

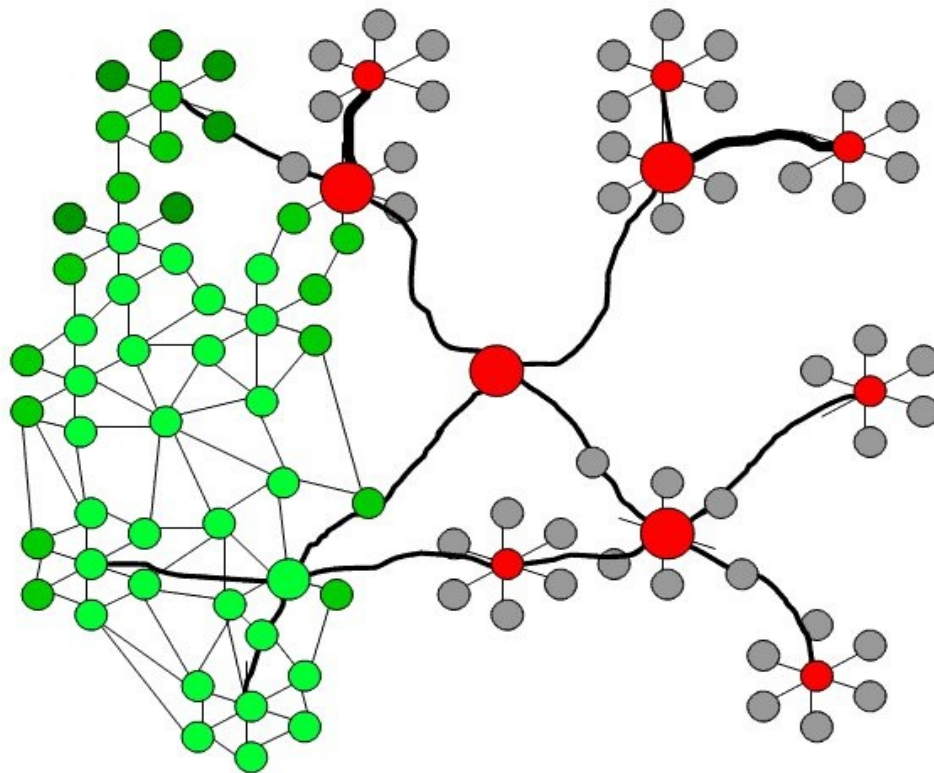


A Resilient Suburbia 4: Accounting for the Value of Decentralization

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This series has been considering the role of suburbia in a post-peak future. One necessary, though generally ignored, element of any analysis of suburbia is a consideration of the value of decentralization per se. The decentralized mode of suburbia presents problems (greater energy requirements for transportation), and advantages (greater potential for individual self-sufficiency), but what about the economics and politics of decentralization itself?

This post will argue that, when measured from the perspective of the median participant, decentralization offers a superior structure for both economic and political organization, a structure that may prove far more sustainable in a post-peak world than our current, centralized, hierarchal patterns of organization. Suburbia, not as a model for material consumption, but as a legal and social lattice of decentralized and more uniformly distributed production land ownership, has the potential to serve as the foundation for just such a pioneering adaptation—a Resilient

There are many efficiencies gained through centralization and specialization (of both place and activity, or, as Jaques Ellul termed it, “technic”). These two principles combine to lay the foundation for most of “classical” economic theory. These efficiencies, however, also produce externalities—side effects that are generally unrecognized and unaccounted for when weighing the value gained by centralization and specialization. I’ve termed these “[anti-economies](#).”

When weighing civilizational choices, it is also important to consider the dueling perspective of the [median](#) vs. the [mean](#). A policy that grows overall wealth in an economy (raising the mean wealth) does not necessarily increase the wealth of most people within that economy (which is best measured by the median wealth). Is an overall richer society comprised of one super wealthy Tiger Woods and 100 destitute peasants preferable to an overall poorer society comprised primarily of a “middle class” at some level of wealth above destitute peasantry? How do we weight the value—from the perspective of economics, politics, sociology, sustainability, etc.—of equality of distribution versus overall wealth distributed? This is a question that is critical to any consideration of the value of decentralization, and represents a lens through which we must view the relative value of suburbia and its alternatives, their present failures, and future potential.

While, to some extent, the economics and politics of centralization cannot be separated, there are clear economic benefits to centralization and specialization. Great cities from New York and London in the present to the Hanseatic free cities or Phoenician trading bases of the past demonstrate this well.

If the economic advantages of urbanization are so clear-cut, what are its economic disadvantages? First, as an expression of hierarchy, a boundary analysis of cities must include their constituent hinterland—the region that produces the raw materials for urban production and consumes the services and products produced in the urban core. In our increasingly globalized world, this hinterland is also global—for example, the Vietnamese factory worker churning out products designed by the downtown LA design firm and financed by New York banks, or the peasant farmer’s income impacted by the cheap, subsidized grains produced on industrial farms and exported through the ports of major US cities. (Which comes first: the masses of urban poor dependent on government and aid organizations or the flight of farmers from small plots where they cannot compete with subsidized western agricultural exports?)

In addition, peer-polity competition for control and coordination of this hinterland makes the hierarchal model of urbanization fundamentally growth-driven, and therefore unsustainable. Cities are peer-polities, competing with each other to coordinate and control the economic activity of the largest possible share of a limited hinterland. If one city were to focus on a sustainable, no-growth approach to this game, it would be out-competed by others more concerned with near-term growth and intensification. This is natural selection among polities. Cities, by virtue of their necessary participation in the global peer-polity “eco-system,” are forced to adopt unsustainable practices—or they are out-competed in the game for near-term survival by those who do. Where a superficial sustainability-consciousness exists, its effects are generally limited to token measures within the city’s political jurisdiction, rather than the relevant and vastly larger economic reach to its effective hinterland.

It is also important to consider the “success” of urbanization through the mean/median lens. Urbanization, and the industry, trade, and centralization of economic activity that it supports,

certainly increases the mean wealth within its bounds, but what does it do to the median wealth? Further, if the requisite hinterland is included within the bounds of our analysis, does urbanization even increase the mean wealth within that boundary, or does it simply affect an increasing concentration of wealth? These are the structural disadvantages of the urban form. Do they outweigh its advantages? We simply don't have the data to answer that question definitively. What we do know is that, especially within American and European cities, the environmental damages and marginalization of the "hinterland" population largely falls outside our borders, onto the fragile ecosystems and massive poverty of the second and third worlds. This civilizational accounting failure represents a massive subsidy to urbanization—perhaps the greatest subsidy in history, and one that is incredibly damaging and short-sighted.

No matter how energy-efficient cities may be (especially when compared to presently extant alternatives like suburbia), they are most fundamentally the manifestation of hierarchal structures engaged in peer-polity competition—a mode of human organization that, I believe, is at its core the root of humanity's unsustainability (because it drives our demand for growth) and it is, itself, undesirable (because it emphasizes the mean at the expense of the median, marginalizing the vast majority of participants).

Not only are there distinct, structural disadvantages to the urban model, but there are also nascent advantages of decentralized, non-hierarchal organization. The potential for [distributed manufacturing](#) is one example. The potential and advantages of decentralized innovation is another. 2000 small farmers each trying to develop a better system will develop and evaluate more theories than a single, equivalently-sized industrial farm, and the dispersed effort will also develop more locally-appropriate solutions. The advantage of decentralized innovation is particularly apparent in military innovation—the decentralized innovation laboratory of insurgents in Iraq, for example, has equaled or bettered the world's single largest, centralized R&D facility (the US military-industrial complex), despite dramatic differences in funding, personnel, education, and other resources. Localized self-sufficiency and increased liberation from the peer-polity competition additionally frees innovators to focus on producing quality of life for the median, rather than intensifying the empire of the mean. The mindset of the 20th century was that physical aggregation was necessary for the hierarchal coordination of complex economic activities. The mindset of the 21st century may be that physical distribution excels, and is even preferable, when pursuing non-hierarchal, open source, and emergent coordination of complex economic activity.

There seems to be a nearly endless stream of skeptics who claim that physical proximity (e.g. the city) is necessary for the kind of complex economic activity that underlies our quality of life. Usually, in my opinion, these theories rely on an outdated or misinformed understanding of economic coordination. These doubters seem broadly unfamiliar with advances in open-source, [distributed manufacturing](#); of [platform-driven systems](#); of the potential for tying vernacular resource bases into global networks of [open-source innovation](#). They usually focus on the services and amenities that cities can provide to the privileged few, while ignoring at great moral hazard the concomitant impact of these structures on the vast majority of its citizens—those that live beyond political borders but well within the economic hinterlands. Others point to the opportunities for interaction in urban areas—while it is certainly possible to see and interact face-to-face with more people in an urban setting on a constant basis, the attractiveness (or horror) of this situation seems far more closely tied to individual personalities and psychological adaptation than to any fundamental economic advantage of cities. Both evolutionary psychology and modern commerce suggest that cities may actually be counter-productive in these functions.

[Dunbar's number](#), for example, shows that human interaction functions best with group sizes of

roughly 150--the norm in our ontogeny, and something that does not depend on the human density of cities. Additionally, cities may be liabilities when considering the [theory of weak networks](#)--the notion that the most powerful way to leverage humans' limited capacity to form connections is to form several very strong, very close connections, and then several extremely distant and weaker connections. Cities present an environment more susceptible to tight-group isolation (though they don't force such an arrangement), whereas the reliance by more distributed settlement on fairs (historically) and the internet (in modernity) may actually tend toward more powerful structure to coordinate economic activity.

This is not meant as a dispositive proof of the superior economic potential of distributed systems, but rather as food for thought--we tend to assume without questioning that cities are necessary and desirable for economic functioning, all the while ignoring significant evidence that this may be the result of little more than inertia. When readers wish to discuss a complex niche topic with other interested parties--a classic analogue for economic coordination--they are generally better served by a highly distributed virtual community (such as The Oil Drum) than by the kind of permanently physically collocated group one would find in a city. My guess is that even a well-connected individual in a "flagship city" like New York would be hard pressed to find the quality of discussion on a topic such as Peak Oil equal to what exists daily on this site. This same advantage spreads from [agriculture](#) to Medicine, to military theory--just one anecdote: go to the physical epicenters of military theory, such as the Army War College or one of the service academies, and you will fail miserably to find face-to-face discussions of the caliber you can find daily at [John Robb's blog](#) between people from all over the world.

Additionally, highly centralized and specialized economic structures tend to require a great degree of "middle men" to effectively coordinate complex economic activity on a large scale. As a result, a huge majority of "workers" are not actually performing "end production," but rather are performing some kind of coordination, command, or control activity. This is generally referred to as "Span of Control"--on the simplest level, one person can only effectively command so many subordinates. Historically, militaries have settled on a span of control of 5 (only 3 of which are operational). This leads to massive "middle management" in large-scale organizations. A similar effect exists in economics--while a massive dairy farm may reap significant economies of scale, it also tends to involve large behind-the-scenes forces performing management, compliance, legal, finance, marketing, transportation, human resources, and other non-milk-producing functions.

Open source networks of innovation have the potential to fundamentally replace this mode of economic coordination in a manner that eliminates the need for this middle-management. Every producer a part-time innovator/theorist, and every innovator/theorist a producer. This might sound like a hippy fantasy-world to some, but it is happening right now from commodity coordination by individual peasant [farmers in Africa](#) (via cheap, disposable cell phones) to a revolution in insurgent tactics in Asia. Ask yourself, do you actually make anything? Do you even know anyone who actually makes anything? Or do you and most of your associates engage in one of these "coordinating" functions? If this is the "efficiency" of our current, city-centric economic structure, it looks more like a target of historic opportunity to me.

Finally, the same structural tendencies of our economic systems have dramatic effects on our political systems and the course of our civilization. Centralization and specialization are the opposites of self-sufficiency and independence. When we centralize production of something we require, as individuals or communities we become dependent on the system that provides continuing access. We've been so indoctrinated to the benefits (and hidden from the externalities) of these interlacing networks of dependency that we rarely realize the degree to which we have ceded our own potential for sovereignty. The implications are striking.



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