

Twitter Thread by Rizoma Field School



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@RizomaSchool



I've been ruminating (ha, new cow owner here) on this topic of annuals versus perennials today. Why DID humans move to annuals? Let's examine some

annuals vs. perennials, the underground war in the alt ag scene <https://t.co/YMrC8rBEPJ>

— Jason Snyder (@cognazor) [January 17, 2021](#)

Team perennial like Mark Shepard and The Land Institute argue it was basically just a bad choice to move to annuals as tilling degrades soil and the land base civilizations need to thrive.

high edible yield without the need for (much) tillage, fertilisation and pest control. Following the lead of their founder Wes Jackson³, Land Institute authors have argued that perennial crops can be just as productive of seeds as annuals⁴, and that developing such varieties will end 10,000 years of conflict between humanity and nature through annual agriculture⁵.

On the face of it, proponents of the SPV seem to have nature on their side – most wild floras are perennial, and wild plant ecosystems get by just fine without any tillage, fertiliser application etc. The puzzle then is why, if perennials involve less work for equal return with added environmental benefits, most human agricultures rely on annual crops, at least for their staple foods. Surely farmers through the ages weren't so stupid as to engage in endless, environmentally-damaging labour for no added benefit?

@csmaje on the other hand says it seems implausible that so many civilizations would choose to rely on grains just because they're...making a stupid choice? There must be something else at play. He goes deep into plant characteristics and yields.



The strong perennial visio...



<https://smallfarmfuture.org.uk/201...>

staple foods. Surely farmers through the ages weren't so stupid as to engage in endless, environmentally-damaging labour for no added benefit?

Angelo Eliades thinks they were, arguing that the choice of annuals over perennials arose through 'ignorance and lack of perspective'. I found that implausible, and it struck me that there's likely to be some kind of ecological and/or biogeographical explanation for the annual preference in human agriculture. A more promising line of enquiry is opened up by Steve Gliessman in his book *Agroecology*⁶ in which he characterises perennials as essentially K-selected (slow and cautious reproducers – in mammalian terms, think whales), whereas annuals are r-selected (fast and prodigious reproducers – think rats). The plant ecologist Philip Grime⁷ builds on this r/K distinction in his 'CSR' theory, which identifies three plant strategies associated with habitat resource availability and disturbance: in resource-rich, disturbed habitats you get short-lived, fast-reproducing plants ('ruderals') which quickly produce a lot of seed in order to found the next cycle of growth. In resource-rich, undisturbed habitats you get somewhat longer-lived, often vegetatively reproducing plants ('competitors' – typically short-lived perennials). And in resource-poor, undisturbed habitats you get long-lived, slow-

My go to author on these topics, Morris Berman, argues it's really the distinction between immediate return economies (hunter gatherers) and delayed return economies (which require storage) that explains this shift. "Quantity precipitates a shift in...

quality, and one finds storage, sedentism, and hierarchy all rolled into one. In addition, says Testart, many historians regard storage as a preadaptive feature leading to the invention of agriculture in the Near East. Sedentism per se makes possible the accumulation of light goods, while village life allows for structures and items that tie people down, such as mortars, grinding stones, containers, and durable dwellings. The shift to storage, he believes, involves an important mental shift: a distrust of nature, which is echoed (and, I would say, accompanied by) a distrust of human beings. For the nomadic way of life involves a fundamental trust in the ability of the natural world to provide, and along with this, an ethos of sharing with others in the band or group. All this is violated once storage gets going in a large-scale way. All in all, Testart's work, which includes a fairly convincing ethnographic examination of forty storing HG societies, demonstrates that "the relevant factor for the development of inequalities is not the presence or absence of agriculture, but the presence or absence of a storing economy, whether it be hunting-gathering or agricultural." Or, in Alan Barnard's words, storage "is probably the most significant factor in the origin and development of social inequalities."¹⁶

Testart's work strikes me as a real benchmark in our understanding of human cultural evolution, and although one can fault it in a number of ways, it is clear that he is onto something in his emphasis on storage, rather than agriculture, as being the crucial factor in the emergence of hierarchical structures. With this concept, says Testart, we have introduced, contra Childe, an important continuity back into human prehistory. Yet, as already noted, a major problem remains, for we have only managed to push Childe's rupture further back in time. It is not that there was no rupture, nor is it the case that this rupture is explained. For whence cometh storage? As one anthropologist has noted, Testart fails to show how an egalitarian, nonstoring HG society is transformed into a nonegalitarian storing one, and that remains the crucial issue. The snark still slips through the net.¹⁷

But why they made this shift is still unclear. Classic chicken and the egg...

Berman argues it was population pressure and lack of ability to escape ecological limits through mobility that lead to sedentism, and the search for more calories per land area.

The Role of Population Pressure

The most convincing explanation to date is the body of work generated by two American anthropologists, Mark Cohen and Robert Carneiro. Their explanation for this momentous shift and for the rise of the state neatly interlock. In a nutshell, they argue that population growth, leading to population pressure in a "circumscribed" area—one socially or environmentally bounded in such a way that an expanding population has nowhere to go—leads to conflict, war, and the search for more calories per unit space. Out of these circumstances, social inequality emerges as a matter of course. The stage is then set for agriculture and the state.

To take Cohen first, then: the argument here is that world human population was building over the course of the Pleistocene and, on the eve of the Neolithic, the world was effectively saturated. Agriculture, sedentism, and political centralization, he says, then followed ineluctably. For while the foraging strategy is that of adjusting people to resources (via mobility), the agricultural option is that of adjusting resources to people, which requires governments. Population pressure, says Cohen, eliminated the first option; the HG way of life is not one that can support large or dense populations. The search was then on for more food, that is, more calories per unit space, which is why storage first occurred in pre-agricultural, semisedentary contexts. Eventually, various forms of centralized authority arose, to manage the new system (e.g., the redistribution of food) and to provide security against risk.²⁸

Do the archaeological data support the notion of steady popu-

Berman: "under stressful env. conditions...a certain aggressive subgroup comes forward to take power, and this pushes the rest of the group into a prisoner's dilemma situation: get on the bandwagon or get left behind."

There are a lot of implications to this. How our form of agriculture either builds or destroys nature (soil) is also what it does to our societies. What we do to nature we do to ourselves.

What that means for us moving forward isn't abundantly clear. We've grown into a highly hierarchical complex species and there's no easy return. I like the idea of pulling from different ways of doing ag, guided by the goal to regenerate ecosystems.

Maybe if we can get to a point where we are living amongst forest gardens teeming with cattle and chickens (or wild game) we will be able to let go of the insecure feeling we get with the uncertainty of food supply.

Maybe then we will be able to internalize this security to be able to make genuine, mutually reinforcing social attachments.

Or maybe I'm having a mushroom flashback lol

