-thirds vote of all members. Loans typically carry an interest rate of three- to five-percent.

The 2Forks model differs in a number of key respects. First, capital is contributed in the form of a charitable donation; that is, the only return a member gets is a tax deduction in the year the capital is donated. Second, loans have zero-percent interest. Third, members can contribute at whatever level they can; currently, capital contributions range from $100 to $30,000. Fourth, loans are made by simple majority of members present at a meeting, so long as at least ten members are present, and it's one person, one vote, no matter what the size of a member's capital contribution. Fifth, we are heading toward a goal of $250,000 of annual member capital contributions, a level which seems about right in terms of enabling us to hire a full-time paid president. None of the other clubs have paid management. When you are using a for-profit, transaction-cost framework, not even a club with $250,000 per annum can afford to pay for a staff person.

Seventy individuals currently belong to the four Colorado-based clubs: Colorado Food Investments (Boulder), Local Matters (Denver), Living Soil Investments (Ft. Collins), and 2Forks. To date, the four clubs have given loans totaling $273,430 to 23 local food businesses. It is important to recognize that far more money has flowed to food enterprises in this region via informal Slow Money networking than through investment clubs. Overall, more than $3.3 million has flowed through Slow Money Colorado activities to 32 local food enterprises over the past five years.

Investment clubs have been, from the start, an experiment. On the one hand, they offer small investors the opportunity to learn, share risk, spread a modest amount of money across a portfolio of deals, and build social capital. On the other, they are a lot of work, require a formal commitment of capital and decision making, entail many meetings, and seem to occupy a kind of fiduciary no-man's-land between angel investing and crowd funding.

When I moved to Boulder in 2012, I joined Colorado Food Investments, becoming its 13th member. Over the next year, we grew to 25 members. It was a long time—perhaps 18 months or more from inception—before we made our first loan, despite the fact that we met monthly. Then, things picked up, and over the next two years we made nine loans, all at three-percent interest with a term of three years, totaling $79,000, to seven food enterprises: Ozuké (fermented foods), Fresh Thymes (gluten-free restaurant), Urban Farm Company (backyard vegetable gardens), De La Chiva Goat Dairy, LoCo Foods (food distribution), Aero Farm Co. (greenhouse microgreens), and Back to Basics Kitchen (prepared meals). Five of the loans are being paid back on time, one has requested an extension (the business is growing well, but is still strapped for cash), and one is nonperforming (still a going concern that we are hoping may eventually pay back).

One night, as a club meeting was coming to a conclusion, the question arose, "Is what we're doing capitalism or socialism?" The conversation that ensued, after everyone stopped smiling, constituted a group answer: "Yes." And then someone added: "You know what Oscar Wilde observed:

‘The whole problem with socialism is that it requires too many evening meetings.’”

The venture capitalist in me cannot help but wonder about the inefficiency of this process. Even the affectionate foodishiary in me, who admires the beauty of this process, gets stumped more than infrequently by questions of scale and impact. Is there a steady flow of small deals for which a few tens of thousands of dollars is significant? Can a few hundred thousand dollars here and there, a few dozen deals here and there, transacted over months and years, add up to meaningful change in food and finance? Can these clubs formalize a node of relationships that proves catalytic in a given community or bioregion?

That is, of course, a question that goes straight to the heart of one’s theory of social change. Do we need to level the playing field from the top down (now, the way that is posed raises some rather thorny geometric and physical issues, but let’s let them go), from the Farm Bill and Dodd-Frank down? Or does systemic change come from the bottom up, from Occupy and 350.org and Slow Food and Strolling of the Heifers[1] up?

I do not know the answer to these questions. I do not have a theory of social change. A theory is far too formal a designation for the bunch of intuitions, suspicions, hopes, intentions, and predilections that shape my actions. I am happy to leave theories and policies and advocacy to economists and politicians and activists. I prefer a more hands-on, more immediately constructive approach. I prefer conscientious investing to conscientious objecting.

Imagine a handful of us making a loan to a local farmer. Would you ever find us standing by her farm stand, waving placards that say “Invest In Farms!” or “Hoop Houses Make Great Collateral!”? No. For one thing, we’re too damned tired from all those evening meetings. For another, the ethos by which we come to loan decisions is one of collaboration and constructive engagement, not protest. Our focus is on the farm and on the act of bringing some of our money back down to earth in a very particular way.

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1 Every June, the Strolling of the Heifers takes place in Brattleboro, Vermont. It’s a kind of anti–Running of the Bulls, a pro-local-food parade and fair.

This may seem awfully simplistic, awfully idealistic, but it just may be what we are most in need of, in this era of virtual everything and community nothing. We need doses of the awfully simple. The whole problem with system thinking and ideological approaches to social change is that they require too *few* evening meetings. They take for granted the power of simple actions, undertaken in tandem with others who live nearby. We rush straight for the policy levers, straight towards media silos and global markets and halls of power, and happily throw billions of dollars this way and that at the national level, via political campaigns and media campaigns, advocacy and protest and highly publicized wrangling and blaming. We lend our energy to warring ideologies and power struggles. We shoot for big solutions to big problems. We prefer the ideological and the complicated to the idealistic and the simple. We prefer national activism to local pragmatism.

Perhaps the whole problem with idealism and pragmatism is that—at the level of a diversified, small or mid-size organic farm, or even, the level of a local food system—they seem to be identical twins.

Which leaves this affectionate foodishiary wondering: What can be done to wring some of the inefficiency out of the investment club model? Can volunteer leadership effectively handle deal flow, due diligence, and other aspects of club management? Such questions are thorny; so thorny, in fact, that three Slow Money clubs have thrown in the towel along the way.

This is where the 2Forks Club model comes in. Being organized as a nonprofit enables the club to orient itself toward building social capital and organizational capacity over a long period of time. While the SEC has restrictions regarding paid management for for-profit investment clubs, and while such clubs necessarily focus intensively on keeping transaction costs to an absolute minimum, a nonprofit club can value its broader mission in ways that make having paid staff reasonable, or even, essential. The capital contributed to a nonprofit club is permanent, it stays in, for the benefit of the community, the bioregion, and future generations. The value added by a paid manager or president enhances long-term impact. The focus on individual transactions and financial returns is tempered by the ability of the club manager to participate in broader community efforts to promote local food systems. Thinking and acting collectively, the club can better prioritize “Leaving In” vs. “Taking Out.” This feels more like feeding the soil than feeding the plant. Over a generation or two—note that time frame—the pool of capital can grow, hundreds of thousands of dollars can become millions, organic matter in the soil will grow, and the vitality of the local food system can be nurtured.

Now, the non-foodishiarily-sophisticated will stumble, at first, over the idea of a nonprofit investment club. Isn't it a binary choice: investing vs. philanthropy? What is binary in the world of the fiduciary is integral in the world of the foodishiary.

Brook often has a smile on his face. He loves what he does. To say he has a feel for his land, for the place where he lives, for the living systems he tends, would be an understatement of Mt. Sopris proportions. So I cannot claim that the smile on his face was bigger after I gave him the $5,000 than it had been before. (I was surprised, when I got home, to see that the photo I took of him was, uncharacteristically, not very smile-full.)

Brook Le Van immediately following his receipt of $5,000

2Forks Club is as much an experiment as Brook's recent foray into the realm of biodynamic preparations. We are each trying to optimize the productivity of the resources at our disposal, with an eye towards "meta-productivity"—that is, caring as much about maximizing health and minimizing harm as about yield. There is magic in biodynamic preparations, in the burying of manure-filled cow horns under the full moon, in entertaining the notion that plant spirits are tied to celestial energy, in building organic matter in the soil. Brook reported recently that over the past few years, the organic matter in his soil, as tested by a third party, has grown from 3 percent to 11.5 percent. But there may be even more magic in the affection that is manifested with each act of stewardship.

Brook's is the affection of meta-productivity, of food, farm, and fertility, of symbiosis. Ours must be affection of the "meta-fiduciary" or foodishiary kind—the affection of a group of neighbors, friends, community members, river valley co-inhabitants, baby-boomer angel investor sitting side-by-side with millennial crowd funder, seed funder by seed saver, food entrepreneur by farmer, finding ways to slow our money, together.

That would sound awfully quixotic if I hadn't experienced it in many small doses along the way, but also in a larger burst of shared enthusiasm and great good will that night before my visit to Sustainable Settings, when

Mt. Sopris

by acclamation the 2Forks Club members—most of them, I'd say 20 or so members in the room, plus friends—approved the three loans to Harper Kaufman and Christian La Bar, Casey Piscura, and Jimmy Dula. I've been in many Slow Money meetings, large and small, hither and yon, over the past several years, but this particular gathering generated a kind of resonance, a very palpable good will that was "way above average." Was it the $30,000 member sitting next to the $100 member, each happily wielding his equal vote? Was it a less specific, but no less meaningful, accrual of trust and shared vision among the members, developed over a year or so? Was it the Slow Down Brown Ale that one of the members had brewed? Was it capitalism giving a wink and a nod to socialism?

Slow Down Brown Ale

Whatever the source of all this good will, it was not hard to imagine, out there, not quite over our shoulders, but definitely neither out of sight nor out of mind, Mt. Sopris's offerings: a few geologically correct, foodishiarily benign glints of nurture and blessing.

Woody Tasch is the founder and chairman of the Slow Money Institute and author of Inquiries into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered*. He is former chairman and CEO of Investors' Circle (IC), one of the oldest angel networks in the country, and former treasurer of the Jessie Smith Noyes Foundation.*

ESSAYS

Odessa Piper sees a handful of her favorite books through a Slow Money lens. Gary Nabhan elucidates the emergence of the local food system in Tucson. Fred Kirschenmann traces the arc of sustainable agriculture and soil stewardship. David Montgomery and Anne Biklé explore the intricacies of soil fertility and human health. Woody Tasch evokes common sense . . . or is it *commons n^{th}*?

A Slow Money Reader

BY ODESSA PIPER

The difference between a sun-ripened strawberry and a blast-chilled one is an inconvenient detail most recipe editors prefer to take out. “But,” I plead to the editor, “your rendition won’t taste anything like the berry salad you had at my restaurant.” It’s times like these that I take refuge in beloved books written by fellow practitioners of “The Slow.” They use their expertise to look at the particular in the context of the whole.

That approach—and this pithy quote by Carl Sagan—restores my affirmation about all things holistic: “If you wish to make an apple pie from scratch, you must first invent the universe.” Now that’s my kind of food writing.

Whether it’s Sagan’s “infinity pie” or an apple pandowdy for the rest of us, a well-considered meal doesn’t stay put long enough to be just one thing. Everyone’s food is becoming someone else’s as it cycles through the sun in a hand off of photons to chloroplasts, pollinators to compost-munching microbes. The ecologist will advise we eat it and send it on its way in gratitude, for it just keeps going round: turtles all the way down. This is because the ecologist knows that when we eat, we eat the world; that when we cook, we cook the world.

Okay, I know what you are thinking: our *mise en place* hopefully starts out in some lovely local corner of the world. But in truth, the arc of our ingredient choices has already gone and returned to our forks with countless economical, political, cultural, nutritional, and ecological consequences.

Following are snapshots of books that describe ecologies of interdependence, food, wine, nature, and cosmos. They come and go from a stack of dog-eared, underlined, and lovingly marked tomes at my reading chair. Taken in groups, they constellate, like proximate stars, each adding another dimension that makes new meaning. These are books radiating grand evidence of intelligent life at work in our overheated world. Oh, such as the ideas that launched this journal—Woody Tasch's integral vision as presented in *Inquiries into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered*.

The authors I've interpreted below are pragmatic mystics who go into the depths of their subjects—from cheese and wine to intellectual history and cultural anthropology—and return to the boat with a net full of wriggling fractals and holograms, illuminating the realm beyond either/or choices.

The Life of Cheese: Crafting Food and Value in America by Heather Paxson (University of California Press, 2012)

When a presenter at the American Cheese Society said, "Everything is everywhere," referencing microbes, it sounded a lot like cutting-edge physics. Viewed through Heather Paxson's rubric, you could switch in string cheese for string theory—and the metaphors keep working. Paxson is currently a junior professor of anthropology at MIT, and like her renowned school's physicists who study micro and macro properties of particles, Paxson has a scholarly foot firmly planted in both the micro and macro worlds of the cultures of cheese.

In her book *The Life of Cheese*, Paxson observes how microbial cultures teeming in meadows and ruminants support the cheesemaker's culture, producing tastes that are uniquely of their place. Looking closely at this slower form of agriculture, Paxson studies the communities of artisans—many of them coming "back to the land"—who milk, make, age, and market this new generation of American cheeses. She documents how the ensuing cultures (of both people and the cheeses they sell) have inculcated a new ethos into the time-is-money juggernaut. The reader will quickly recognize versions of Slow Money at work.

In her first chapter she writes:

> *If the aim of twentieth-century industrial food production was to make "every farm a factory," as historian Deborah Fitzgerald has detailed, then a central aim of twenty-first-century artisan food production is to make every farm a working landscape—one that generates, and will continue to generate in the future, multiple values: decent livelihoods, healthy ecologies, beautiful vistas, and, most immediately, good food.*

Paxson makes a scholarly case for the cheese artisan's monetization of slow and hard-to-quantify values. At another point in the book she writes:

> *Artisan cheesemakers illuminate this broader reality because their struggle to realize multiple values in and through their business enterprise is both self-conscious and valorized by others, whereas elsewhere the interplay of economic and moral values is often obscured through language that separates spaces of "work" from "home" and distinguishes actions carried out for money from those we do for love.*

I love a scholar who uses the word *love* without apology in a scholarly study.

Reading Between the Wines **by Terry Theise (University of California Press, 2011)**

Here is a different example of Slow Money at work. This book takes on the big concepts of wine culture via an old world with centuries of patient arts of the soil under its belt. I traveled frequently to Europe while running my restaurant for 30 years in Wisconsin. What I saw models a future that

I wish for all American artisans. Europeans simply have had longer to practice how vintage (weather), village (culture), varietal (species diversity), vineyard (place), and vintner (art and craft) merge into a whole that can intimately transmit locality.

Before I write further, I must disclose some caveats about this author. I know this guy well enough to have married him. He imports wine from some of the growers he extolls in these pages, and his book is definitely not a wine compendium. But if you have ever wondered what depths of meaning the axiom *in vino veritas* could hold, he is your bard.

Theise rolls comfortably between poetic metaphor and expertise earned over a lifetime of travel, tasting, and learning the language of winemaking. When he started out, his stomping grounds were "unpopular" categories: Riesling, grower Champagnes, Grüner Veltliner, and wines with impossible-to-decipher labels. When much of the world still wonders, "Why bother?", he wades cheerfully into the mob to defend the nomenclature of locality, passionately explaining why we should care.

The book explores controversially complex topics like *terroir*, which Theise calls "the Earth's erogenous zones." Concluding the profile of a father-son team whose ancestors have worked their small vineyard's steep slate slopes for centuries, he writes,

> *Families like this one are why I believe in* terroir. *It's neither a dogma nor a faith. It's just a simple fact. The wines themselves lead me to this belief. It's not only a rational empirical matter; it's also a question of Goodness.*

When educating about the less familiar sub-appellations that comprise the region of Champagne, and the unique bottlings produced there by families without the benefit of luxury branding, Theise came up with the phrase "Farmer Fizz." His shorthand helped break down the door of overpriced and confected champagne "big houses" and won new visibility for the landed *vigneron* capable of making great wines:

> *And this leads me to consider the schism between two groups of vintners and drinkers: those who feel wine is "made," and those who feel it is* grown. *It is a fundamental split between two mutually exclusive approaches to both wine and life. If a grower believes from his everyday experience that flavors are* inherent *in his land, he will labor to preserve them.*

So, it follows that Theise can't help challenging those who try foisting authenticity on generically sited industrial wine and who pass sweetness hidden in high alcohol for *gravitas*. One more caveat and you might spill your wine chuckling.

***Thinking Together at the Edge of History: A Memoir of the Life of the Lindisfarne Association, 1972–2012* by William Irwin Thompson (Lorian Press, 2016)**

If quaffing wine and cheese tasting of culture and place is an investment to savor, reading this next author—a brilliant cultural observer whose viewfinder spans millennia—is like sipping enlightenment from a fire hose. William Irwin Thompson is the Ur-Ecologist of our age. He weaves ecosystems of thought—including theoretical physics, religion, history, art, sexuality, and earth sciences—into a coherent Gaian vision of whole-planet dynamics.

Thompson formed Lindisfarne Association to take "a further step toward the articulation of this new culture of science and a post-religious spirituality" and invited many of its finest articulators to his communal table: Gregory and Mary Catherine Bateson, Stewart Brand, Hazel Henderson, Carl Sagan, James Lovelock, E.F. Schumacher, David Spangler, and countless others, each as brilliant as the next.

Listening in on them with Thompson over the last five decades, I can hear a future built on inclusiveness, calling for our loyalties to come down to earth. For example, writing about his decision to homeschool his child, Thompson could have been warning about the danger of money that has lost relevant touch with the body of the planet:

> *Many spiritual philosophers, in differing religious traditions, claim that we take on a body to experience the world of love and compassion. If we lose the body in collective systems and networks of data processing, we can lose the compassion and become intellectually cruel and economically insensitive. We forget that it was through the body that our child was brought forth, and we forget how to be with another in a sense of presence that enhances our feeling for the meaning of life. Like the "hungry ghosts" of Buddhist philosophy, we become wraiths—grey shades whose lives have been parasitized by computer and cell phone—and do not realize they are dead and only haunting the place of life.*

Thompson is difficult to reduce, so I leave it here. Check him out if you dare.

Wonder: When and Why the World Appears Radiant **by Paul R. Fleischman (Small Batch Books, 2013)**

The sugar rush of too much computer-enabled information works a lot like industrialized agriculture's blizzard of empty calories. Too much of anything scrambles the brain, rendering us never able to get enough of what we really don't need. Add money to that trifecta, and evolution for humanity seems perilous.

Our health depends on our ability to scale information into nourishing patterns. At this, Paul Fleischman excels. A distinguished psychiatrist, Fleischman is a dedicated practitioner of Vipassana meditation, and he connects contemplative disciplines, the Tao, and the revelations of science:

> *Just as the ancient civilizations imagined the world consisted of four basic substances—earth, air, fire, and water—we have our creative quaternity: matter, energy, entropy, and information. . . . Wonder forges diverse scientific narratives into a single vision of our identity within the universe.*

His sense of wonder stretches from electrons to marigolds:

> *The laws that birthed and expanded the universe can also converge and cooperate. A marigold startles us because it brings together electrons, protons, atoms, electromagnetism, photosynthesis, ATP, DNA, and so much more into a temporary coherence. Within the cosmos that is mostly black, cold, and empty, there is also a governance of marigolds.*

He writes, "The mind that sees and understands the star is no less radiant than its object."

He could have been describing the mind of Thoreau.

Faith in a Seed: The Dispersion of Seeds and Other Late Natural History Writings **by Henry D. Thoreau [edited by Bradley Dean] (Island Press, 1993)**

Thoreau did not live to complete the works collected in this book, yet in these pages he gives us all the time in the world to reflect on what he saw most intimately. Thoreau's genius is his capacity to observe the world through the prism of his soul and his naturalist's eye. He can see the forest in the seeds and tease out the thread of a miracle in progress.

This volume is composed of recently brought-forth manuscripts, including "Dispersion of Seeds" and "Wild Fruits." They are patiently reconstructed and instructively annotated by Bradley Dean. The foreword by Gary Paul Nabhan and introduction by Robert D. Richardson are inspiring reads on their own, making for very good company in this collection. Abigail Rorer's illustrations complement the writing and are placed throughout the book with understated grace.

In his foreword, Nabhan imagines Thoreau's journey:

> *It was on the wings of seeds that Thoreau sailed home, where he found peace before he died. Although often itching to travel to the far reaches of the world, and always cosmopolitan in his readings, Thoreau gradually became convinced that what he could learn closest to home was what was ultimately of the greatest value. If literary historians sense that he had ceased to emulate Wordsworth and Goethe in his poetry and lofty philosophical essays, they misread his intentions. Instead of turning his back on these literary traditions, Thoreau tried to incorporate them into his search for a language more difficult but more enduring: the language of the forest itself.*

There is no end to Thoreau's reach; even the finality of his words on the page launches a new round of inspired writing by those who study him. I am indebted to Robert Richardson for these words: "Thoreau . . . revealed the world around us in so concentrated and passionate a way as to convince us that every single day is a whole new season."

Over the years I ran L'Etoile, my restaurant in Madison, I thought I had identified nine distinct eating seasons in the Midwest. Our menu, which changed daily to track ingredients, told the greater truth.

Through 2005, I kept this book on a shelf where I would see it every time I entered the kitchen. This was an emotional year for me—the year I turned my restaurant of 30 years over to new hands. I dipped into the book's pages randomly, divining perhaps, to illumine my faith in the seed which held L'Etoile's next generation, continuing my journey, begun long ago, to discover the distance of local.

Odessa Piper is the founder of L'Etoile, a pioneering farm-to-table restaurant in Madison, Wisconsin, which she established in 1976 and ran for 30 years. During that time she helped create local supply networks that enabled her to cook primarily from her region through all seasons of the year. Now resettled in her native New England, she continues to advocate for the gastronomy of the Snowbelt—its seasons, farmers, and artisans.

Food, Community, Justice

BY GARY PAUL NABHAN

Sometimes referred to as "the father of the local food movement," Slow Money Institute board member Gary Nabhan reflects upon community-based food relocalization in Tucson, Arizona. Gary farms an orchard of 150 heirloom fruit varieties in Patagonia, Arizona, ten miles north of the Mexican border.

On December 11, 2015, UNESCO designated Tucson, Arizona, as the first "City of Gastronomy" in the US. That day, Tucson's Mayor Jonathan Rothschild agreed to join 115 other metro areas in 54 countries as members of the Creative Cities Network sponsored by the United Nations.

Rothschild linked the honor to the 4,100-year history of food production in the Tucson Basin—the oldest continuous agricultural tradition in any metro area in the US. But he also suggested that this distinction could become one more means that the city's Poverty Commission and Food Commission could use to reduce the prevailing poverty and food insecurity in the community.

His audience cheered. They needed some good news. Tucson lagged behind other cities in recovering from the Great Recession and had been beleaguered by tragic events such as the assassination attempt on US Congresswoman Gabby Giffords. Tucsonans thirsted for something to celebrate. At last, they were in the national and international spotlight for something positive.

And yet, as the initial excitement subsided, many Tucsonans found that the phrase "City of Gastronomy" did not roll very easily off their tongues.

"What does that mean we are?" they asked. A city of gourmets and gourmands? A city of food cultures? A city with a unique food history? A food city?

At the Food Justice Forum where the mayor launched Tucson's role in the UNESCO network, one Chicana activist had the candor to ask, "How will the dishwasher in a fast food restaurant feel any different about what she or he does because of this designation?"

That question was well put. In fact, Tucsonans had been struggling to get their local food system back on the course of food justice and sustainability ever since the triple whammy of the Great Recession, the subprime mortgage scandal, and Arizona's rancorous immigration debate had ravaged its economy.

But that may have been the very reason that UNESCO temporarily bypassed applications from better-known "food cities" like Portland, Seattle, and New Orleans. Tucson had begun to use its community food innovations—often emerging from the bottom up—as means to reduce its poverty and high public-health costs, to create green jobs, to divert still-edible food out of the waste stream, and to celebrate the unique multicultural food traditions of the US/Mexico borderlands.

What Tucson's many small-scale food and farming entrepreneurs had expressed in their letters of support for the UNESCO designation was not that they had already fixed all the city's social, economic, and nutritional problems. Such problems had been plaguing Old Pueblo and other borderland cities for years. Instead, they had demonstrated that innovations in any community often begin on the margins of its power structure before they gain traction as others join in the problem solving. After these innovations have achieved a certain modicum of success, they are often "blessed" and financially supported by the civic organizations and leaders of the city, so that they can spread more rapidly within and beyond the community.

In 2008, Tucson was the second poorest metro area in the 12 Western states and was ranked by various surveys as either the sixth or the eighth poorest city in the entire country. Just how Tucson became so mired in poverty and food insecurity, childhood obesity, and adult-onset diabetes is a story unto itself. One short answer is that the 2008 subprime mortgage meltdown had its epicenter in Arizona, triggering the loss of tens of thousands of jobs throughout the state just before the Great Recession rocked the entire nation. The Grand Canyon State's economy was so gutted that immigrant farm workers reversed the direction of their migrations, heading back into Mexico to find greener pastures.

Both home construction and tourism income—once steady sources of employment in Arizona—dried up, reducing the number of jobs in related service industries. The Tucson Cooperative Warehouse—which had been Arizona's only food hub—abruptly closed shop in 2008 and released its staff of 65. It had previously been grossing $12 million a year, but could not pencil out profits anymore, even though it had been supplying natural foods to Tucson-area buying clubs, health stores, and co-ops for 34 years.

The unemployment rate in Tucson went from five percent in January 2008 to 11.1 percent in January 2010. Its unemployment rate among the civilian labor force peaked in 2014 at 12.2 percent, and a fourth of the households in the city fell below the poverty level. As such economic woes were compounded by wars over immigration and drugs, it is estimated that the number of food-insecure Tucson residents rose four percent a year, ultimately growing to more than 156,000 individuals.

But that was not the worst of it. A third of those whose low incomes or unemployment qualified them for food relief did not file for federal assistance.

Why? Because if a low-income household harbored even a single undocumented Mexican-born relative, the family often opted not to request any food relief tied to state or federal funding, worried that a paper trail might lead to his or her incarceration or deportation.

As a result of such disparities in access, the Tucson-based Community Food Bank of Southern Arizona witnessed a 22-percent spike in demand in 2008 alone. As its staff was pressed to distribute as many as 24 million meals per year, they became convinced of the need to invest in longer-term solutions to food security. They brought in a new CEO, Michael McDonald, who observed, "We'd experienced four decades of trying to *feed people out of poverty and hunger*, but it wasn't working. We decided that we've got to grow our way toward more sustainable solutions, out of hunger, and into food security."

McDonald and his staff jumped feet-first into seeking more entrepreneurial solutions to the food insecurity plaguing the Tucson community. Its Caridad Community Kitchen began training dozens of unemployed Tucsonans each year in culinary skills, rather than just serving them meals. Their graduates began landing jobs throughout the community in schools, food wagons, and small restaurants. Within two miles of the downtown area, the *Las Milpitas de Cottonwood* community garden morphed into something akin to a new farm incubator. And rather than simply touching base with social justice activists who lived in Tucson's seven poverty-stricken food deserts, it brought several of them on staff to extend their programs across cultural, racial, and class lines.

What began to happen next was—in my mind, at least—what actually made Tucson, its tortilla makers, gardeners, gleaners, and even its dishwashers deserving of being honored as part of the global network of

Las Milpitas de Cottonwood

UNESCO "Cities of Gastronomy." The community could not wait for the government, foundations, or universities to get its food system back on track, so instead it found novel ways to fund and implement—from the grassroots—a series of striking innovations to feed its community members.

When I moved back into one of South Tucson's barrios around 2010, the first thing that struck me was that no one seemed to go to Taco Bell, Señor Taco, or McDonald's any longer. Catty-corner to these fast-food franchises, there always seemed to be a *kimchi* taco truck, a Sonoran hot dog (*dogero*) cart, or a *Santa Maria* barbecue wagon offering fresher, more savory fare for half to two-thirds the price of a Happy Meal.

By 2011, Tucson and its Pima County suburbs had 12 times the number of mobile food services as New York City. At one point, some 941 nomadic food entrepreneurs were roaming around the county, some registered with the city, some not. As many as 235 full-service food carts, 45 *dogero* pushcarts, and 85 nomadic caterers stationed themselves along the dusty streets of Tucson and the roughly paved rural routes coming into the metro area.

Many of these food wagons and pushcarts got built in the backyards of men and women who had recently lost their salaried jobs. They combined the remains of their savings from better years with that of a few relatives, built out a food truck, and secured permits for less than $25,000 a unit. They then took *La Abuela's* most beloved family recipes to the streets.

Pima County was soon competing with Los Angeles County for the highest ratio of food trucks to residents in the US, with roughly one vehicle offering food on the fly for every thousand residents.

And yet, keep this in mind: government-compiled statistics can somewhat capture the changes in numbers of registered food trucks using certified commercial kitchens, but they wholly miss another phenomenon that uses food to help Tucson community members to recover economically. This somewhat hidden, ad hoc community development strategy was revealed to me one day as I sat in the lobby of a garage, waiting to have my tires replaced. As I fidgeted in the midday heat, I became thirsty and a bit hungry. Before I could get up to venture out on the street to find a light lunch and beverage, lunch came to me, my mechanic, and my sales clerk in the form of burritos and tacos. One Mexican-American woman offered us meals while her neighbor and driver provided *horchata* and *jamaica* beverages out of coolers stashed in the trunk of their shared Chevy sedan.

Once I had been exposed to this other form of "street food," I began to notice women hovering by the doors of bookstores with buckets of tamales and men going door-to-door with knapsacks full of borderland specialty foods. Over the following months, I realized that an informal and almost-clandestine food economy had spread its roots from the border town of Nogales into Tucson and all the way up to Phoenix.

Entire extended families were helping one another salvage, glean, or purchase—at discount prices—various seasonal vegetables and other ingredients from produce brokers at the border. They took these windfalls home and combined them with other ingredients for burritos, tacos, *caldos*, *sopas*, and *casuelas*. They loaded the food into coolers and drove around to businesses, parks, and plazas where people from all walks of life were gathered, and then sold them for cash on paper plates or in paper bowls. No overhead, no permits, no taxes, no advertising, and no paper trail.

No wonder Taco Bell and McDonald's appeared nearly empty during lunch hours. Good homemade food—from paella to seasonally savored green corn tamales—could be delivered to you for less than four dollars a meal; you just needed to know where to look for it. As I learned how and where to look for such treasures, I was able to purchase mesquite tortillas, mescal, acorns, and *chiltepins* (wild chiles) out of the trunks of neighbors' sedans and vans.

Innovations had begun not only on the production side of the food sector, but on the waste reduction side as well. Some of the women who sold soups and salsas out of the trunks of their cars began to source their ingredients from two rather "scrappy" and resourceful initiatives: Market on the Move and Produce on Wheels—With Out Waste.

These two food justice efforts rescue huge quantities of soon-to-spoil produce. As "lean-and-mean" and food redistributors, they haul rescued produce up from Nogales in semis, and then park their trucks in dozens of church parking lots in the "food deserts" of Tucson and other towns, where they offer 60 pounds of vegetables for $10 to anyone who arrives in time to get in on the action.

Produce on Wheels had also developed synergies with the Tohono O'odham Tribe's San Xavier Co-op and the University of Arizona's student Compost Cats. In less than five years, this collaboration has recycled more than 10.4 million pounds of green waste into organic compost now used by local gardeners and farmers. As many as 60 students and another dozen tribal members are now employed part-time in producing and marketing the second largest source of locally produced compost in the Tucson Basin.

Produce on Wheels—With Out Waste

The student group also started a food pantry on campus, primarily for other students and staff who live below the poverty level.

It was another champion of composting who blazed new trails in Tucson by expanding markets and creating new jobs along the way. His name was Jason Tankersley, and he cranked up the capture and transformation of green waste in southern Arizona to a level previously unimaginable in the region. Soon his immensely rich organic compost and four other soil amendments were available at more than 50 hardware stores, nonprofit gift shops, and community gardens in Tucson.

Less than a decade before Tankersley and Compost Cats began their blessed ferment, virtually all bags of compost sold in Tucson were brought in by railroad cars from Ohio! Both gardeners and farmers stood amazed as Tank's Green Stuff increased the water-holding capacity and fertility of their soils, allowing both the yields and flavor of desert fruits and vegetables to reach new levels.

That rather sudden access to locally produced inputs for food production may seem trivial until you realize that southern Arizona farmers and ranchers had previously been spending more than $200 million each year to purchase soil amendments, weed and pest control measures, seeds, farm tools, biofuels, and other soil enhancers from sources outside the state.

Jason Tankersley

Several years before, community food economist Ken Meter of the Crossroads Resource Center warned Arizona farmers of the high cost of their addiction to outside inputs: “The region lost, even if a few individual [agribusinesses] thrived. For me, this fact reinforced the economic value of producing fertility and machinery in your own foodshed.”

Whether through food wagons or compost sales, Tucson’s food economy had begun to reinvent itself in ways that government statistics could hardly document, let alone track over time. As social theorists Kenneth Boulding and Immanuel Wallerstein laid out decades ago as a fundamental principle, most innovation tends to happen on the peripheries of society. Such innovations only later get adopted and refined—or, in worst cases, co-opted—in the hallowed halls of well-endowed institutions.

Marginalized Arizonans, especially underemployed Tucsonans, had independently discovered that same principle. Around 2001, before their food business startups began to flourish, Arizona had a rather mediocre ranking (ninth) among all states in the entrepreneurial index of the Kauffman Foundation. But *after* the Recession hit, Arizona surged. Rather suddenly, the Grand Canyon State was ranked at the top, tied with California for the highest entrepreneurial rating among all states in the nation. In Kauffman’s newer, more comprehensive Index of Growth Entrepreneurship, Arizona was ranked in the top three among the 25 states surveyed in 2016.

The drivers of this entrepreneurial surge in Tucson and in other metro areas in the borderlands are not difficult to identify. It seems that recent immigrants (many of whom were born in Mexico) are starting many of the new businesses in the US these days. Their efforts accounted for 28.5 percent of all startups nationwide in 2014—increasing from 25.9 percent in 2013—and more than double their contribution in 1997.

This last year, the Kauffman Index of Startup Activity revealed a remarkable level of activity among Latinos (including Mexican-Americans born in this country). Their share of new businesses created across the country increased from 20.4 percent in 2013 to 22.1 percent in 2014. It is therefore not surprising that the single most important force moving Tucson’s food system in new directions is the Mexican-American community, as it is in other metro areas of the borderlands. All across the US, 91 percent of all Latino businesses are family-owned, compared with 85 percent of non-Latino businesses.

Tucson's food community is also being enriched by refugees from more than 30 other countries. These recent immigrants hone and adapt their already-sophisticated food procurement and business skills through the Iskashitaa Refugee Network. Working with founder Barbara Eiswerth, they identify, harvest, glean, process, and redistribute more than 50 tons of produce annually, assisting a diverse range of underserved families across southern Arizona in their efforts to bolster their nutrition. Another 50 tons of fruit are harvested from local farms, backyards, and street medians to be prepared as value-added products, which are sold by the refugees themselves at farmers' markets and other community events.

All over Tucson, you can see individuals, friends, and families building small food businesses with their sweat equity and tenacity, usually with no funding or technical assistance from any agencies.

And that's where Local First Arizona, led by its charismatic founder, Kimber Lanning, comes in. They are not only providing technical, managerial, and marketing guidance to independently owned food startups, they are also convincing social-venture organizations that it's time for them to lend a hand. Now, thanks to the annual Arizona Food and Farm Finance Forum hosted by Local First Arizona and the University of Arizona Center for Regional Food Studies, young entrepreneurs have a venue where they find both mentors and slow money investors who may be able to help them through the rough spots.

Their rationale is straightforward: supporting independently owned local businesses in Tucson contributes to the economic well-being of the entire community. Local First Arizona has calculated that 73 cents of every dollar spent at independently owned businesses stays in the community, compared with only 43 cents of every dollar spent at nationally franchised food businesses.

There's a certain irony to all of this. While few economists or community development wonks were even paying attention, Tucsonans initiated a wide array of entrepreneurial activities with very little initial capital. Tucson's number of food-related-business startups began to soar even before the local economy as a whole began to recover. Or more to the point, these food businesses have likely fueled some of the economic recovery that has taken place in the community.

On a broader scale, food and beverage businesses appear to be playing a pivotal role in fostering Arizona's economic recovery relative to what was happening in adjacent states. By 2015, the National Restaurant Association placed Arizona in the lead among all states with 2015 restaurant sales of $11.5 billion and 273,700 restaurant jobs. Currently, its restaurant sales are almost three times that of New Mexico, a state of roughly the same size and same level of agricultural productivity.

Drop back down to the metro level and the importance of the food sector to Tucson's economy is writ large. As the city's historic preservation officer Jonathan Mabry recently discovered about Tucson's food sector:

> *There are more than 1,200 restaurants and drinking establishments, which employ more than 30,000 people; when grocery stores are included, food businesses provide 14 percent of all jobs in the city. Of the total number of restaurants and bars in the city, almost two-thirds (63 percent) are locally owned, non-chain businesses. This high rate of local ownership (the 2010 census says that only 41 percent of all US restaurants are locally owned) is good news for our economy . . .*

After the closures of more than 50 of Tucson's restaurants immediately following the 2008 crash, a new generation of independently owned eateries has emerged to become the drivers of what locals now call "the Downtown Renaissance."

Of the 30 locally sourcing dining establishments now found in Tucson, a dozen of these innovative restaurants and bars have taken over historic properties in the Old Pueblo's downtown. In fact, a few of them are within spitting distance of 3,500-year-old irrigation ditches, fields, and gardens that underlie the Old Pueblo. Their names won't mean much to people who don't live in Tucson, but most of their monikers reflect the uniqueness of the desert borderlands. Several of these new restaurants have joined forces to share the costs of transporting and procuring fruits, meats, and vegetables from local farms and ranches.

Rather than seeing each other as competitors, these young business-women and men get that they are all in it together. Many of them are also sourcing their vinegars and fruits from Iskashitaa Refugee Network, their mesquite-smoked whiskey from Hamilton Distillers and its new barley-malting floor, or their breads from Barrio Bread and its Bread Without Borders program, all nested in their own backyard.

This kind of cross-sector collaboration is what sociologist Brian Mayer—a leading member of the Mayor's Poverty Commission—sees as essential for any community to ultimately deal head-on with poverty and food insecurity. It can't just be a governmental effort, or one funded by a generous and compassionate local philanthropist. The food bank can't do it alone, nor can an enlightened business community. All those threads must come together to weave a tangible safety net for those most marginalized by the conventional food system. Thanks to Brian Mayer's critical look at poverty-reduction strategies in cities such as Tucson, I've become convinced that for such a safety net to have staying power, it must be woven from the bottom up.

Regardless of whether the honorific designation from UNESCO as a City of Gastronomy significantly makes such work easier to accomplish, Tucson and its citizens are continuing to improvise new structures that will potentially provide such a safety net for the poorest of the poor in their midst. Their success is by no means a done deal; you can still see the hurt and hunger in the eyes of a third of all Tucsonans.

Yet, I find solace and hope in the words of Chris Bianco, one of the award-winning chefs who has been most engaged with small growers and nonprofits in the region. I think Chris captures the feeling shared by many in Tucson about how such collaborative work changes more than just what we see on our dinner plate:

> *You know, what has changed my life is the daily act, filled with best intentions, of working with all of these people—farmers, ranchers, millers, cheesemakers, tomato canners—for they have become more than mere* suppliers*, they have become* friends*.*
>
> *This metaphor of relationship now extends to everyone who touches or is touched by our food. By reaching out to* affect *our neighbors, and being affected* by *them . . .* that momentous act *keeps building, building, building until it rises up like a leavened ball of dough to become our whole world.*

Gary Paul Nabhan is the director of the Center for Regional Food Studies at the University of Arizona. His latest books are Ethnobiology for the Future: Linking Cultural and Ecological Diversity*, and* The Canelo Project*. He is on the Tucson Commission on Food Security, Heritage, and Economy, and the boards of Slow Money Institute and the Borderlands Habitat Network.*

From Soil to Sustainability

BY FREDERICK KIRSCHENMANN

. . . the way was blazed for treating the whole problem of health in soil, plant, animal, and man as one great subject, calling for a boldly revised point of view and entirely fresh investigation. —*Sir Albert Howard,* The Soil and Health

Defining Sustainability

As most everyone interested in sustainability knows by now, the concept has been appropriated by numerous entities and used in various ways, often to achieve different objectives. In his introductory chapter to the excellent 2013 edition of the Worldwatch Institute's *State of the World* report, Robert Engelman coined the term "sustainababble" to reflect this "cacophonous profusion of uses of the word *sustainable* to mean anything from environmentally better to cool." Increasingly the term is used as a marketing tool, often it is used as an environmental metric, and, of course it is used extensively to describe an "improved" food and agriculture enterprise. While many of these uses may be grounded in good intentions, the result, as Engelman points out, has a high cost:

> *Frequent and inappropriate use lulls us into dreamy belief that all of us—and everything we do, everything we buy, everything we use—are now able to go on forever, world without end, amen.*

Such a "dreamy belief" has certainly been prevalent in most of the visions of contemporary "sustainable agriculture." Whether one belongs to the school of sustainable agriculture that is fixated on the notion that sustainability can only be achieved by intensifying the technology of our dominant industrial agriculture, or to the school of "greening" the system by inserting more environmentally friendly practices, or to the school that insists everyone must transition to organic, all are grounded in the belief that the fundamental principles of modern agriculture, which emerged in the early 20th century, can continue. According to this standard we simply need to tinker with the current system, in various ways, to make it "sustainable." Although such "tinkering" can sometimes produce positive, short-term results, it fails to address the new challenges that will emerge in the near future. Occasionally pundits now refer to this "dreamy belief" of sustainability (appropriately, I think) as "Band-Aid sustainability."

Historical Context

In his engaging book *Culture and Agriculture: An Ecological Introduction to Traditional and Modern Farming Systems*, anthropologist Ernest Schusky provides us with a summary of how the human species has fed itself since evolving on Planet Earth some 200,000 years ago. I think such a historical context can help us to better frame the concept of sustainability. Schusky reminds us that for most of our time on the planet we fed ourselves as hunter-gatherers. Like many other species, we tended to live in small tribes, gather and hunt the food available in a particular place until the food sources became depleted, and then move on to another place. Apparently various methods were also used to limit population growth to keep population density within "carrying capacity."

It wasn't until the Neolithic Revolution, over 12,000 years ago, that we began to transition from "food collectors" to food producers by domesticating plants and animals. We began to live in settled societies and attempted to produce enough food in place to feed a local, settled population.

As Schusky points out, this new way of feeding ourselves was "land intensive." It tended to mine the natural fertility of the soil. Consequently, much of this early agriculture was based on "swidden cultivation," also known as "slash-and-burn" agriculture. In other words, a common practice was to burn off perennial plants—trees or grasses—and then cultivate the soil and plant seeds (usually cereals). The natural soil fertility plus the fertility from the ash initially produced good yields the first year. However yields would decline quickly, as natural soil fertility diminished, so the general practice was to slash-and-burn a new plot of ground every year or two, and allow the first to lay fallow for 15 or 20 years before returning to cultivate it again, after soil fertility was restored.

In the mid-20th century we introduced a new form of agriculture, which Schusky calls the "Neocaloric Revolution," because it is entirely dependent on “old calories”—fossil fuels, fertilizers, fossil water, etc. The discovery of fossil fuels was the principle innovation that ushered in the Industrial Revolution, but it wasn’t until the mid-20th century that industrial methods were applied to agriculture on a large scale.

While Justus von Liebig came up with the idea of substituting synthetic fertilizers (nitrogen, phosphorus, and potassium) for the “laborious” practice of maintaining soil health—and Fritz Haber and Carl Bosch devised the means of making ammonia from atmospheric nitrogen in 1909, enabling the conversion to an intensive “input” agriculture—the adoption of that agriculture did not take root as the dominant form of agriculture until after World War II.

There were numerous agricultural visionaries, soil scientists, and ecologists who issued strong warnings that this “N-P-K mentality” (as Sir Albert Howard called it) was the wrong direction for agriculture because it was contrary to the workings of nature and was, in fact, a “form of banditry” since it would steal the availability of healthy soil from future generations. F.H. King, Liberty Hyde Bailey, Aldo Leopold, William Albrecht, Hans Jenny, Wes Jackson, and many others had similar concerns. They saw that maintaining the health of soil was crucial to any kind of truly sustainable agriculture and were all aware that modern industrial agriculture was still extremely “land intensive” and therefore damaging to the health of the land. We simply substituted “old calorie” inputs in place of healthy soil.

Of course, the immediate short-term benefits of industrial agriculture—the maximum, efficient production for short-term economic return—were too compelling to seriously consider the warnings of such visionaries.

However, Schusky reminds us that our “neo-caloric era” will of necessity be a very short period of time in the time-line of human history. We sometimes forget that this “modern” agriculture depends on a collection of “old” (nonrenewable) calories, which we are rapidly depleting. We also seem to forget that the first producing oil well in the US became operational in Titusville, Pennsylvania, in 1859 (approximately 150 years ago), and it was fossil fuels (especially petroleum) that provided the cheap energy that sustained the entire neo-caloric economy. But all of these old calories are *stored, concentrated energy*—fossil fuels, rock phosphate, potash, fossil water, etc.—and these old calories had accumulated in the planet over many millennia. But once they are gone, the neo-caloric era, according to Schusky, must end, and we will need to redesign a new agriculture that can be "sustainable" in the post-neo-caloric era.

The point to remember in all this is that unless someone finally finds a way to invent a perpetual-motion machine, current, diffuse energy (sunlight) will never be as efficient (energy return on energy invested) as stored concentrated energy. Consequently, any alternative energy we may invent in the future will never be as "cheap" as fossil fuels have been.

In addition, we need to acknowledge the ecological damage that the excessive use of the old calories has caused—damage that will further affect the "sustainability" of agriculture: more severe weather events due to climate change, eroded and degraded soils, depleted biodiversity, and depleting freshwater resources. These are the "sustainability" challenges that will confront us in the decades ahead.

Of course, as the old calories get used up they will become increasingly expensive, so the neo-caloric era will certainly end due to prohibitive costs long before all the calories are used up.

So, a good way to frame the question of sustainability with respect to our future food and agriculture system is to ask ourselves if the current, industrial system (and any "Band-Aids" we might apply) can still be "sustained" when crude oil is $350 a barrel, fertilizer costs are five times what they are today, we only have half the amount of freshwater currently available, we have twice the number of severe weather events, and our soils are even more degraded than they are today.

Anticipating the Future

Given the changes coming at us, a crucial challenge to sustaining a future food system will be to anticipate the changes and get a head start preparing for them. Perhaps we can learn a critical lesson from the research conducted by Jared Diamond. Based on his intensive studies of past civilizations, he concluded that those civilizations that anticipated the changes coming at them, recognized the value of their ecological reserves, and got a head start preparing for the changes were the civilizations that tended to survive for the long term (they were "sustainable"), while those that failed in that exercise were the ones that tended to collapse. In this regard, Schusky makes another important and sobering observation from his studies of human culture—namely, that "humans manipulate their cultures to achieve many practical, short-range goals; what they do not foresee are many more long-term undesirable consequences. Innovations that solve immediate problems often have built-in effects that eventually will cause major problems." Perhaps these observations, from Diamond and Schusky, are among the most important to consider for anyone interested in achieving agricultural "sustainability."

Given this scenario, it seems to me that the most urgent task before us now is to do all we can to *restore the biological health of our soils,* before the remaining old calories become too expensive to be a viable resource for continuing to "sustain" our food system. Of course other issues will need to be addressed at the same time—crucial among them: putting a cap on carbon, restoring our biological and genetic diversity as much as possible, restoring as many perennials as possible (forests and grasslands), eliminating food waste, and implementing the "right to food" and other recent UN proposals. However, key to future food sustainability will be biologically healthy soil!

Beacons to Guide Us

Fortunately we are not without practical wisdom to guide us as we design a new agriculture for the post-neo-caloric era.

Here are a few "beacons of light" to guide us. I prefer to call them beacons, rather than "models," since we tend to think of models as examples that can be duplicated. In our new world, we will need to pay much more attention to the uniqueness of each ecological "neighborhood" and design agricultural systems that are suited to each ecology, rather than imagining another uniform, homogenized, global agriculture typical of the agriculture that has evolved in the neo-caloric era.

Here are a few of the "beacons" that can guide us on our future sustainability journey:

1. **Deborah Koons Garcia, *Symphony of the Soil***
   This new documentary on soil is a masterpiece of science and art that can be used to transform the way our culture thinks about soil. No one can watch this video and still think that soil is just "dirt." It describes not only how soil was formed over many millennia, but also how to care for it and restore its biological health. The documentary can be obtained from Lily Films.

2. **USDA Natural Resources Conservation Service (NRCS) and cover crops**
   In recent months, the NRCS has become very active, working with farmers and soil scientists to incorporate cover crops into monoculture farming operations, with significant results toward beginning a process of restoring soil health. Farmers who have incorporated these practices for a period of five to seven years have discovered that the improved soil health enables them to reduce their fertilizer and pesticide inputs by 70 percent and still maintain yields; furthermore, the improved soil health dramatically improves soil moisture-absorption capacity, reducing flooding and nutrient pollution, as well as increasing drought tolerance. A video with some of the stories from farmers and soil scientists can be viewed on YouTube (search "Under Cover Farms").

3. **The American Academy of Microbiology: "How Microbes Can Help Feed the World"**
   One of the encouraging, recent developments concerning soil health has been the increasing attention given to the microbiome in soil. Even soil scientists, a decade ago, sometimes referred to soil as simply "a material to hold a plant in place." Now we are beginning to understand that soil is a living community of organisms with billions of microbes at its base. While not perfect, a typical article on the subject has been published by the American Academy of Microbiology: "How Microbes Can Help Feed the World," by Ann Reid and Shannon E. Greene, December 2012. It can be accessed by searching for the academy's website and the name of the article.

4. **John Deere, *The Furrow*, February 2013: "Building Better Soils"**
   I take further encouragement from the fact that John Deere elected to devote this entire issue of *The Furrow* magazine to the subject of soil health. Again, many of the stories are about farmers and the benefits they have experienced from soil-health-restoring practices. The magazine, for example, features Gabe Brown, a "20-year no-till, cover crop, and livestock farmer" near Bismarck, North Dakota, who reports that before he started his soil-health farming practices, his soil was only able to "absorb a half-inch

of rain-water per hour. Now it'll take in 8 inches." This issue of *The Furrow* can be accessed at JohnDeere.com/Furrow. Brown has since also reported that while it now costs most conventional, monoculture farmers $4.50 per bushel in input costs to raise corn, his costs are $1.41 per bushel.

5. **Matthew Liebman, agronomist at Iowa State University**
   Dr. Liebman has conducted more than ten years of research comparing results from typical two-year monoculture corn/soybean rotations with three-year rotations of corn/beans/small grain with clover, and four-year rotations of corn/beans/small grain/alfalfa and a second year of alfalfa. The two-year rotation relies entirely on synthetic inputs of fertilizers and pesticides, and the three- and four-year rotations incorporate modest amounts of livestock manure. His research has demonstrated that the soil health improves in the three- and four-year rotations; in addition, fertilizer and pesticides applications can be decreased by almost 90 percent. The land yields and return on investment in land and labor is slightly higher than in the two-year rotation. Comparable ecological benefits have been demonstrated by incorporating perennial prairie strips into conventional corn/soybean monocultures. Reports on the published research can be obtained on the Leopold Center website at www.leopold.iastate.edu.

6. **The Land Institute**
   In Salina, Kansas, Wes Jackson established a research and education institute to explore the possibility of developing perennial grains that could eventually replace annuals. After 30 years of research, scientists have concluded that with additional research, it could be possible to replace many annual grains, like wheat, sorghum, rice, and other crops with perennial varieties. Perennial plants are much more resilient than annuals and have many soil-building and carbon-sequestration capabilities by virtue of their robust root systems. Scientists have already demonstrated the soil-health-restoration capacity of such perennial varieties. In the longer term, post-neo-caloric future, these new varieties are likely to become the core of sustainable grain agriculture. Information can be obtained on the Land Institute website at www.landinstitute.org.

7. **Jeremy Grantham, "Time to Wake Up: Days of Abundant Resources and Falling Prices Are Over Forever"**
The importance and benefits of restoring biological health of soils are not only being recognized by farmers and agronomists, but also by economists and investors. In the April 2011 issue of his widely read newsletter, Jeremy Grantham—one of the nation's leading investment counselors—reminded investors that it was "Time to Wake Up: Days of Abundant Resources and Falling Prices Are Over Forever." Grantham points out in this essay that investors need to change their investment strategies if they want to continue to make money on their money. Continuing to invest in cheap raw materials to increase value without paying attention to natural and social capital, which sustains our economies, will not continue to be successful. Among other things he advises investors to "invest in soil." (A copy of the newsletter can be obtained by searching "Jeremy Grantham.") Woody Tasch, founder of the Slow Money investment movement and author of *Slow Money: Inquiries Into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered*, makes similar points regarding successful investing in the future and makes even more passionate appeals to "invest in soil health."

8. **Sir Albert Howard, *The Soil and Health* (1947); Dr. Daphne Miller, *Farmacology: What Innovative Family Farming Can Teach Us About Health and Healing* (2013); Roni Neff (ed.), I*ntroduction to the US Food System: Public Health, Environment, and Equity* (2014)**
Finally, health care professionals are beginning to recognize the relationship between soil health and human health, a connection that Sir Albert Howard had observed back in the 1940s.

   In his book *The Soil and Health* (1947), Howard suggested that we could not have human health without soil health, plant health, and animal health—that they are all "one great subject," and that this synergy would become the "health care system of the future."

   The connections between healthy soil, healthy agriculture, and healthy humans are now reiterated by Dr. Daphne Miller, a practicing physician and professor of family medicine. In her new book, *Farmacology: What Innovative Family Farming Can Teach Us About*

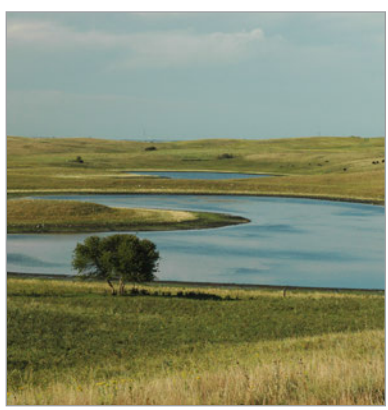
Health and Healing (William Morrow & Company, 2013), she provides numerous on-the-ground examples of such connections.

Roni Neff, health care professional at the Johns Hopkins Bloomberg School of Public Health, has also edited a book of essays, some of which suggest the connections between healthy soil and human health.

Lessons from My Own Farm

My earliest personal lesson about soil health came from my own farm. It began with my father, who started farming on our farm with my mother right after they got married in 1930, which was in the midst of the Dust Bowl. Somehow my father understood that the devastating results of the Dust Bowl on his land were not just about the weather; they were also about the way farmers farmed. Consequently, he became determined to not ever let that happen to his farm again, and so "taking care of the land" became his central passion, and early on he began to instill that value into his young son.

Later in my life, when I returned to our farm to manage it and was introduced to organic agriculture, I discovered that managing for soil health was central to the early advocates of organic farming, visionaries like Sir Albert Howard, Lady Eve Balfour, J.I. Rodale, and others. Consequently, I decided to convert our farm to an organic farm and began implementing the various practices for restoring soil health—applying compost, introducing a mixture of crops in a crop-rotation pattern that included



alfalfa, a deep-rooted legume that also supplied our ruminant animals with forages for winter feed.

By the 1980s our soil had visibly improved—it was more porous, and earthworms and other soil life had dramatically increased. Then, in 1988 we experienced the first dramatic, practical result of this improved soil health. That year we experienced the worst drought in the history of south-central North Dakota. Our neighbors, who farmed with conventional synthetic inputs, never pulled a combine out of the shed that summer since all of their crops dried up and died from lack of moisture by the time they grew to roughly 7 or 8 inches tall. Remarkably, by contrast, our fields produced wheat yields that averaged 17 bushels per acre, despite the severe drought. That result could only be explained by the increased moisture absorption and storage capacity of our healthier soils.

Coda

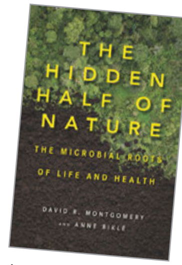
One important lesson in all this was articulated clearly by Wendell Berry in an essay that he originally published back in the early 1980s, "Solving for Pattern." In that remarkable essay, Wendell pointed out that in our culture, we tend to try to solve problems in isolation, as if they were detached phenomena that could be solved with single-tactic, therapeutic interventions. But in fact, problems are always part of a network of interrelated phenomena. Of course, as long as we had all of the cheap "old calories" to perform all of our interventions, we could make the system of therapeutic interventions work relatively well. However, as we enter the post-neo-caloric era at the same time that we have degraded the health of our ecological and social resources (especially soil), we will need to begin recognizing the ecological complexity of living systems and their self-renewing capacity. If we are to live healthy, productive lives, let alone feed ourselves, in our post-neo-caloric future, it will be essential that we sustain our ecological capital (soil being the foundation of that capital). We will need to "solve for pattern."

It is interesting to note that this shift in our thinking is now also being recognized by some of our leading economists. In an essay, published in the January/February 2011 issue of the *Harvard Business Review*, Michael Porter and Mark Kramer suggested that businesses that wanted to be successful in our future could no longer operate by "the old playbook" of marginalizing labor and raw materials in the interest of maximizing profits, and neither could they continue to externalize social and natural costs in the interest of maximizing short-term profits, since labor, raw materials, and social and natural capital (including soil) have now all been so degraded that businesses can no longer be successful unless they "share value" throughout each of these sectors to maintain the health of the whole. As they put it: "Shared value holds the key to unlocking the next wave of business innovation and growth. It will also reconnect company success and community success in ways that have been lost in an age of narrow management approaches, short-term thinking, and deepening divides among society's institutions." We will now need to "solve for pattern."

All of this further suggests, as John Ehrenfeld and Andrew Hoffman propose in their recent book *Flourishing: A Frank Conversation About Sustainability* (Stanford Business Books, 2013), that any of us interested in truly achieving "sustainability" need to move beyond much of the "chatter" about simply buying more "sustainable" products. As they put it, "sustainability is not about windmills, hybrid cars, and green cleaners; it is about the way we live. It is about living authentically; it is about our relationship with nature, with each other, and with ourselves. To be sustainable requires a fundamental shift in our way of thinking and goes to the core of who we are as human beings." I would only add that it is also about how we relate to soil!

Frederick L. Kirschenmann shares an appointment as Distinguished Fellow for the Leopold Center for Sustainable Agriculture at Iowa State University and as president of Stone Barns Center for Food and Agriculture in Pocantico Hills, New York. He served as the Leopold Center's second director from July 2000 to November 2005 and has been recognized widely for his work. He also continues to manage his family's 1,800-acre certified-organic farm in south-central North Dakota, where he developed a diverse crop rotation that has enabled him to farm productively without synthetic inputs (fertilizers or pesticides), while simultaneously improving the health of the soil. His farm has been featured in numerous publications including National Geographic, Business Week, Audubon, Los Angeles Times, *and* Gourmet *magazine.*

Cultivating Health



Reprinted with permission from The Hidden Half of Nature: The Microbial Roots of Life and Health *by David R. Montgomery and Anne Biklé*

Note to reader: *When we set out to write* The Hidden Half of Nature *we weren't sure what to make of our protagonists. Microbes, after all, are invisible. And when most of us think of microbes it's mostly in terms of their notorious negative side. But once we dug into the new and burgeoning field of microbiomes and looked back in history, we found our story.*

It's taken several hundred years for the true nature of the mercurial microbial world to come into focus. Our own health and that of the soil in which our food grows is as much about the presence of microbial allies as the absence of pathogens. In other words, a focus solely on the adverse aspects of the tiniest creatures on Earth means we've been functioning with half a strategy in realms we rely on for our well-being. Across the board, a key tenet in the new view of the tiny multitudes that benefit our lives is to safeguard and cultivate them, even as we combat their pathogenic brethren. Embracing the duality of the microbial world, both philosophically and with new practices, holds much promise for unleashing untapped potential to transform agriculture into a sustainable enterprise and give us new tools to thwart the modern epidemic of chronic diseases. —*D.R.M. and A.B.*

We can't help but see the world differently after unearthing the parallels in the essential roles that microbes play in both soil health and human health. While we still can't see the half of nature hidden beneath our feet, we know it is the root of the life and beauty we see in our garden every day. And we look at ourselves differently too knowing that we are each a tribe of trillions.

Awed by the realization that the animals, plants, and landscapes we see around us are merely the visible tip of nature's iceberg, we now appreciate how the mysterious world of microbes helps make soil fertile and food nutritious. We had thought most microbes were harmful, foes for our immune system and antibiotics to vanquish. Yet microbial communities are integral to key aspects of our own metabolism. Learning that we reap the harvest of what we feed our soil—inner and outer, for better and worse—widened our view, bringing into focus the extraordinary agricultural and medical value of cultivating beneficial microbes in the soil and in ourselves.

For well over a century humanity has viewed our invisible neighbors as threats. We saw soil life primarily as agricultural pests, and through the lens of germ theory we typecast microbes as agents of death and disease. The solutions that grew from these views—agrochemicals to eradicate pests and antibiotics to kill pathogens—became embedded in our practices. Intent upon killing bad microbes, we haven't cared much about the collateral damage to innocent microbial bystanders, although we are beginning to glimpse the effects upon ourselves.

While spraying broad-spectrum biocides on fields may take care of agricultural pests over the short run, the pests return with a vengeance in the long run. And there is a direct parallel to aggressive use of antibiotics over recent decades, which have spawned new strains of antibiotic-resistant bacteria, an increasing number of which we now have no defense against. Instead of solving problems, we've become addicted to solutions with limited staying power. Dowsing gardens, farms, and people with broad-spectrum biocides should no longer be the de facto solution for gardeners, farmers, and doctors.

What does this all mean? Soil fertility and our immune system—two things critically important to us all—don't work like we thought they did. Plants with depauperate communities of beneficial microbes around their roots dial back producing the phytochemicals that defend them and nourish us. Of particular relevance for our own health is that it turns out we need most of the microbes we've been trying so hard to kill. And scrambling our own microbiome, especially early in life, is increasingly implicated as a factor underlying modern maladies. It's not that we shouldn't fight pests and pathogens, but that the approaches we have come to rely upon come with hidden costs.

Looking back on our experience, we believe the difference between a garden and a weed-covered lot can show the way forward. Nature abhors bare ground, and she'll fill it in her own way. But you can shape a place if you work with her. We intentionally cultivated the soil beneath our tiny patch of Earth to reap flashes of color from flowers, trees to inspire us, and vegetables to eat. The discovery that the real source of the beauty, comfort, and sustenance in our garden lay beneath our feet surprised us, and so did something else about our garden. It has about the same surface area as our digestive tract. Imagine gardening your gut, tending to the life you want and need in the body's innermost sanctum.

Just as compost, wood chips, and mulch nourish soil life, the same is true of the foods that nourish the symbiotic inhabitants of our gut. While a living soil will ripple above ground to support the health and resilience of a garden or farm, your inner soil supports another kind of garden—your body. If we cultivate the microbes that benefit us, they'll help fend off their pathogenic cousins and keep our immune system working for us, rather than turning against us.

Tending the garden of our microbiome doesn't mean forgoing modern medicine. Realistically though, it's going to take some time to align medical practices and therapies so that they work with our microbiome. In the meantime, we need to ensure we start out with a healthy microbiome and then maintain it with a diet rich in prebiotics. And if our microbiota take a hit, whether after antibiotics, illness, or maybe even a colonoscopy, we might consider doing what a gardener does and replant what we've lost and help them get established.

In the end, it boils down to some simple advice. Starve your enemies and feed your friends. And don't kill off your allies that help keep the enemies in check.

Although we have but a hazy view of the full scope of the microbial ecosystems that are our bodies, we already know enough to start changing certain practices. Most obvious is prescribing antibiotics with a lot more thought and care for our children, ourselves, and our farm animals. The same goes for easing up on obsessively sterilizing our own homes and bodies. And while restoring the microbial ecosystem of the gut sounds like a tall order when we are just learning what species live there and how they interact, we might consider a key lesson from the natural ecosystems we know. Degraded ecosystems are notoriously difficult—and expensive—to restore. Preventing harm in the first place is generally the best long-term strategy.

Antoine van Leeuwenhoek was onto something big with his tiny curiosities—he just didn't know how big. Over the centuries that followed, pioneering souls illuminated the mysterious dark side of the microbial world. In the process, they defeated many of the worst human pathogens. But just when we thought we had microbes pegged as our invisible enemies, early-twentieth-century visionaries glimpsed the beneficial roles microbial life plays around us and within us. By the close of the century, scientists had pulled the curtain back enough to reveal the startling microbial lineage of higher life. Today, we are just beginning to see how our entangled alliances with microbes are redefining who we are and what we're really made of.

While there have been astounding advances in applied microbiology over the past half-century, most progress focused on pathogenic microbes we could culture. Our success in controlling many infectious diseases constrained our thinking and practices in the way a lantern defines a circle of light. Looking in the illuminated circle, we didn't much consider what lay beyond—the ecological interactions among communities of hard-to-culture microbes and their role in our well-being. Now that gene-sequencing technology lets us light up the shadows, we are seeing much more of the microbial world—and what microbes do.

What we're discovering is that our microbiome and those of plants hover at remarkable, and remarkably similar, frontiers. From the rhizosphere to the mucosal lining of the colon, microbes thrive at interfaces. They always have, ever since the first stromatolites set up shop on the shores of ancient seas. Such environmental borderlands offer a platform on which a microbe can live close to a steady supply of nutrients. Along their evolutionary journey, some microbes threw their lot in with plants and animals, colonizing root surfaces and gut walls, and helping to screen out what is harmful, usher in critical nutrients, exchange information, and pass on important metabolites to their hosts. In so doing, the smallest creatures that ever lived helped keep plants, animals, and all of our ancestors cruising along for millions of years right on up to today.

We were surprised to learn that the environmental systems on which we depend are founded on cooperation as much as on competition. Symbiotic relationships are not the outliers that textbooks portray. Diversity nested in cooperation creates dynamic systems that can stand the test of time. And though scientists may never know all the mechanisms and ways in which these complex relationships work, new studies continue to show the potential power of microbial symbioses in agriculture and medicine.

We believe the revolutionary advances in microbiome science will continue reshaping scientific understanding of nature's hidden half at many levels—from our bodies and yards to our neighborhoods, cities, farms, and forests. The growing awareness that we and all plants and animals evolved along with our microbiomes is helping to crystallize new views of the natural world and our place in it—views so radically different that when we cracked open our college biology textbooks they had nothing much to say about our microbial side. Advances in plant and human microbiome research over the past two decades have upended and reshaped the understanding of biology that most mid-career scientists, doctors, and farmers learned in college. Now it seems that, just like infectious diseases, the current barrage of autoimmune and chronic diseases may also have microbial roots.

Microbiota vary greatly from person to person and day to day within a person, and both genes and environmental factors are sure to figure into how microbes influence autoimmune and chronic diseases. Because of such complexities, microbiome researchers rightly caution against overselling the exciting new discoveries in their field. And it would be easy to do so given the astounding connections that are coming to light.

Indeed, dysbiosis, the opposite of symbiosis, is now under investigation as a primary contributing factor to a long list of maladies. Among these ailments are leaky gut syndrome and inflammatory bowel disease, as well as obesity, certain cancers, asthma, allergies, autism, cardiovascular disease, type 1 and type 2 diabetes, depression, and multiple sclerosis. Where associations and emerging causal linkages between dysbioses and disease will lead us, no one can be sure. Still, it is clear that exploring the microbiome is opening doors to potential treatments and cures for many modern sicknesses—including ways to kick our agrochemical habit.

Imagine the day in which a survey of your gut microbiome will become an index of your personal health, along with your temperature and blood pressure. Likewise, tailoring soil microbes to different crops grown in different soils in various regions and climates may become a key tenet of sustainable agriculture. We are not there yet in either case, however, as we still have much to learn about conducting and interpreting such a survey.

Although it will take time to develop new practices, what we are learning about the microbiome has fundamental implications for agriculture and medicine today. You don't have to be a researcher in microbiology, immunology, or plant science to see the new paradigm—cultivate the good guys in the soil beneath your feet and in your gut's innermost sanctum.

Learning to work with our ancient microbial friends means using long-term thinking to guide short-term practices—something easy enough in theory, but much harder to do. It is difficult to let go of beliefs, especially those reinforced by our parents, advertisers, and society as a whole. From the time we are small, we are told to not play in the dirt and to mind the five-second rule. Shop for nearly anything and it's easy to see how thoroughly germ theory has seeped into our lives. We are encouraged to coat our hands and bodies in antimicrobial products and sanitize our world with all manner of disinfecting products. Antimicrobial chemicals are embedded in plastics, shoe liners, clothing, toys, TV remote controls, keyboards, and steering wheels. This is not to say we should forgo rational hygiene—after all, Dr. Ignaz Semmelweis demonstrated the wisdom of hand-washing a long time ago.

But while we've become incredibly successful at keeping many pathogens at bay, we're now realizing that practices built upon the foundation of germ theory can harm or destroy the beneficial microbes that reside in our fields and in our bodies. Creatures like bacteria, which swap genes like handshakes, reproduce at a furious pace, and can eat just about anything, will quickly overrun a blank slate. The fact that it is useful—and sometimes essential—to kill microbes doesn't change the reality that the indiscriminant use of biocides can disrupt or decimate beneficial communities of microbes.

As it becomes clearer that dysbioses undermine our health and the health of the land, microbiome science is also revealing the time-tested basis for traditional practices and diets. For decades, mainstream science dismissed such practices as the uninformed fruit of ignorance and superstition. And while this seems a fair assessment of certain practices, like the infamous red cure for smallpox, it is not true across the board.

We are now learning why some traditional approaches to plant health and human health work—they support the beneficial microbiota at the heart of the symbiotic relationships in the soil and our bodies. This is why it matters whether soil biota get enough organic matter to eat—and why it's worth eating the kind of carbohydrates that keep the alchemical cauldron of the colon bubbling with life. As odd as it might have sounded at the start of this book, mulching your inner soil can mean the difference between robust health and ill health.

The folly of practices that harm beneficial microbes haunts us, creating new problems without solving the original ones. This is the hallmark of a bad strategy. Burning up soil organic matter and starving beneficial soil life have left us with a legacy of barren fields. And likewise, a diet poor in plants and rich in antimicrobials threatens our inner soil. For too long we have tried to replace biology with chemical nutrients and poisons.

Resurgent agricultural pests, declining soil fertility, crisis-level antibiotic resistance, and life-sapping chronic diseases all seem unrelated until you consider their roots in disrupted microbial ecology. Bacteria began resisting antibiotics almost from the moment we stood back and marveled at the killing power of these new miracle drugs. The more we try to poison bacteria, the more resistant they become because of their rapid generational turnover and ability to casually pass on the traits that shield them. We may win battles against them, but we will never win the war this way. We need a different strategy.

The root of a new plan for health in people, plants, and animals lies in recognizing that we have long lived in an ecological embrace with microbes, fine-tuning our relationships with them so that they help us run the internal environments of our bodies. We spent more than 95 percent of our several-hundred-thousand-year existence immersed in nature. Hunting and gathering wild foods and migrating across new landscapes brought us into contact with microbes that coated our bodies inside and out. This constant exposure to microbial life trained and toned our immune system. Then, in but a blink of Earth's eye, we felled forests, poisoned fields, and paved the land, depleting the stores of nature we once drew upon for our microbiome. In an evolutionary heartbeat, we began renegotiating partnerships honed over countless generations.

Today's agricultural and medical technology is stunning indeed. We can splice genes into plants to create instant evolution and send robotic tractors out to work the fields of enormous farms. We laser-sculpt our eyeballs so we can shed our glasses, and we transfer organs from one body to another. But we are only beginning to untangle the relationships among the inhabitants of microbial ecosystems. We're right back with Carl Linnaeus, figuring out who is there and what to call them.

No doubt surprises await us. Indeed, as we were finishing this book, a new study showed that artificial sweeteners create dysbiosis in ways that alter how both mice and people metabolize glucose. It appears that sweeteners used in so-called diet sodas mimic the sugar they replace in some respects. Like most people, we had thought that calorie-free artificial sweeteners were useful for those watching their weight. But apparently our microbiota consider them much like sugar, leaving us all to wonder if artificial sweeteners are a back door to type 2 diabetes and obesity.

And the idea of going with your gut is taking on new meaning. Who would have thought that the inhabitants of Élie Metchnikoff's colonic garbage can make serotonin, a neurotransmitter that shapes one's mood. Not only are our gut microbes communicating with our nervous system, but our emotional state can influence our gut microbes—and the spectrum of metabolites they produce.

Maybe we shouldn't be all that surprised when nature's hidden half throws us such curveballs. Aldo Leopold, an iconic figure well known to ecologists, watched what happened to the vegetation in the Southwest when people decided that killing off wolves would be a good idea. The deer population exploded and consumed the forest, leaving the land denuded and the deer without enough to eat. Little did trigger-happy ranchers and wildlife agents suspect that shooting carnivores would erode the soil and starve the deer.

What does this all mean for the way we treat microbes? It means we must find new ways to protect ourselves, our crops, and our livestock from pests and microbial pathogens while cultivating our allies. We need to blend the mind of an ecologist with the care of a gardener and the skill of a doctor. For working with the hidden half of nature points the way to some surprising—and surprisingly effective—ways to help address a wide range of seemingly disconnected environmental and health problems.

A couple of decades ago, it would have sounded crazy to argue that plants and microbes in the soil run a biological barter system that functions as a plant's defense system and allows us to harvest nutrient-laden plant foods essential to our health. Even more unbelievable would have been the notion that bacteria communicate with our immune system, helping it to precisely mete out inflammation to repel pathogens and recruit helpful commensals. These surprising new truths carry fundamental implications for the way we view, and should treat, a wide range of seemingly unrelated maladies. In medicine, as in agriculture, what we feed our soils—inner and outer—offers a prescription for health forged on the anvil of geologic time.

Anyone who walks with open eyes through gullied fields, concrete-lined streams, and stump-covered hills can see how our hands triggered these impoverished conditions. But it's harder to see how our actions change microbial landscapes—until we connect the dots and recognize the effects that manifest within us and around us. Changing our thinking about microbes is the first step toward changing how we see them. After all, while sight is an ability, seeing remains an art.

It is difficult to talk about, let alone act upon, conserving and protecting something you can't see. But if we are to do this, we need to see the world as it is, imagine what we want it to be like, and do what it takes to get there—instead of following our well-worn path of imagining how things are, ignoring how they work, and doing whatever we please. It is time to accept that our reality plays out under the invisible influence of microbial communities that keep nature's grand design—and our own self-centered lives—humming along.

Still, the vast majority of microbial species remain elusive to science, as do their relationships with one another and ourselves. Microbes serve as nature's software—an organic operating system alive with biotic code, a menu of genetic instructions crafted over deep time. Living in the background, keeping essential systems working, microbes shaped our ancestors' earliest days and continue to run the world we know.

Like most software, the microbial code is out of sight and out of mind—until it crashes, an error message pops up, or systems that once worked well start to fail. And it's no secret that software errors are hard to fix if you don't have the source code. We're only beginning to understand the language of microbial ecology and the biological programming built over the long haul of evolution. So perhaps we should think twice about doing away with code we don't understand. Beta testing new configurations of critical systems with neither blueprint nor backup plan is always risky business.

So where does this revolutionary new perspective leave us? Put bluntly, many practices at the heart of modern agriculture and medicine—two arenas of applied science critical to human health and well-being—are simply on the wrong path. We need to learn how to work with rather than against the microbial communities that underpin the health of plants and people.

For agriculture this means treating soil like what it really is—the living foundation of all life. To grow anything one must feed it, and the way to maintain fertile agricultural soil is to cultivate soil life with organic matter. Much the same idea applies to our inner soil. What we eat feeds and shapes our microbiome's metabolism, which in turn shapes our health—from the inside out, for better or worse. Of course, changing one's diet will not cure acute illnesses. But it may be the single most effective thing a person can do to prevent chronic illnesses and promote overall health.

While scientists and doctors in a wide range of disciplines are poised in the decades ahead for discoveries that will inform new practices and therapies, some things are already pretty clear—things we can take action on now. This means eating for your microbiome, the living roots of your immune system. When your gut microbiota get their fill of complex carbohydrates, you harvest health.

When we bought our house, it had a decades-old kitchen split between two small rooms. We thought that remodeling the kitchen would improve our lives. It did, but in the end, remodeling the yard to make a garden truly changed us. Watching a place you thought you knew well slowly transform can help you notice the things that truly are right in front of you. Over time, we both came to see that what was outside the house, hidden beneath our feet, was as essential to our happiness and well-being as what was inside.

Making a garden taught us things we never could have imagined. First and foremost, a garden is never really done. Soil needs long-term care and feeding to get what you need from it. In our case, we started from scratch and had to restore life to our soil. It's hard work, frustrating at times, and as in all dances with nature, rarely dull. In our garden we came to see a microcosm of a could-be world—feed the soil and it will keep feeding us. Not just our bellies, but our minds and spirits too.

We didn't grasp these things at first. After all, we'd set out to renovate our yard, not reframe how we thought about nature. But the process of rebuilding our soil to support a garden revealed the microbial roots of life and health. This new way to read Earth's story redefined, and revived, our relationship with nature—and showed us how to restore the land and heal ourselves.

Along the way, we went from being cynical eco-pessimists to cautious eco-optimists. It didn't take joining a cult, or setting out on a soul-searching global pilgrimage. We opened the back door and stepped outside and began to unearth the wonders around us, beneath us, and within us. New life caught our eye bit by bit and season by season. And when we tapped into our mind's eye, we saw much further, to the invisible frontiers where modern science meets ancient realities.

Most of us think of nature as the plants and animals big enough to see with the naked eye. We too hang on to this tendency. When we look at a tree, we see branches sweeping upward and the shape and color of leaves against the blue of the sky. But in our mind's eye we see so much more that was hidden before. For as unique as we each may be, we have never been alone. The living roots of the grandest tree of all, nature herself, plunge deep beneath our feet and throughout our bodies. Nature is not out there in some distant and faraway land. She is closer than we ever imagined, right inside of us.

David R. Montgomery and Anne Biklé are married. David is Dean's professor of geomorphology at the University of Washington and a MacArthur Fellow. Anne is a biologist, gardener, and writer. You can follow them on Twitter @dig2grow. Their website is www.dig2grow.com.

commons n^{th}

COMMON SENSE FOR THE AGE OF EXPONENTIAL GROWTH

Life after fast food, fast money, rogue computer algorithms, CDOs, GMOs, high-fructose corn syrup, food deserts, Desert Storms, capitalism, socialism, globalization run amok, and all those mutual funds, pension funds, endowments, and other ungodly humongous institutional pools of capital that may or may not ever find their way to conscientious investing, saying "No!" to oil and "Yes!" to soil

by Woody Tasch
Boulder, Colorado
October, 2016

A NOTE TO THE READER[1]

When Thomas Paine's pamphlet *Common Sense* went viral in 1776—more than a century before the first virus was discovered, and two centuries before the term "viral" would cause a gleam in the first blogger's eye—it did more than just hit a chord. It articulated a revolutionary sense of purpose that united millions of people. This was the first viral message of the modern democratic era.

I have no such ambition in that which follows.

I merely want to suggest that—in this season of populism and punditry, this season of exit polls and Silicon Valley moonshots and Wall Street shenanigans, this world of heating up and speeding up—we are looking for common sense in all the wrong places.

You cannot find it in a campaign contribution. You cannot find it in a piece of legislation. You cannot find it in an investment prospectus. You cannot find it in an app. Does this mean common sense is gone forever, like a species that has gone extinct?

No, because you can still find it in the small acts of entrepreneurship and healing of local food producers, consumers, and investors who are putting their hands into the soil of a restorative economy.

1 An earlier version of this quasi-pamphlet was shared in 2014.

What could not be seen in 1776 now looms large: Democracy was destined to have a very complicated relationship with Capitalism. Theirs was to be a union that produced lots of inspiration, lots of opportunity and idealism, lots of pioneering spirit and entrepreneurial passion, and eventually, a few hundred years later, lots of disoriented citizens—whole populations who feel politically and economically disempowered, who don't know what or who to believe, and who don't know which lesser of two evils to choose.

It turns out that "Life, Liberty, and the Pursuit of Happiness" cannot live with and cannot live without "Love Thy Neighbor as Thyself" and "Thou Shalt Not Kill." We don't seem able to grow the economy without continual war and gargantuan military spending. We don't seem able to grow the economy without also growing obesity and diabetes, cancer, depression, and substance abuse. We don't seem able to tear ourselves from TV and computer screens, from stock market fluctuation and scandal of the day. We have become a nation of consumers, speculators, and spectators.

We are hooked on the spectacle of the American Dream bumping up against limits, with all its juicy subplots: exceptionalism struggling with fundamentalism; corporatism struggling with environmentalism; Wall Street pulling away from Main Street; Google reaching escape velocity; drones doing God Knows What God Knows Where to God Knows Who; Warren Buffett vs. Donald Trump; wealth masquerading as health; information masquerading as knowledge; hearts and minds being hijacked by billions and trillions; sound bites overwhelming conversations; mortgages overwhelming homes; sea level breaching sea walls; antibiotics dowsing food. Given all the commotion, we can be forgiven for a certain befuddlement. Culture is eroding. Affection is being depleted faster than the Ogallala Aquifer.

In the 21st century, we need to discover a new kind of common sense. Common sense for the age of exponential growth, the age in which capital markets, technological innovation, and population have exploded, and so have military industrialism, consumerism, video-gamism, terrorism, and Twinkieism. Common sense—and this may seem a bit of a homespun, ineffectual non sequiter, but, no, not at all, it is actually the ultimate of potent sequiturs—that reconnects us to the places where we live and to the land. Not just the land as in "This land is your land, this land is my land," but the actual land, the farm down the street or in the next town or county or valley, the land whence our food derives, all the way down to the very soil itself.

Which is why FDR once said, way back, when there were a mere 2.5 billion humans on earth and a few million shares a day of stock trades seemed like a lot: "The nation that destroys its soil destroys itself."

Common sense is the soil of culture.

Rediscovering it may be, on the one hand, as simple as bringing some of our money back down to earth. On the other, it may be as nuanced as the thread of a conversation that started when the first hunter-gatherer settled down in the Fertile Crescent and began cultivating wheat.

This is a conversation about food, place, soil. It is a conversation about monoculture and diversity. It is a conversation about what we kill and what we grow. It is a conversation about the collateral damage caused by economic growth and how we deploy our wealth.

On July 11, 2014, the World Council of Churches made a historic recommendation that its 345 member churches, representing hundreds of millions of Christians worldwide, divest of fossil fuels. Bill McKibben, cofounder of 350.org, a leading voice on divestment, reflects:

> *When Harvard divested from tobacco stocks in 1990, then-president Derek Bok said the university did not want "to be associated with companies whose products create a substantial and unjustifiable risk of harm to other human beings." Given that the most recent data indicates*

Bill McKibben, founder of 350.org

fossil fuel pollution could kill 100 million by 2030, the coal, oil, and gas industry would seem to pass that test pretty easily.

If we wish to steer away from economic activities that do harm, common sense points us in the direction of divesting. And beyond, to *conscientious investing*—the investing that comes after protesting and divesting.

Although I've worked for 30 years at the nexus of venture capital, social investing, and philanthropy, I am not speaking, here, as a professional trained in any of those disciplines. I am speaking as an individual who wishes to reduce his complicity in institutionalized violence, military and economic. I am speaking as an individual who wishes to align his capital and his values wholeheartedly, rather than half-headedly.

The most conscientious financial action I can imagine is taking a little of my money out of *there*—abstract, derivatives-riddled explorations of the financial universe and fossil-fuel-driven explorations of the earth's crust—and putting it to work *here*—near where I live, in things that I understand, in enterprises that promote the health of my household, community, and bioregion.

After years of experimenting and worrying and organizing and studying, it occurs to me that it is all really painfully common sensical:

We are giving our money to people we don't know very well, to invest in things they don't understand very well, halfway around the world in places we will never visit. Does this sound like the recipe for a healthy future?

And after years of working at the nexus of venture capital, socially responsible investing, and philanthropy, I have arrived at an answer to this question that is both quite simple and from a fiduciary perspective, quite complicated:

Making a loan to a local organic farmer or small food enterprise is the most conscientious, constructive, and tangible action I can undertake to begin moving in a fundamentally new direction.

Large industrial companies and multinational corporations, and the mutual funds that invest in them, are too big, too diversified, and too "tricky" for my taste, inevitably including commercial endeavors that are directly or indirectly at odds with my beliefs and hopes. This is not a wholesale indictment of these corporations or funds or the people who run them, some of whom are my friends. It is merely an acknowledgment of the realities of managing large pools of capital and using financial returns as the primary, universally applied, lowest-common-denominator metric, with social and environmental "metrics" or "impacts" as add-ons. And while the preceding few sentences are sure to ignite some vociferous objections from some of these same friends, I will merely add: Let's spend less time in pro-Left or pro-Right arguments about the efficiency of capital markets or the efficacy of regulation and certification, and let's devote more time to investing in the Radical Center.[2]

Is there anything more deeply conservative and more deeply liberal than investing in small farms and local food systems? This is direct action. It is undiluted. It is not distorted by the gravitational pull of distant pools of capital. It is supporting local entrepreneurship and creating jobs that will not be exported. It connects us to our neighbors and builds community. It connects us to the soil.

These are all wonderful benefits, but they come with a limiting factor: we can only do this with a little of our money, because it is, by definition, relatively inefficient. That is, it takes a lot of time and energy to put a little money to work this way.

Some will therefore opine: "This is not scalable—individuals making small investments here and there will never add up to systemic change." Others will opine: "These may be the seeds of a new peace movement."

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[2] In *The Radical Center*, (Random House, 2001) Ted Halstead and Michael Lind write: "To us, it seems obvious that the familiar varieties of liberalism and conservatism, developed as they were in response to the Second Industrial Revolution, are largely irrelevant in the fundamentally different environment of the first half of the twenty-first century. 'Centrism' itself has become something of a shallow mantra in recent American politics. It is usually invoked in a tactical effort to bridge the differences between the existing Left and Right—yielding a 'Squishy Center' that lies between Left and Right, rather than a 'Radical Center.' We use the radical—in keeping with its Latin derivation from 'radix,' or 'root'—to emphasize that we are interested not in tinkering at the margin of our inherited public, private, and communal institutions, but rather in promoting, when necessary, a wholesale revamping of their component parts."

If we understand a movement to be a mass mobilization, not infrequently including taking to the street to protest an act of institutional violence or injustice, then Slow Money, Slow Food, Slow Church, local food and local economies activism, even impact investing and socially responsible investing as a whole—none are really movements. They are sparks, seeds, pulses, outbursts of public conversation, vital points of engagement—but they are not mass movements. At least, not yet.

Perhaps 350.org's divestment campaign is poised to tip us all into a great, unified mass movement. But if we are going to take our money out of fossil fuel, where are we going to put it?

Divestment arguments are made on the basis of the most fundamental, most long-term, most humane thinking we can muster. The investing that comes after divesting must be equally fundamental, long-term, and humane.

Paul Hawken's *Blessed Unrest* suggests that millions of NGOs around the world are part of an overarching environmental and social justice meta-movement that has no name, a process that he likens to Planet Earth's immune response. Nevertheless, momentum of meta-historic proportions remains embedded in commercial activities and economic institutions that pour carbon into the atmosphere and draw down natural and social capital. We've created 1,810 billionaires, yet the prospects for a billion thousandaires to enjoy the benefits of economic growth remain murky. Military expenditures keep eating away at national budgets: during the 20th century, the military's share of the US federal budget went up more than 20 times, from around one percent to more than 20 percent, and that doesn't take into account a great many more military-related expenditures.[3]

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[3] The 2014 US federal budget allocated $820 billion to defense, or 22.4 percent of the total budget of $3.65 trillion. However, this defense budget did not include "many military-related items that are outside of the Defense Department budget, such as nuclear weapons research, maintenance, cleanup, and production, which is in the Department of Energy budget, Veterans Affairs, the Treasury Department's payments in pensions to military retirees and widows and their families, interest on debt incurred in past wars, or State Department financing of foreign arms sales and militarily-related development assistance. Neither does it include defense spending that is not military in nature, such as the Department of Homeland Security, counter-terrorism spending by the Federal Bureau of Investigation, and intelligence-gathering spending by NASA." (U.S. Department of Defense Handbook, 2011) It is also important to note that much of the trillions of dollars spent on the wars in Iraq and Afghanistan were allocated outside the formal budget, through a process called supplemental appropriations. On the military-spending totem pole, the US spends more than the next ten nations combined—around 40 percent of the world total.

Economic growth causes environmental and social collateral damage, as surely as a naval destroyer causes a wake or the befuddlement-inducing complexity of derivatives causes financial bubbles. Can consumers, activists, NGOs, policy makers, and regulators reduce this collateral damage? Certainly. Can they reduce it *enough*? Not without the power of investors, putting investment capital to work in fundamentally new ways, reducing violence, nurturing diversity, preserving and restoring community, supporting the slow, the small, and the local.

To most businesses, social and environmental impacts are "end of pipe" issues, coming after attention is paid to the goods and services that are their primary concern. Of course, we must do everything possible to clean things up at the end of the pipe. We must also recognize that we will only get so far if we do not effectively address front-end questions.

But let's dispense with industrial "pipe" metaphors and go *au naturel*: politics deals with the leaves of the Great Economic Tree. If we want to promote plant health, we need to pay attention to roots and soil. "Feed the soil, not the plant," says organic farmer Eliot Coleman.

Washington and Wall Street work on the leaves. It cannot be any other way. Money rises up from the soil and makes its ways to the political and economic leaves. It stays there. This is a one-way journey, which is why the human economy has such difficulty mimicking or working in concert with the natural economy. Money hardly ever finds its way back to the soil. It gets locked up in the leaves—the intricate workings of pension funds and insurance companies and government programs and mutual funds.

What is lacking is a process of putting back into the soil what we take out.

In mulling this, we must avoid false either/or choices—pro-government or pro-markets, pro-free trade or anti-free trade. Remember: E.F. Schumacher, author of *Small Is Beautiful*, once said, "If everything were small, I'd be arguing in favor of big."

This is a matter of balance, of completion, of reconnection.

If a movement could be started by a goofy query, it would be this:

Q. *What's the opposite of a predator drone, a credit default swap, and a Twinkie?*

Such a movement would be driven by individuals who want to reduce the flow of their capital to enterprises that are complicit with violence. This would be a movement to resist the gravitational forces of financial razzmatazz, a movement to build a new economy from the ground up, starting with a food system that is pro-soil, pro-earthworm, and pro-life (with apologies to those for whom that last term has only one specific special-interest meaning).

Perhaps, more simply, it would be a movement to rediscover *Here*.

Many of us remember "Be Here Now" from the 1960s. We definitely got the *Be* part down. Remember the "Be In" at Golden Gate Park? And we got the *Now* part down. From the National Organization of Women to Democracy Now! to the culture of everything just a click away, we've got all manner of *Now*. But what ever happened to the *Here*?

Even after we learned, from the first pictures of Earth rising over the moon, that there is no such place as *Away* to which we can send our pollution, we didn't quite get all the way back to *Here*. We got to "Think Globally, Act Locally," but, still, something was missing. We kept sending our money away and then chasing it, trying to drag scraps of it back into our communities.

For years, Ben & Jerry's promoted 1% for Peace, arguing that 1 percent of the Defense Department budget should be reallocated to health, education, and human services. Then came Patagonia's philanthropic leadership, which evolved into 1% for the Planet, facilitating corporate contributions in support of environmental stewardship. Are we heading toward "1% for *Here*" or "1% for *Soil*"—working not at the level of government program or corporate philanthropy, but rather, at the level of individuals who are bringing their investments back down to earth?

A few tens of thousands of folks of the Slow Money persuasion have set out in this direction, putting over $50 million into more than 500 small food enterprises, in deals ranging in size from a few thousand dollars to a few million dollars, via dozens of local networks and investment clubs in the US, Canada, France, and Switzerland. Thirty-three thousand people have signed the Slow Money Principles:

I. *We must bring money back down to earth.*

II. *There is such a thing as money that is too fast, companies that are too big, finance that is too complex. Therefore, we must slow our money down—not all of it, of course, but enough to matter.*

III. *The 20th century was the era of Buy Low/Sell High and Wealth Now/Philanthropy Later—what one venture capitalist called "the largest legal accumulation of wealth in history." The 21st century will be the era of nurture capital built around principles of carrying capacity, care of the commons, sense of place, diversity, and nonviolence.*

IV. *We must learn to invest as if food, farms, and fertility mattered. We must connect investors to the places where they live, creating healthy relationships and new sources of capital for small food enterprises.*

V. *Let us celebrate the new generation of entrepreneurs, consumers, and investors who are showing the way from Making a Killing to Making a Living.*

VI. *Paul Newman said, "I just happen to think that in life we need to be a little like the farmer who puts back into the soil what he takes out." Recognizing the wisdom of these words, let us begin rebuilding our economy from the ground up, asking:*

- *What would the world be like if we invested 50 percent of our assets within 50 miles of where we live?*
- *What if there were a new generation of companies that gave away 50 percent of their profits?*
- *What if there was 50 percent more organic matter in our soil 50 years from now?*

These principles add the voices of individual investors to broader activism that is emerging out of the work of Slow Food, 350.org, 1% for the Planet, the Schumacher Society for a New Economics, BALLE (Business Alliance for Local Living Economies), Post Carbon Institute, RSF Social Finance, Kiva, LocalHarvest, Roots of Change, New Economy Coalition, Local Food Shift, and others.

For we will need more than political advocacy, consumer choice, and philanthropy to achieve a restorative economy—an economy that creates economic opportunity and wealth while preserving and restoring communities and bioregions. If we want to fix what is broken in food and finance, we will need more than voters, consumers, activists, and donors. We will need investors.

Industrial agriculture and industrial finance are two sides of the same coin.

The food system is great at producing cheap, shelf-stable food, but equally great as a contributor to many significant systemic problems: soil erosion, carbon in the atmosphere, an obesity and diabetes pandemic, aquifer depletion, loss of biodiversity, and high costs of intermediation (less than ten cents of every consumer food dollar gets to a farmer). The finance system is great at facilitating enormous capital flows and wealth creation, but equally great as a contributor to many fundamental systemic problems: unequal distribution of wealth, short-term thinking in the executive suite, securities that are too complex to regulate, banks that are too big to manage, and layers of intermediation that are rigged in favor of—to use the words of John Bogle, founder of The Vanguard Group, one of the world's largest asset management firms—"the croupiers."

We need to learn how to earn, save, and invest a new kind of coin.

This is one such coin: *Beetcoin*. A playful, but serious little bit of financial imagineering that has been used a few times to crowd fund for small food enterprises in tandem with Slow Money events. Small donations were aggregated online, contributors voted for one of a number of featured food enterprises, and a total of $156,000 was shared by the winners in the form of zero-percent loans: Bauman's Cedar Valley Farms (Garnett, Kansas), Sustainable Iowa Land Trust (Iowa City, Iowa), New Roots and Barbour's Farm (Louisville, Kentucky), Mountain Flower Dairy (Boulder, Colorado), Re:Vision (Denver, Colorado), and Poudre Valley Community Farms (Fort Collins, Colorado).

Here's a glimpse of the kind of enterprises that have received support via Slow Money local networks and investment clubs over the past few years:

Among the Slow Money investments are: (1) Point Reyes Compost (California); (2) Maine Grains; (3) Chatham Marketplace food co-op (North Carolina); (4) Small farmer Aaron Campbell (North Carolina); (5) Greenling, organic food home delivery (Texas); (6) Brooklyn Grange, one of the nation's largest organic rooftop gardens (New York); (7) Re:Vision, urban farming NGO (Colorado)

As evidenced by the emergence of community-supported agriculture and the dramatic increase in the number of farmers' markets over the past few decades, a new generation of small and midsize organic farms is in the offing, along with the many enterprises that will bring their product to market. Yet despite robust growth, organics still accounts for only four percent of the food industry, and organic farmland in the US accounts for only one percent of total farmland.

If we believe that our personal health, the health of the economy, the health of the country, and the health of the environment would all be much improved if there were a million new small and midsize organic farms scattered across the land—recognizing that our nation was, at its birth, a nation of small farmers, that at the beginning of the 20th century a third of our populace were small farmers, and that, as all pendulums do, the pendulum of industrialization that has gutted rural communities, sapped rural culture, and treated the soil as if it were disposable has gone too far and must swing back for the good of all—then we must ask where the capital will come from to support a structural change of this magnitude. It will not come, either in terms of quantity or kind, from Wall Street, Washington, or the foundation community.

Wall Street and Washington are each dysfunctional in their own way; both are captive to top-down, industrial solutions and the influence of special interests. The foundation community has its own set of structural limitations. Roughly one-quarter of one percent of foundation grants go to sustainable agriculture, and the amount of mission-related investing by foundations in the food sector is barely calculable. Organized around the provision of grants to nonprofits, foundations have great difficulty moving towards mission-related investing or impact investing, and the risk/return/impact equation of small, for-profit food businesses does not easily compute for them.

No, the capital needed to fix the economy from the ground up will have to be generated locally, directly from individuals who recognize the limits of the dismal science of economics,[4] the limitations of institutional finance, and the innate value of putting their own money to work in new ways.

[4] Thomas Carlyle, the 19th-century Scottish philosopher, called economics "the dismal science." He was referring to the dismal predications of Thomas Malthus, who reasoned that because agricultural production was growing arithmetically while population grew exponentially, widespread starvation would be inevitable.

If it were ever true, as Thomas Friedman opined in 1996, that no two countries who are home to McDonald's have ever gone to war, it is no longer so. The suggestion had a nice ring to it, but it proved frivolous. It would be equally frivolous to suggest that war could be avoided by promoting broader ownership of Coca-Cola stock or shares in Berkshire Hathaway. As it would be frivolous to suggest that a few million dollars worth of *Beetcoin* could ever be the answer to land grabs in Africa or refrigerators in China.[5]

Yet, it is hard to imagine anything more peaceable than small, diversified organic farms and groups of citizens collaborating to support them. It is hard to find an antidote to "financial weapons of mass destruction"—to use Warren Buffett's description of derivatives—as quietly potent as a loan to a local food entrepreneur. It is hard to imagine the path towards a new stock market, one that connects a new breed of entrepreneurs to a new breed of investors, that does not begin with the soil.

If such suggestions sound a bit far-fetched, consider that in 1600, when the East India Company financed ships to set out from Amsterdam, a $400 billion corporation seemed beyond imagining. In 1700, the idea of the United States of America seemed beyond imagining. In 1800, the idea that passenger pigeons could ever go extinct seemed beyond imagining. In 1900, landing on the moon seemed beyond imagining. In 2000, the magnitude of Facebook's Initial Public Offering seemed beyond imagining.

In 2016, life after the Arab Spring, Too Big To Fail, and Monsanto seems beyond imagining.

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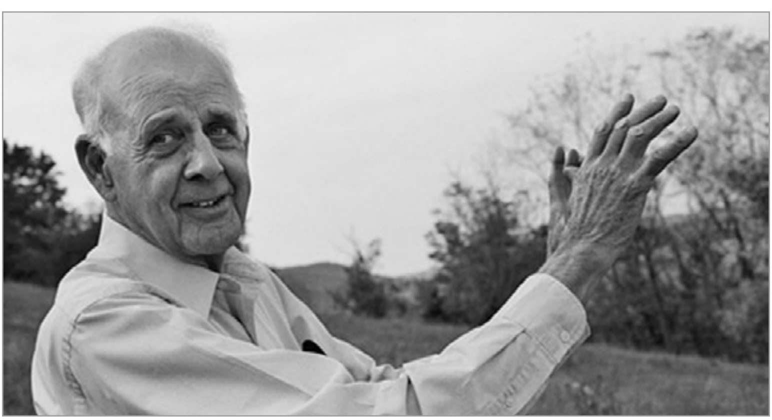
[5] In "What Do Chinese Dumplings Have to Do With Global Warming?" (*The New York Times Magazine*, July 25, 2014), Nicola Twilley reports:

> An artificial winter has begun to stretch across the country, through its fields and its ports, its logistics hubs and freeways. China had 250 million cubic feet of refrigerated storage capacity in 2007; by 2017, the country is on track to have 20 times that. At five billion cubic feet, China will surpass even the United States, which has led the world in cold storage ever since artificial refrigeration was invented. And even that translates to only 3.7 cubic feet of cold storage per capita, or roughly a third of what Americans currently have—meaning that the Chinese refrigeration boom is only just beginning.
>
> This is not simply transforming how Chinese people grow, distribute, and consume food. It also stands to become a formidable new factor in climate change; cooling is already responsible for 15 percent of all electricity consumption worldwide, and leaks of chemical refrigerants are a major source of greenhouse-gas pollution. Of all the shifts in lifestyle that threaten the planet right now, perhaps not one is as important as the changing way that Chinese people eat.

It is going to take imagination to bring down the Iron Curtain between investing and philanthropy. For the past century or so, and with a particularly ruthless brand of financial zeal over the past several decades, we have enthroned Deal Doer over Do Gooder. Now, for the sake of diversity and nonviolence, we are going to have to assert our independence from the tyranny of Buying Low and Selling High. We are going to have to recognize that in the modern economy, ours is a tyranny not of kings, but of fiduciaries.

Wendell Berry leads the call for this imagination:

> *If imagination is to have real worth to us, it needs to have a practical, an economic, effect. It needs to establish us in our places with a practical respect for what is there besides ourselves. I think the highest earthly result of imagination is probably local adaptation . . .*
>
> *We are involved in a profound failure of imagination. Most of us cannot imagine the wheat beyond the bread, or the farmer beyond the wheat, or the farm beyond the farmer, or the history beyond the farm. Most people cannot imagine the forest and the forest economy that produced their houses and furniture and paper; or the landscapes, the streams, and the weather that fill their pitchers and bathtubs and swimming pools with water. Most people appear to assume that when they have paid their money for these things they have entirely met their obligations . . .*



Wendell Berry

One way we could describe the task ahead of us is by saying that we need to enlarge the consciousness and the conscience of the economy. Our economy needs to know—and care—what it is doing. This is revolutionary, of course, if you have a taste for revolution, but it is also a matter of common sense.

Such cultural imperatives will not be "solved" by regulation or public policy. Dodd-Frank, a carbon tax, a new Farm Bill—these are all absolutely necessary, but they are also far from sufficient.

We need direct, local action. We need to turn our attention away from political arguments and distant markets. We need the imagination to reaffirm the primacy of relationships over transactions. We need the common sense to find our way back to *Here*. To do this, we must resist the considerable pull of outdated 19th- and 20th-century thinking about scale and efficiency. As E.F. Schumacher wrote in *Small is Beautiful*:

The economics of giantism and automation is a leftover of 19th-century conditions and 19th-century thinking, and it is totally incapable of solving any of the real problems of today. . . . We must learn to think in terms of an articulated structure that can cope with a multiplicity of small units. If economic thinking cannot grasp this it is useless. If it cannot get beyond its vast abstractions, the national income, the rate of growth, capital/output ratio, input-output analysis, labor mobility, capital accumulation; if it cannot get beyond all this and make contact with human realities of poverty, frustration, alienation, despair, breakdown, crime, escapism, stress, congestion, ugliness, and spiritual death, then let us scrap economics and start afresh.

Although it is almost a form of heresy to suggest it in today's hyper-securitized investment world, economic and financial metrics make blunt instruments for measuring "human realities." Schumacher realized that we need more than a new set of numbers to add to the old set of numbers. We need to question industrialism all the way down to its roots. As he put it:

In our time, the main danger to the soil, and therewith not only to agriculture but to civilization as a whole, stems from the townsman's determination to apply to agriculture the principles of industry.

The diligent application of imagination leads us beyond many commonly accepted metrics of efficiency and risk, all the way to fundamental questions about speed, scale, and place.

Sometimes you have to go slow to accelerate change.

There are now quite a few "slows" —Slow Food, Slow Money, Slow Cities, Slow Design, Slow Church, and more. Tracing the emergence of the slow movement in many walks of life, from food to urban planning to child rearing, Carl Honoré observes:

> *Capitalism is getting too fast even for its own good. . . . Not long ago, Klaus Schwab, founder and president of the World Economic Forum, spelled out the need for speed in stark terms: "We are moving from a world in which the big eat the small to one in which the fast eat the slow."*
>
> *. . . Instead of thinking deeply, or letting an idea simmer in the back of our mind, our instinct now is to reach for the nearest sound bite. In modern warfare, correspondents in the field and pundits in the studio spew out instant analysis of events as they occur. Often their insights turn out to be wrong. But that hardly matters nowadays: In the land of speed, the man with the instant response is king.*

That last comment prompts us to think: In the land of modern warfare, the predator drone is king. In the land of cheap, shelf-stable calories, the Twinkie is king. In the land of high-frequency trading, the man with the fastest computer and the fanciest algorithm is king.

Enter Deep Knowledge Ventures—or, rather, *enter* "VITAL," the computer algorithm that this venture fund appointed to its board of directors.

That's right, a venture fund appointed a computer algorithm to its board of directors. This is not satire from *The Onion*. This is financial reality as of June 2014, on this little old ball of whirling, zooming, life-of-its-own-cyber-money called Planet Earth. Makes one think back to economic historian Niall Ferguson's prescient observation in *The Ascent of Money*, "Planet Finance is starting to dwarf Planet Earth."

Here's the *Business Insider* piece on Deep Knowledge Ventures' appointment:

A Venture Capital Firm Just Named an Algorithm to its Board of Directors

A Hong Kong VC fund has just appointed an algorithm to its board.

Deep Knowledge Ventures, a firm that focuses on age-related disease drugs and regenerative medicine projects, says the program, called VITAL, can make investment recommendations about life sciences firms by poring over large amounts of data.

Just like other members of the board, the algorithm gets to vote on whether the firm makes an investment in a specific company or not. The program will be the sixth member of DKV's board.

VITAL's software was developed by UK-based Aging Analytics.

"[The goal] is actually to draw attention to developing it as an independent decision maker," Deep Knowledge Ventures' Charles Groome told BI.

How does the algorithm work?

VITAL makes its decisions by scanning prospective companies' financing, clinical trials, intellectual property, and previous funding rounds.

Groome says it has already helped approve two investment decisions (though has not yet cast its first vote), both of which resemble its own function: Insilico Medicine, which develops computer-assisted methods for drug discovery in aging research; and Insilico's partner firm Pathway Pharmaceuticals, which employs a platform called OncoFinder to select and rate personalized cancer therapies.

"It's not what you'd call Artificial Intelligence at this stage, but that is the long-term goal," Groome said.

We may ask: What's the difference between artificial intelligence and deep knowledge? What is the impact on human intelligence of financial trading measured in milliseconds? Whatever the short-term benefits of ultra-fast trading, a certain skepticism is due when it comes to its long-term impact:

Regulators have not been able to keep up with electronic programs that increasingly dominate the supercharged market. . . . Traders on Wednesday said that a rogue algorithm repeatedly bought and sold

> *millions of shares of companies like RadioShack, Best Buy, Bank of America, and American Airlines. . . . The episodes, along with the flash crash of 2010 when the market lost trillions of dollars of value in minutes, have stoked suspicions that stocks are safe only for specialists, and sometimes not even for them.*
>
> *"The machines have taken over, right?" said Patrick Healy, the chief executive of the Issuer Advisory Group, a capital markets consulting firm.*

Imagine two cartoons. The first, picturing a board table around which five people and one laptop are seated, with everyone saying "Aye." The second, the same board table, around which five laptops and one person are seated, with the five laptops saying "Aye" and the person saying "Nay."

The "Ayes" have it.

David Orr calls it "befuddlement that comes with information overload." In Joan Gussow's seminal paper "Can an Organic Twinkie Be Certified?", she calls it "the limitations reductionist science has put on our ability to take account of things that matter."[6] During the 1960s, Trappist monk Thomas Merton called it *innate violence*: "The rush and pressure of modern life are a form, perhaps the most common form, of its innate violence."[7]

Now, compared to the military violence of the Vietnam War, which Merton protested, or today's spread of terrorism, talk of the innate violence of modern life seems abstract. It is not. The collateral damage of industrialization and globalization manifests itself violently. The collateral damage of virtualization is very real.

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[6] Gussow writes:

> A professor of our acquaintance once used an apple and a Twinkie to distinguish between "food" and something he called "gut filler," food being something that points us toward a particular place, a particular time of year, and a set of ongoing global processes, and gut filler being something that is "manufactured." That distinction has a lot to do with why an Organic Twinkie appalls. Just as we now know "that there is more to adequate nutrition than the mere combining of the known compounds into a diet," many of us also believe that there is more to "organic" than simply combining 95-percent organic ingredients into products that will sell. At a minimum, we have wanted organic foods to pull us back to nature and to a set of values that care for nature implies.

[7] Merton, a Trappist monk who lived most of his life at Abbey of Gethsemani, not far from Louisville, Kentucky, was a prolific writer and active pacifist.

Fast food and fast money damage trust. We don't know where our food comes from or what is in it. We don't know where our money goes or what it is financing. We don't know our farmers. We don't know our fiduciaries.

You don't have to be a monk to protest violence. You don't have to be a conscientious objector. You don't even have to be a protester. You just have to be a conscientious investor.

For centuries, religious orders have been using their investment assets as tools for countering destructive or morally unacceptable behavior. The Methodists have long opposed investing in companies that manufacture liquor or tobacco or promote gambling. The Quakers have long opposed investments that promote slavery or war. In the 1960s, issues such as the Vietnam War, civil rights, and nuclear power came to the fore for many social investors, who began looking for ways to screen out of their investment portfolios support for commercial activities that were not consistent with their values. The Interfaith Center on Corporate Responsibility was founded in 1973, and since then has assisted communities of faith in voting more than $100 billion of shareholder resolutions. The 1980s campaign to divest of companies doing business in South Africa is widely seen as having contributed to the end of apartheid. And, as noted earlier, the World Council of Churches recently voted to divest of fossil fuels.

Now, some in the church are also turning their attention to the slow movement. In *Slow Church*, published in 2014, C. Christopher Smith and John Pattison write:

> *The North American church seems to be just as susceptible as the rest of culture to the allure of fast life, or what sociologist George Ritzer has termed "McDonaldization"—that is, "the process by which the principles of the fast-food restaurant are coming to dominate more and more sectors of American society as well as the rest of the world." . . .*
> *The industrialization of the church has, significantly, paralleled the industrialization of agriculture and the near demise of the family farm.*[8]

[8] Our friend Gary Nabhan notes, with respect to theology and finance, that the historical split between Judaism, Christianity, and Islam was driven in large part by differences over money lending and usury.

Referring to the superimposition of "a mechanistic mindset onto a biological world," the authors of *Slow Church* observe: "Nature, in contrast, feeds the plant from the bottom up, through the soil. Thus, for the conscientious farmer, the health of the soil is a top priority."

Thus, as well, for the conscientious investor.

When McDonald's opened its first restaurant in Rome in 1986, *The New York Times* reported, "Romans throughout the centuries have stoically watched invaders come and go. McDonald's, however, just might be here to stay."

Enter Carlo Petrini: "We don't want fast food. We want slow food."

Today, Slow Food, an NGO based in Carlo's hometown of Bra, Italy, has roughly 100,000 members in more than 100 countries. It is still led by the inimitable Petrini, whose depth of knowledge about matters agricultural and cultural and gastronomic is so expansive—and his flourishes of rhetoric so beautiful—that you almost don't need to speak Italian to understand him.

The germ of Slow Food's original vision was expressed in a manifesto, endorsed in 1989 by delegates from 15 countries and excerpted below:

The Slow Food Manifesto

> *Our century, which began and has developed under the insignia of industrial civilization, first invented the machine and then took it as its life model.*
>
> *We are enslaved by speed and have all succumbed to the same insidious virus:* Fast Life*, which disrupts our habits, pervades the privacy of our homes, and forces us to eat Fast Foods.*
>
> *Our defense should begin at the table with* Slow Food*.*
>
> *Let us rediscover the flavors and savors of regional cooking and banish the degrading effects of* Fast Food*.*
>
> *In the name of productivity,* Fast Life *has changed our way of being and threatens our environment and our landscapes. So,* Slow Food *is now the only truly progressive answer.*

Slow Food's vibrant worldwide community connects consumers with producers in defense of indigenous culture, artisan food, biodiversity, and the celebration of food as a pillar of healthy culture. Imagine 5,000 small farmers, chefs, students, and consumers from around the world gathering

Slow Food founder Carlo Petrini

once every two years in Torino for Slow Food's Terra Madre event. Now, whatever you just imagined, multiply it to the *nth* degree for the conviviality, ethos, and cross-pollinating goodwill that permeates these remarkable events.

Our defense must then proceed from the dinner table to the investment portfolio.

The following 40-year-old New Yorker cartoon has much to say, still, about this process.


Terra madre


Terra madre
Torino
26-30 ottobre
2006
Slow Food
world meeting of food communities
incontro mondiale tra le comunità del cibo
Lufthansa
Budget


Terra madre

Even after the Great Recession, too many of us are wont to revert to a great financial exercise of pointing off into the distance, chasing . . . *what?*

No stockbroker ever told a client, "I've got a few great investments for you in the next Fukushima and a new generation of diabetes-inducing food products." No, the Invisible Hand is far cleverer, far more insidious than that. What the Invisible Hand makes invisible is not market forces—these are wildly visible every instant on the floor of every stock exchange and on every computer screen—but our investments, and even . . . *us*. Behind the veil of technology, we have succeeded in becoming a generation of invisible investors, for whom the social and environmental impacts of our investments are invisible.

Invisible Hand, meet your creation: the Invisible Investor.

It is time, now, for us to declare our presence, to make ourselves visible, to become active participants in a vital process of cultural and ecological preservation and restoration. It is time for us to declare, unabashedly, what we believe and to move in this direction.

We want enterprises to grow deeper roots in our communities. We want a global economy that complements, rather than saps, the vitality of local economies. We want a food system that is synonymous with soil fertility and health.

So, what is stopping us?

Not the fund managers, not the investment bankers, not the Federal Reserve, not government bureaucrats, not politicians, not tax incentives, not the IRS, not foundation trustees, not stockbrokers, not financial advisors, not credit card companies, not mortgage rates, not option prices or derivative formulas, not the legions of fiduciaries who stand between us and our money once we have given it to them.

What is stopping us is that *we are looking backward*.

We are looking backward at the Age of Wall Street rather than forward to the Age of *commons* n^{th}.

Despite mind-boggling flourishes of connectivity, computational extravagance, and virtual universalism, we are still using our money in the most anachronistic of ways. We are putting it in the bank. We are putting it in mutual funds. We are sending it to Wall Street. We are placing our bets on the next billion car owners and the next billion computer owners and the next billion meat eaters to continue driving global economic growth and provide us with personal financial returns. In terms of risk and return, we are acting with our money as if it were 1850 or 1900 or 1950.

Along the way, in moments of doubt and frustration, we look for people to blame for the systemic problems our behavior causes: "We must put corporations and markets in their place! We must put the investment bankers in their place! We must put the frackers and the Tea Partiers in their place!"

But there is no "their place" in which to put them. There is only *Here*: our place, this place, the place where each one of us lives.

Here, we can rediscover the rewards of helping Mason Arnold deliver local, organic produce to consumers in Austin. Of helping Willow King and Mara King be probiotic pickleteers on Colorado's front range. Helping Teddy Stray make compost just north of Point Reyes Station, on the eastern shore of Tomales Bay. Helping Amber Lambke and Emma Zimmerman mill heirloom grains in Skowhegan and Tempe. Meeting Wes Jackson's neighbors in Salina. Funding Ivor Chodkowski's hoop houses in Louisville. Financing the expansion of De La Chiva Dairy from 100 to 200 goats in Thornton. Tasting Frank Golbeck's Golden Coast Mead in San Diego. Funding the first organic cotton crop in North Carolina. Supporting Re:Vision's work in Denver's inner city. Debating with Peter Buffett what he means by "the charitable industrial complex." Helping Marada Cook process vegetables from family farms in Maine. Enabling Brooklyn Grange to expand their urban rooftop farming. Helping Steven and Jodi Read rebuild the barn at Shepherd's Way Farms in Nerstrand. Walking the land at Coyote Creek in Elgin and listening to Jerry Cunningham wax pragmatically and poetically about his microbial minions. Helping Will Harris expand his diversified pasture livestock operation at White Oak Pastures. Working with a group of entrepreneurs who are place-based pioneers as important, in their own way, as the Elon Musks[9] and John Mackeys[10] of the world are in theirs.

[9] Elon Musk is the founder of Tesla and SpaceX.

[10] John Mackey is the founder of Whole Foods.

Along the way, can we really convince Democracy and Capitalism to see a marriage counselor? Help Adam Smith make nice with Garrett Hardin?[11] Convince the Invisible Hand to have its palm read by Bernie Sanders?

For this, we are going to need a few healthy doses of *commons n^{th}*.

We are going to need the gumption to put the Dow Jones Industrial Average out of our minds long enough to come together, to get to know local food entrepreneurs, to explore common ground in a new realm of risk and return, to break bread, and to dance together along the boundaries of food, money, and the soil.

If you don't think of yourself as an investor, that's OK. On the one hand, it means you don't have to overcome ingrained fiduciary responses. On the other, it may mean that you have to overcome a certain fear, considering you've never taken a direct role in making investment decisions and doing so will seem daunting at first.

But we are all investors. If, as Wendell Berry says, eating is an agricultural act, then it is also true that if you eat, you are an investor. If you have money in a bank or an IRA, you are an investor. If you are willing to invest yourself, to engage with your neighbors and fellow community members, you are an investor.

Not an investor in the Wall Street sense, although all are welcome, from Lloyd Blankfein[12] on down. An investor of the *commons n^{th}* kind. An investor of the nurture capital kind. An investor of the 21^{st}-century kind, making investment decisions that are looking to the future, awakened by *biophilia*—what E.O. Wilson describes as the innate affection that humans feel towards other living organisms.

Now there's a thought: *What would the world be like if biophilia were awakened in the heart and mind of the 21^{st}-century investor?*

The answer to this question will be found among earthworms, mycorrhiza, mycelium, water seeping, seeds sprouting, imagination

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[11] In 1968, Garrett Hardin's "The Tragedy of the Commons" article in *Science* framed environmental discussions around the idea that Earth's ecosystems—its air, water, soil, and biological diversity—are a commons that is destined to be degraded as population grows. Adam Smith's economic vision was built around the idea that individuals acting in their own self interest inevitably produced public benefit, as if guided by an "invisible hand." "The Tragedy of the Commons" presents a countervailing view, according to which individuals taking advantage of common resources do so until those resources are ultimately destroyed.

[12] Lloyd Blankfein is CEO of Goldman Sachs.

troweling, faith rooting, divestments quickening, investments slowing, *Beetcoin* beeting, *Here* here-ing, community percolating, organic farmers stewarding, just plain regular folks wanting to know where their food comes from and where their money goes, and a host of new relationships unfolding, in ways that we understand and ways that we do not, to preserve and restore the places where we live and plant a few seeds of peace.

Katharine Butler has shown her work nationally and internationally. She holds degrees from the University of Wisconsin in Madison and the San Francisco Art Institute. She donates proceeds from her sales to organizations actively working to heal the land, bring farming down to a sustainable scale, and encourage the production of organic food and healthy livestock for the benefit of all. For more information about the artist, visit www.katharinebutler.com.

ENRICHING THE EARTH

By Wendell Berry

To enrich the earth I have sowed clover and grass
to grow and die. I have plowed in the seeds
of winter grains and of various legumes,
their growth to be plowed in to enrich the earth.
I have stirred into the ground the offal
and the decay of the growth of past seasons
and so mended the earth and made its yield increase.
All this serves the dark. I am slowly falling
into the fund of things. And yet to serve the earth,
not knowing what I serve, gives a wideness
and a delight to the air, and my days
do not wholly pass. It is the mind's service,
for when the will fails so do the hands
and one lives at the expense of life.
After death, willing or not, the body serves,
entering the earth. And so what was heaviest
and most mute is at last raised up into song.

From Farming: A Hand Book *(1970)*
Reprinted with permission of author and daughter

NOTES

Profits produced quickly cannot purchase patience and care. Patience is beautiful. Restraint and care are beautiful. Peace is beautiful. A small, diversified organic farm is beautiful.

There is nothing beautiful in the idea that we will only do no harm if we can, in so doing, make as much money as is generated from the doing of harm.

—Woody Tasch,
Inquiries into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered

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P.O. Box 2231, Boulder, CO 80306
slowmoney.org