

Why I am committing my life to Woody Agriculture

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Prologue.

This document is intended to be a clear explanation of the reasons I have chosen to make Woody Agriculture, and Badgersett, my life's work. Partly it is for my own benefit. My mind is pretty clear about these things, but putting the thoughts to language is usually a useful exercise in clarification and development. Partly it is for the benefit and curiosity of others. Most people readily understand one or more of the dimensions in which this is an excellent choice for my occupation, but for me the decision was made with all of the following in mind, as the result of years of deliberation, and I feel that at least a few people will have something to gain by being introduced to the full breadth of this reasoning.

It is, however, quite possible that other people will understand this better than I do myself. A number of people who have known me for some time expressed very little surprise (or none at all) when I told them I would be "doing Woody Agriculture" once I finish my Ph.D. in mechanical engineering. One friend went so far as to say it was obvious to him, meaning about ten years ago when we were spending considerable time together.

So what follows is the breadth of the decision I eventually did come to. There are many details, and many which will not be covered here. To sum up, however, this is the life path which is most in harmony with my overarching personal goal:

Fulfillment and happiness for myself, and everybody else, in perpetuity.

Personal.

It is easy to start with the most personal reasons I have for this choice. The center of "fulfillment and happiness for myself". I like living in the country. I grew up there, and miss it all the time I am away in the city. At the same time, these days "making a difference" appears to

often involve either living in the city where all the people are, or traveling a great deal, or both. To be sure, there are a lot of places it's possible to more or less live in the country while working in more urban areas, but agriculture is one of the few areas of employment where your work and your home are indeed best both in the country. So, "making a difference" in agriculture seems like a pretty good fit for living in the country and making a difference in the world.

Though living there as an adult is not necessarily something I foresee or plan to do, growing up on Badgersett, the farm, was an amazing experience. I deeply desire that my children have the opportunity for such a cradle of growth, for such a home. In fact I am to this day committed to the survival and stewardship of that particular farm, in keeping with a vow I made with my brother to that effect when I was thirteen years old. Working on Woody Agriculture not only has the potential to help preserve the family farm experience for other children in such a fashion, but it also benefits Badgersett Farm in particular, which I have vowed to protect.

Tied in with these feelings, farming is, when it works, a deeply fulfilling enterprise. You're feeding yourself, and the world, and working with Nature to do it.

As something to help the world.

"... and everybody else, in perpetuity". This is an area I could expound upon for days, so I'll try to be brief. Agriculture as we know it is not a sustainable practice. The conservation practices becoming more common in the US are helpful, but most practices in most places fall into the "make it last longer" bin, rather than the "make it last forever" bin. Though I am very glad this is going on, and people involved in making it happen have my gratitude and commendations, it is not good enough for me. In Perpetuity. If you don't agree with this assessment, that's another discussion we should have, but for my purposes here we'll take that as a given.

Everybody needs to eat, and in our world that means nearly everybody depends on agriculture. If agriculture won't last, neither will we.

In the shorter term, global warming is a serious threat to world food supplies. Woody agriculture fields tend to endure and moderate the weather fluctuations that come with global warming, helping stabilize the local ecology and make food production less susceptible to drought, flood, and other weather fluctuations. With large plantings they present the possibility

of large-scale weather moderation and carbon fixation. People are planting trees to absorb CO₂; this will be like transforming vast expanses of world cropland into CO₂-absorbing forest. Of course once fields are established the net absorption per year is likely to diminish, but consider all the carbon-holding life in an open woods versus the paltry amount held over winter in a cornfield.

Here I'm getting into the ecological benefits of woody agriculture. Just the carbon fixation in itself is a huge positive, but to boot a woody ag field is essentially a riparian buffer, drastically limiting flooding under widely fluctuating rainfall, and reducing soil erosion and fertilizer runoff to virtually nothing. Soil erosion is actually one of the big reasons our current ag practices are not permanent, and it is taken down to natural levels (under many conditions actually building topsoil) under a woody agriculture system. Woody ag fields actually have an ecology, and particularly so since the "requirements" for pesticides are low or nonexistent. In the fields at Badgersett there are insects, spiders, fungi, a few non-crop plants (not too many, because they're "weeds"), amphibians, small mammals, big mammals, songbirds, birds of prey, snakes, and so on. Actual biodiversity, and even ecological stability, in a place producing food and fuel for human consumption. It won't ever be quite like a virgin prairie, forest, or savannah, but unlike a cornfield it is not a place where most living things are being actively destroyed. This is actually critical to the biodiversity of the planet, since we have so much land in agriculture; if we don't make agricultural land a useable habitat for currently living species, most of them are guaranteed to go extinct based on the species-area relationship (read "Win-Win Ecology" by Michael Rosenzweig for a lay introduction). Making agricultural land livable again will very significantly reduce the scope of the mass extinction to which we're currently subjecting the world. Maybe by 50%, maybe more. This is huge. If you don't clearly understand why having more living species around is better, we can talk about that, too.

And then there's the "plight of the family farm". Many of you reading this will be familiar with the problem: given current and foreseeable market and government pressures, it is getting harder and harder for a family farm/smallholder to stay in business, and easier and easier for "factory farms" to take over. This is bad for a multitude of reasons. Family farms are better for the people who live on them (and the smaller they are, the more of these better-off people there are). Family farms beget good stewardship, which is good for sustainability. A network of

functioning, stewarded farms is more stable both from a food supply and a pure economic standpoint, when compared to huge, multi-square-mile, low-diversity enterprises. A family farm is more capable of continuing operation, and producing food, when infrastructure breaks down. This is important. As you might guess, I could go on on this topic as well, but back to the point:

In the short term woody ag crops will sell as specialty, which makes them good for “small” farms. Just think, actual profit! In the longer term, if things go as we’d like them to, these crops will become commodities, and the prices will drop. The systems we’re developing, though, are intended to provide options to the farmer: multiple markets for the nuts, shells, wood, and (with some work) the husks, and other “by-products”. And that’s just off of the “real crop”. Remember, there’s a whole ecology here, that you can manage to produce other things as well. Geese and turkeys have already been tried; other grazers are in the works. There are options here for the farmer in markets which may be volatile; you can choose to sell what makes you the best deal this year.

A primary underlying benefit here is stability. Woody agriculture will make our agricultural systems more stable, even sustainable. Stable in terms of soil, biological diversity, global carbon, economics, and production. At least. And though you can make all the arguments you like about the fact that most world economies are industrial or post-industrial and not agrarian, which indeed is true, it is difficult to overstate the importance of a stable food supply. This isn’t something we think about too much, because we tend to presume our food supply is stable. Which is true, in this country, for the past seventy years or so. Think about it.

So this is something which can change the world for the better. Why did I choose this method of doing so rather than others? Among all the ways I could convince myself I could help the world, political, philosophical, technical; this has by far the greatest reasonably expected impact. Additionally, the project has been started, I have a fairly advanced involvement with it, and it needs me.

As something at which to make a living.

If all I wanted to do was have a farm, I could just plant some hazels and chestnuts, and make money at it. See above, particularly since I already have considerable skill in this area. Would it be easy? No, particularly not at first. But I could certainly do it. From the standpoint of developing woody agriculture, there is very serious demand for Badgersett's products and expertise, and there is quite a lot of money to be made there even with the restriction of being a "good" corporation. Of course, that's only a restriction in the short term. In the long term straightforwardness, fairness, and practices which help growers get established will pay off both for the industry and Badgersett's bottom line. There is tremendous potential for growth, as far as the company is concerned.

As something to be interesting.

With an entire agricultural industry to develop, how could you get bored? There is enough to do just in the breeding part of the project for many lifetimes of interesting work. Adding in farm systems and handling systems development gives you quite a few more. These include things for agronomists, ecologists, engineers, soils scientists, integrated pest management (including all the fields involved there), among many others. Distribution and storage, product development, bio-prospecting.

And then there's all the P.R.: education, outreach, government liaisons. Consulting and research on established plantings.

For Badgersett as a company, add all the normal support positions necessary for a corporation, and a few others: greenhouse manager(s/operators), administration, secretarial, legal, IT, sales management.

This is just what's occurred to me right now. It's an entire industry. Once we've got the nucleus up and running, you can do anything you want. For me, the only problem is narrowing down what it is I have the time to work on, and where I'm happiest and most useful.

In Summary.

I'll end with a slightly more broken-down and localized version of my overarching goal: I want to be happy and fulfilled, and want to help others be this way too. The more, the better, and that includes the dimension of time. Here is a project that, I believe, will allow me to live in the country and have a family, doing things I know I enjoy, and to provide my family with fulfillment and growth. And at the same time I'll be working on the highest-leverage contribution I feel I can make to the well-being of people. Why would I do anything else?

Addendum.

Hopefully this will have made you think, and maybe even raised more questions than it answered. For me, it leads down many paths of questions which I have for the most part addressed to my satisfaction. Naturally this doesn't mean I think I have "The Answers", it's just that I have working hypotheses which I feel are good enough that the revisiting they get just from dialogue and continual observation is enough at this point.

There are a couple of questions that might benefit from some treatment right away, though, so I'll do that. My suggestion to the reader, however, is to ruminate upon and review the above, incomplete though it is, before reading what follows.

What about other ways to help the world, why not do those?

Well, there are plenty of things we need a lot of right now, and it's certainly true that there are some other co-requisites for this to work. We need to not have a nuclear war. It would help a lot if the US remained a relatively stable superpower. We need to consume a lot less, period. Addressing concerns of good government here and abroad is necessary. If we want to truly ensure long-term survival of the human race, we need off-planet (and eventually extrasolar) self-sustaining settlements. People need to feel useful. And this is just a subset of the list necessary to keep from going down the toilet- there's a bunch of stuff that could be done to work on getting us out of the toilet altogether.

That being said, I feel that the efforts being made on these other fronts are sufficient that the development of woody ag will be viable, and given that, it is the most powerful improvement I can make in the world. I think the same thing could, in fact, be said for many people. There is no denying, however, that counting on other things being worked on sufficiently is to a certain degree a game of chance. Like getting out of bed in the morning.

How can you make all these claims about the wonders of woody agriculture? It sounds like snake oil, and you sound like a megalomaniac.

Yup, that's a problem. Some people will probably have this reaction to the above, for various reasons. Some will not be used to thinking about the problems it addresses as being that serious, partly because the depth of their threat is not properly addressed by the way most people learn history and economics. Perhaps I'm just making you more annoyed by saying that, for which I apologize. If you feel you have a solid basis for refuting these arguments, please help me see where I am wrong. I would prefer not to dedicate my life on false pretenses. If you don't feel you have a solid basis but still think I'm wrong, let's talk about it and maybe we'll both learn something.

Others who will agree with my assessment of the gravity of these problems may not believe the claims I am making. Certainly, woody ag is not all things to all people, and I don't mean to imply that it will be. Indeed, some of these claims are in the "solid working hypothesis" category but may not be established to the satisfaction of some people. Other claims are quite well

supported at this point. In composite, I feel very well justified in stating that a fully developed woody agriculture industry will have a tremendous positive influence on the world, from many different points of view. Here again, if you think I'm wrong and have solid basis for refuting me, or wish to explore why you think I'm wrong, let's discuss it. Though I must limit my investigations in the interest of actually getting something done, I do not wish to charge forth with blinders on.