

## Chapter Six

# Resilient Communities and Local Economies

We already saw, in Chapter Five, the economy of networked micromanufacturing that's likely to emerge from the decline of the state capitalist system. And as we saw in Chapter Three, there is a cyclical tendency of industrial production to shift from the mass-production core to the craft periphery in economic downturns. And we've seen just such a long-term structural shift during the stagnation of the past thirty years.

There is a similar historic connection between severe economic downturns, with significant periods of unemployment, and the formation of barter networks and resilient communities. If the comparison to manufacturing holds, given the cumulative effect of all of state capitalism's crises of sustainability which we examined in Paper No. 4, we can expect to see a long-term structural shift toward resilient communities and relocalized exchange. John Robb suggests that, given the severity of the present "Great Recession," it may usher in a phase transition in which the new society crystallizes around resilient communities as a basic building block; resilient communities will play the same role in resolving the current "Time of Troubles" that the Keynesian state did in resolving the last one.

Historically, economic recessions that last longer than a year have durations/severities that can be plotted as power law distributions.... Given that we are already over a year into this recession, it implies that we are really into black swan territory (unknown and extreme outcomes) in regards to our global economy's current downturn and that no estimates of recovery times or ultimate severity based on historical data of past recessions apply anymore. This also means that the system has exceeded its ability to adapt using standard methods (that shouldn't be news to anyone).

It may be even more interesting than that. The apparent non-linearity and turbulence of the current situation suggests we may be at a phase transition (akin to the shift in the natural world from ice to water)....

As a result, a new control regime may emerge. To get a glimpse of what is in store for us, we need to look at the sources of emerging order (newly configured dissipative and self-organizing systems/networks/orgs that are better adapted to the new non-linear dynamics of the global system).

In [the Great Depression] the sources of emerging organizational order were reconfigured nation-states that took a more active role in economics (total war economies during peacetime). In this situation, we are seeing emerging order at the local level: small resilient networks/communities reconfigured to handle this level of systemic environmental non-linearity and survive/thrive.... Further, it appears that these emerging communities and networks are well suited to drawing on a great behavioral shift occurring at the individual level, already evident in all economic statistics, that emphasis thrift/investment rather than consumption/gambling (the middle class consumer is becoming extinct).

So what does this mean? These new communities will eventually start to link up, either physically or virtually..., into network clusters. IF the number of links in the largest cluster reaches some critical proportion of the entire system's nodes..., there will be a phase transition as entire system shifts to the new mode of operation. In other words, resilient communities *might* become the new configuration of the global economic system.<sup>1</sup>

Robb's phase transition resembles Jeff Vail's description of the gradually shifting correlation of forces between the old legacy system and his "Diagonal Economy":

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<sup>1</sup> John Robb, "Viral Resilience," *Global Guerrillas*, January 12, 2009 <<http://globalguerrillas.typepad.com/globalguerrillas/2009/01/journal-phase-t.html>>.

The diagonal economy might rise amidst the decline of our current system—the “Legacy System.” Using America as an example (but certainly translatable to other regions and cultures), more and more people will gradually realize that there the “plausible promise” once offered by the American nation-state is no longer plausible. A decent education and the willingness to work 40 hours a week will no longer provide the “Leave it to Beaver” quid pro quo of a comfortable suburban existence and a secure future for one's children. As a result, our collective willingness to agree to the conditions set by this Legacy System (willing participation in the system in exchange for this once “plausible promise”) will wane. Pioneers—and this is certainly already happening—will reject these conditions in favor of a form of networked civilizational entrepreneurship. While this is initially composed of professionals, independent sales people, internet-businesses, and a few market gardeners, it will gradually transition to take on a decidedly “third world” flavor of local self-sufficiency and import-replacement (leveraging developments in distributed, open-source, and peer-to-peer manufacturing) in the face of growing ecological and resource pressures. People will, to varying degrees, recognize that they cannot rely on the cradle-to-cradle promise of lifetime employment by their nation state. Instead, they will realize that they are all entrepreneurs in at least three—and possibly many more—separate enterprises: one’s personal brand in interaction with the Legacy System (e.g. your conventional job), one’s localized self-sufficiency business (ranging from a back yard tomato plant to suburban homesteads and garage workshops), and one’s community entrepreneurship and network development. As the constitutional basis of our already illusory Nation-State system... erode further, the focus on #2 (localized self-sufficiency) and #3 (community/networking) will gradually spread and increase in importance, though it may take much more than my lifetime to see them rise to general prominence in replacement of the Nation-State system.<sup>1</sup>

In this chapter we will examine the general benefits of resilient local economies, consider some notable past examples of the phenomenon, and then survey some current experiments in resilient community which are especially promising as building blocks for a post-corporate society.

### **A. Local Economies as Bases of Independence and Buffers Against Economic Turbulence**

One virtue of the local economy is its insulation from the boom-bust cycle of the larger money economy.

Paul Goodman wrote that a “tight local economy” was essential for maintaining “a close relation between production and consumption,”

for it means that prices and the value of labor will not be so subject to the fluctuations of the vast general market. A man's work, meaningful during production, will somewhat carry through the distribution and what he gets in return. That is, within limits, the nearer a system gets to simple household economy, the more it is an economy of specific things and services that are bartered, rather than an economy of generalized money.<sup>2</sup>

The greater the share of consumption needs met through informal (barter, household and gift) economies, the less vulnerable individuals are to the vagaries of the business cycle, and the less dependent on wage labor as well.

The ability to meet one's own consumption needs with one's own labor, using one's own land and tools, is something that can't be taken away by a recession or a corporate decision to offshore

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<sup>1</sup> Jeff Vail, “Diagonal Economy 1: Overview,” *JeffVail.Net*, August 24, 2009 <<http://www.jeffvail.net/2009/08/diagonal-economy-1-overview.html>>.

<sup>2</sup> Paul and Percival Goodman, *Communitas*, p. 170.

production to China (or just to downsize the work force and speed up work for the survivors). The ability to trade one's surplus for other goods, with a neighbor also using his own land and tools, is also much more secure than a job in the capitalist economy.

Imagine an organic truck farmer who barter produce for clothing from a home seamstress living nearby. Neither the farmer nor the seamstress can dispose of her full output in this manner, or meet all of her subsistence needs. But both together have a secure and reliable source for all their sewing *and* vegetable needs, and a reliable outlet for the portion of the output of each that is consumed by the other. The more trades and occupations brought into the exchange system, the greater the portion of total consumption needs of each that can be reliably met within a stable sub-economy. At the same time, the less dependent each person is on outside wage income, and the more prepared to weather a prolonged period of unemployment in the outside wage economy.

Ralph Borsodi described the cumulative effect of the concatenation of uncertainties in an economy of large-scale factory production for anonymous markets:

Surely it is plain that no man can afford to be dependent upon some other man for the bare necessities of life without running the risk of losing all that is most precious to him. Yet that is precisely and exactly what most of us are doing today. Everybody seems to be dependent upon some one else for the opportunity to acquire the essentials of life. The factory-worker is dependent upon the man who employs him; both of them are dependent upon the salesmen and retailers who sell the goods they make, and all of them are dependent upon the consuming public, which may not want, or may not be able, to buy what they may have made.<sup>1</sup>

Subsistence, barter, and other informal economies, by reducing the intermediate steps between production and consumption, also reduce the contingency involved in consumption. If the realization of capital follows a circuit, as described by Marx in *Capital*, the same is also true of labor. And the more steps in the circuit, the more likely the circuit is to be broken, and the realization of labor (the transformation of labor into use-value, through the indirect means of exchanging one's own labor for wages, and exchanging those wages for use-value produced by someone else's labor) is to fail. Marx, in *The Poverty of Philosophy*, pointed out long ago that the disjunction of supply from demand, which resulted in the boom-bust cycle, was inevitable given the large-scale production under industrial capitalism:

...[This true proportion between supply and demand] was possible only at a time when the means of production were limited, when the movement of exchange took place within very restricted bounds. With the birth of large-scale industry this true proportion had to come to an end, and production is inevitably compelled to pass in continuous succession through vicissitudes of prosperity, depression, crisis, stagnation, renewed prosperity, and so on.

Those who... wish to return to the true proportion of production, while preserving the present basis of society, are reactionary, since, to be consistent, they must also wish to bring back all the other conditions of industry of former times.

What kept production in true, or more or less true, proportions? It was demand that dominated supply, that preceded it. Production followed close on the heels of consumption. Large-scale industry, forced by the very instruments at its disposal to produce on an ever-increasing scale, can no longer wait for demand.

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<sup>1</sup> Ralph Borsodi. *Flight from the City: An Experiment in Creative Living on the Land* (New York, Evanston, San Francisco, London: Harper & Row, 1933, 1972), p. 147.

Production precedes consumption, supply compels demands.<sup>1</sup>

In drawing the connection between supply-push distribution and economic crisis, Marx was quite perceptive. Where he went wrong was his assumption that large-scale industry, and production that preceded demand on the push model, were necessary for a high standard of living (“the present basis of society”).

Leopold Kohr, in the same vein, compared local economies to harbors in a storm in their insulation from the business cycle and its extreme fluctuations of demand.<sup>2</sup>

Ebenezer Howard, in his vision of Garden Cities, argued that the overhead costs of risk and distribution (as well as rent, given the cheap rural land on which the new towns would be built) would be far lower for both industry and retailers serving the less volatile local markets.

They might even sell considerably below the ordinary rate prevailing elsewhere, but yet, having an assured trade and being able very accurately to gauge demand, they might turn their money over with remarkable frequency. Their working expenses, too, would be absurdly small. They would not have to advertise for customers, though they would doubtless make announcements to them of any novelties; but all that waste of effort and of money which is so frequently expended by tradesmen in order to secure customers or to prevent their going elsewhere, would be quite unnecessary.<sup>3</sup>

His picture of the short cycle time and minimal overhead resulting from the gearing of supply to demand, by the way, is almost a word-for-word anticipation of lean principles.

We saw, in previous chapters, the way that lean production overcomes bottlenecks in supply by scaling production to demand and siting production as close as possible to the market. The small neighborhood shop and the household producer apply the same principle, on an even higher level. So the more decentralized and relocalized the scale of production, the easier it is to overcome the divorce of production from demand—the central contradiction of mass production. These remarks by Gandhi are relevant:

Question : "Do you feel, Gandhiji, that mass production will raise the standard of living of the people?"

"I do not believe in it at all, there is a tremendous fallacy behind Mr. Ford's reasoning. Without simultaneous distribution on an equally mass scale, the production can result only in a great world tragedy."

"Mass production takes no note of the real requirement of the consumer. If mass production were in itself a virtue, it should be capable of indefinite multiplication. But it can be definitely shown that mass production carries within it its own limitations. If all countries adopted the system of mass production, there would not be a big enough market for their products. Mass production must then come to a stop."

"I would categorically state my conviction that the mania for mass production is responsible for the world crises. If there is production and distribution both in the respective areas where things are required, it is automatically regulated, and there is less chance for fraud, none for speculation."...

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1 Karl Marx, *The Poverty of Philosophy*, Marx and Engels *Collected Works*, vol. 6 (New York: International Publishers, 1976).

2 Leopold Kohr, *The Overdeveloped Nations: The Diseconomies of Scale* (New York: Schocken Books, 1977), p. 110.

3 Ebenezer Howard, *To-Morrow: A Peaceful Path to Real Reform*. Facsimile of original 1898 edition, with introduction and commentary by Peter Hall, Dennis Hardy and Colin Ward (London and New York: Routledge, 2003), pp. 100, 102 [facsimile pp. 77-78].

Question : Have you any idea as to what Europe and America should do to solve the problem presented by too much machinery?

"You see," answered Gandhiji, "that these nations are able to exploit the so-called weaker or unorganized races of the world. Once those races gain this elementary knowledge and decide that they are no more going to be exploited, they will simply be satisfied with what they can provide themselves. Mass production, then, at least where the vital necessities are concerned, will disappear."...

Question : "But even these races will require more and more goods as their needs multiply."

"They will them [sic] produce for themselves. And when that happens, mass production, in the technical sense in which it is understood in the West, ceases."

Question : "You mean to say it becomes local?"

"When production and consumption both become localized, the temptation to speed up production, indefinitely and at any price, disappears."

Question : If distribution could be equalized, would not mass production be sterilized of its evils?

"No," The evil is inherent in the system. Distribution can be equalized when production is localized; in other words, when the distribution is simultaneous with production. Distribution will never be equal so long as you want to tap other markets of the world to dispose of your goods."

Question : Then, you do not envisage mass production as an ideal future of India ?

"Oh yes, mass production, certainly," "But not based on force. After all, the message of the spinning wheel is that. It is mass production, but mass production in people's own homes. If you multiply individual production to millions of times, would it not give you mass production on a tremendous scale? But I quite understand that your 'mass production' is a technical term for production by the fewest possible number through the aid of highly complicated machinery. I have said to myself that that is wrong. My machinery must be of the most elementary type which I can put in the homes of the millions." Under my system, again, it is labour which is the current coin, not metal. Any person who can use his labour has that coin, has wealth. He converts his labour into cloth, he converts his labour into grain. If he wants paraffin oil, which he cannot himself produce, he uses his surplus grain for getting the oil. It is exchange of labour on free, fair and equal terms—hence it is no robbery. You may object that this is a reversion to the primitive system of barter. But is not all international trade based on the barter system?"

Concentration of production ad infinitum can only lead to unemployment.<sup>1</sup>

Gandhi's error was assuming that localized and household production equated to low-tech methods, and that technological advancement was inevitably associated with large scale and capital intensiveness. As we saw in Chapter Five, nothing could be further from the truth.

Communities of locally owned small enterprises are much healthier economically than communities that are colonized by large, absentee-owned corporations. For example, a 1947 study compared two communities in California: one a community of small farms, and the other dominated by a few large agribusiness operations. The small farming community had higher living standards, more parks, more stores, and more civic, social and recreational organizations.<sup>2</sup>

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1 "Mahatma Gandhi on Mass Production" (1936), *TinyTech Plants* <<http://www.tinytechindia.com/gandhiji2.html>> (punctuation in original).

2 L. S. Stavrianos, *The Promise of the Coming Dark Age* (San Francisco: W. H. Freeman and Company, 1976), p. 41.

Bill McKibben made the same point in *Deep Economy*. Most money that's spent buying stuff from a national corporation is quickly sucked out of the local economy, while money that's spent at local businesses circulates repeatedly in the local economy and leaks much more slowly to the outside. According to a study in Vermont, substituting local production for only ten percent of imported food would create \$376 million in new economic output, including \$69 million in wages at over 3600 new jobs. A similar study in Britain found the multiplier effect of ten pounds spent at a local business benefited the local economy to the tune of 25 pounds, compared to only 14 for the same amount spent at a chain store.

The farmer buys a drink at the local pub; the pub owner gets a car tune-up at the local mechanic; the mechanic brings a shirt to the local tailor; the tailor buys some bread at the local bakery; the baker buys wheat for bread and fruit for muffins from the local farmer. When these businesses are not owned locally, money leaves the community at every transaction.<sup>1</sup>

## **B. Historical Models of Resilient Community**

The prototypical resilient community, in the mother of all “Times of Troubles,” was the Roman villa as it emerged in the late Empire and early Dark Ages. In Republican times, villas had been estates on which the country homes of the Senatorial class were located, often self-sufficient in many particulars and resembling villages in their own right. During the stresses of the “long collapse” in the fifth century, and in the Dark Ages following the fall of the Western Empire, the villas became stockaded fortresses, often with villages of peasants attached.

Since the rise of industrial capitalism, economic depression and unemployment have been the central motive forces behind the creation of local exchange systems and the direct production for barter by producers.

A good example is the Owenites' use of the social economy as a base of independence from wage labor. According to E. P. Thompson, “[n]ot only did the benefit societies on occasion extend their activities to the building of social clubs or alms-houses; there are also a number of instances of pre-Owenite trade unions when on strike, employing their own members and marketing the product.”<sup>2</sup> G. D. H. Cole describes the same phenomenon:

As the Trade Unions grew after 1825, Owenism began to appeal to them, and especially to the skilled handicraftsmen.... Groups of workers belonging to a particular craft began to set up Co-operative Societies of a different type—societies of producers which offered their products for sale through the Co-operative Stores. Individual Craftsmen, who were Socialists, or who saw a way of escape from the exactions of the middlemen, also brought their products to the stores to sell.”<sup>3</sup>

...[This pattern of organization was characterized by] societies of producers, aiming at co-operative production of goods and looking to the Stores to provide them with a market. These naturally arose first in trades requiring comparatively little capital or plant. They appealed especially to craftsmen whose independence was being threatened by the rise of factory production or sub-contracting through capitalist

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1 Bill McKibben, *Deep Economy: The Wealth of Communities and the Durable Future* (New York: Times Books, 2007), p. 165.

2 E. P. Thompson, *The Making of the English Working Class* (New York: Vintage Books, 1963, 1966), p. 790.

3 G.D.H. Cole, *A Short History of the British Working Class Movement (1789-1947)* (London: George Allen & Unwin, 1948), p. 76.

middlemen.

The most significant feature of the years we are discussing was the rapid rise of this... type of Co-operative Society and the direct entry of the Trades Unions into Co-operative production. Most of these Societies were based directly upon or at least very closely connected with the Unions of their trades, ...which took up production as a part of their Union activity—especially for giving employment to their members who were out of work or involved in trade disputes....<sup>1</sup>

The aims and overall vision of such organization were well expressed in the rules of the Ripponden Co-operative Society, formed in 1832 in a weaving village in the Pennines:

The plan of co-operation which we are recommending to the public is not a visionary one but is acted upon in various parts of the Kingdom; we all live by the produce of the land, and exchange labour for labour, which is the object aimed at by all Co-operative societies. We labourers do all the work and produce all the comforts of life;—why then should we not labour for ourselves and strive to improve our conditions.<sup>2</sup>

Cooperative producers' need for an outlet led to Labour Exchanges, where workmen and cooperatives could directly exchange their product so as "to dispense altogether with either capitalist employers or capitalist merchants." Exchange was based on labor time. "Owen's Labour Notes for a time not only passed current among members of the movement, but were widely accepted by private shopkeepers in payment for goods."<sup>3</sup>

The principle of labor-based exchange was employed on a large-scale. In 1830 the London Society opened an Exchange Bazaar for exchange of products between cooperative societies and individuals.<sup>4</sup> The Co-operative Congress, held at Liverpool in 1832, included a long list of trades among its participants (the B's alone had eleven). The National Equitable Labour Exchange, organized in 1832-33 in Birmingham and London, was a venue for the direct exchange of products between craftsmen, using Labour Notes as a medium of exchange.<sup>5</sup>

The Knights of Labor, in the 1880s, undertook a large-scale effort at organizing worker cooperatives. Their fate is an illustration of the central role of capital outlay requirements in determining the feasibility of self-employment and cooperative employment.

The first major wave of worker cooperatives, according to John Curl, was under the auspices of the National Trades' Union in the 1830s.<sup>6</sup> Like the Owenite trade union cooperatives in Britain, they were mostly undertaken in craft employments for which the basic tools of the trade were relatively inexpensive. From the beginning, worker cooperatives were a frequent resort of striking workers. In 1768 twenty striking journeyman tailors in New York, the first striking wage-workers in American history, set up their own cooperative shop. Journeyman carpenters striking for a ten-hour day in Philadelphia, in 1761, formed a cooperative (with the ten-hour day they sought) and undercut their master's price by 25%; they disbanded the cooperative when they went back to work. The same was done by shoemakers in Baltimore, 1794, and Philadelphia, 1806.<sup>7</sup> This was a common pattern in early

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1 Ibid., p. 78.

2 Ibid., pp. 793-794.

3 Ibid., pp. 78-79.

4 Ibid., p. 76.

5 Thompson, *Making of the English Working Class*, p. 791.

6 John Curl, *For All the People: Uncovering the Hidden History of Cooperation, Cooperative Movements, and Communalism in America* (Oakland, CA: PM Press, 2009), p.4

7 Ibid., p. 33.

American labor history, and the organization of cooperatives moved from being purely a strike tactic to providing an alternative to wage labor.<sup>1</sup> It was feasible because most forms of production were done by groups of artisan laborers using hand tools.

By the 1840s, the rise of factory production with expensive machinery had largely put an end to this possibility. As the prerequisites of production became increasingly unaffordable, the majority of the population was relegated to wage labor with machinery owned by someone else.<sup>2</sup>

Most attempts at worker-organized manufacturing, after the rise of the factory system, failed on account of the capital outlays required. For example, when manufacturers refused to sell farm machinery to the Grangers at wholesale prices, the Nebraska Grange undertook its own design and manufacturing of machinery. (How's that for a parallel to modern P2P ideas?) Its first attempt, a wheat head reaper, sold at half the price of comparable models and drove down prices on farm machinery in Nebraska. The National Grange planned a complete line of farm machinery, but most Grange manufacturing enterprises failed to raise the large sums of capital needed.<sup>3</sup>

The Knights of Labor cooperatives were on shaky ground in the best of times. Many of them were founded during strikes, started with “little capital and obsolescent machinery,” and lacked the capital to invest in modern machinery. Subjected to economic warfare by organized capital, the network of cooperatives disintegrated during the post-Haymarket repression.<sup>4</sup>

Ebenezer Howard's Garden Cities were a way of “buying out at the bottom” (a phrase coined by Vinay Gupta): building the cities on cheap rural land and using it with maximum efficiency. The idea was that workers would take advantage of the rent differential between city and country, make more efficient use of underused land than the great landlords and capitalists could, and use the surplus income from production in the new cities (collected as a single tax on the site value of land) for quickly paying off the original capital outlays.<sup>5</sup> Howard also anticipated something like counter-economics:

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1 Ibid., p. 34.

2 Ibid., pp. 35, 47.

3 Ibid., p. 77.

4 Ibid., p. 107.

The fate of the KofL cooperatives, resulting from the high capitalization requirements for production, is a useful contrast to the potential for small-scale production today. The economy today is experiencing a revolution as profound as the corporate transformation of the late 19th century. The main difference today is that, for material reasons, the monopolies on which corporate rule depends are becoming unenforceable. Another revolution, based on P2P and micromanufacturing, is sweeping society on the same scale as did the corporate revolution of 150 years ago. But the large corporations today are in the same position that the Grange and Knights of Labor were in the Great Upheaval back then, fighting a desperate, futile rearguard action, and doomed to be swept under by the tidal wave of history.

The worker cooperatives organized in the era of artisan labor paralleled, in many ways, the forms of work organization that are arising today. Networked organization, crowdsourced credit and the implosion of capital outlays required for physical production, taken together, are recreating the same conditions that made artisan cooperatives feasible in the days before the factory system. In the artisan manufactories that prevailed into the early 19th century, most of the physical capital required for production was owned by the work force; artisan laborers could walk out and essentially take the firm with them in all but name. Likewise, today, the collapse of capital outlay requirements for production in the cultural and information fields (software, desktop publishing, music, etc.) has created a situation in which human capital is the source of most book value for many firms; consequently, workers are able to walk out with their human capital and form “breakaway firms,” leaving their former employers as little more than hollow shells. And the rise of cheap garage manufacturing machinery (a Fab Lab with homebrew CNC tools costing maybe two months' wages for a semi-skilled worker) is, in its essence, a return to the days when low physical capital costs made worker cooperatives a viable alternative to wage labor.

The first uprising against corporate power, in the late 19th century, was defeated by the need for capital. The present one will destroy the old system by making capital superfluous.

5 Howard, *To-Morrow*, pp. 32, 42 [facsimile pp. 13, 20-21].



working people living within his garden cities, working through building societies, friendly societies, mutuals, consumer and worker cooperatives, etc., would find ways to employ themselves and each other outside the wage system.

It is idle for working-men to complain of this self-imposed exploitation, and to talk of nationalizing the entire land and capital of this country under an executive of their own class, until they have first been through an apprenticeship at the humbler task of organising men and women with their own capital in constructive work of a less ambitious character.... The true remedy for capitalist oppression where it exists, is not the strike of no work, but the strike of true work, and against this last blow the oppressor has no weapon. If labour leaders spent half the energy in co-operative organisation that they now waste in co-operative disorganisation, the end of our present unjust system would be at hand.<sup>1</sup>

Howard, heavily influenced by Kropotkin's vision of the decentralized production made possible by small-scale electrically powered machinery,<sup>2</sup> wrote that "[t]own and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilization."<sup>3</sup> Large markets, warehouses, and industry would be located along a ring road on the outer edge of each town, with markets and industry serving the particular ward in which its customers and workers lived.<sup>4</sup> A cluster of several individual towns (the "social city" of around a quarter million population in an area of roughly ten miles square) would ultimately be linked together by "[r]apid railway transit," much like the old mixed-use railroad suburbs which today's New Urbanists propose to resurrect and link together with light rail. Larger industries in each town would specialize in the production of commodities for the entire cluster, in which greater economies of scale were necessary.

In the Great Depression, the same principles used by the Owenites and Knights of Labor were applied in the Homestead Unit project in the Dayton area, an experiment with household and community production in which Borsodi played a prominent organizing role. Despite some early success, it was eventually killed off by Harold Ickes, a technocratic liberal who wanted to run the homestead project along the same centralist lines as the Tennessee Valley Authority. The Homestead Units were built on cheap land in the countryside surrounding Dayton, with a combination of three-acre family homesteads and some division of labor on other community projects. The family homestead included garden, poultry and other livestock, and a small orchard and berry patch. The community provided woodlot and pasture, in addition.<sup>5</sup> A Unit Committee vice president in the project described the economic security resulting from subsistence production:

There are few cities where the independence of a certain sort of citizen has not been brought into relief by the general difficulties of the depression. In the environs of all cities there is the soil-loving suburbanite. In some cases these are small farmers, market gardeners and poultry raisers who try to make their entire living from their little acres. More often and more successful there is a combination of rural and city industry. Some member of the family, while the others grow their crops, will have a job in town. A little money, where wages are joined to the produce of the soil, will go a long way....

When the depression came most of these members of these suburban families who held jobs in town were cut in wages and hours. In many cases they entirely lost their jobs. What, then, did they do?.... The soil and the industries of their home provided them... work and a living, however scant. Except for the

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1 Ibid., pp. 108, 110 [facsimile pp. 85-86].

2 Colin Ward, Commentator's introduction to Ibid., p. 3.

3 Ibid., p. 28 [facsimile p. 10].

4 Ibid., p. 14 [facsimile p. 34].

5 Ralph Borsodi, *The Nation*, April 19, 1933; reproduced in *Flight From the City*, pp. 154-59. Incidentally, the New Town project in Great Britain was similarly sabotaged, first under the centralizing social-democratic tendencies of Labour after WWII, and then by Thatcherite looting (er, "privatization") in the 1980s. Ward commentary, Howard, *To-Morrow*, p. 45.

comparatively few dollars required for taxes and a few other items they were able, under their own sail, to ride out the storm. The sailing was rough, perhaps; but not to be compared with that in the wreck-strewn town....

Farming as an exclusive business, a full means of livelihood, has collapsed.... Laboring as an exclusive means of livelihood has also collapsed. The city laborer, wholly dependent on a job, is of all men most precariously placed. Who, then, is for the moment safe and secure? The nearest to it is this home and acre-owning family in between, which combines the two.<sup>1</sup>

An interesting experiment in restoring the "circuit of labor" through barter exchange was Depression-era organizations like the Unemployed Cooperative Relief Organization and Unemployed Exchange Association:

...The real economy was still there—paralyzed but still there. Farmers were still producing, more than they could sell. Fruit rotted on trees, vegetables in the fields. In January 1933, dairymen poured more than 12,000 gallons of milk into the Los Angeles City sewers every day.

The factories were there too. Machinery was idle. Old trucks were in side lots, needing only a little repair. All that capacity on the one hand, legions of idle men and women on the other. It was the financial casino that had failed, not the workers and machines. On street corners and around bare kitchen tables, people started to put two and two together. More precisely, they thought about new ways of putting two and two together....

In the spring of 1932, in Compton, California, an unemployed World War I veteran walked out to the farms that still ringed Los Angeles. He offered his labor in return for a sack of vegetables, and that evening he returned with more than his family needed. The next day a neighbor went out with him to the fields. Within two months 500 families were members of the Unemployed Cooperative Relief Organization (UCRO).

That group became one of 45 units in an organization that served the needs of some 150,000 people.

It operated a large warehouse, a distribution center, a gas and service station, a refrigeration facility, a sewing shop, a shoe shop, even medical services, all on cooperative principles. Members were expected to work two days a week, and benefits were allocated according to need....

The UCRO was just one organization in one city. Groups like it ultimately involved more than 1.3 million people, in more than 30 states. It happened spontaneously, without experts or blueprints. Most of the participants were blue collar workers whose formal schooling had stopped at high schools. Some groups evolved a kind of money to create more flexibility in exchange. An example was the Unemployed Exchange Association, or UXA, based in Oakland, California.... UXA began in a Hooverville... called "Pipe City," near the East Bay waterfront. Hundreds of homeless people were living there in sections of large sewer pipe that were never laid because the city ran out of money. Among them was Carl Rhodehamel, a musician and engineer.

Rhodehamel and others started going door to door in Oakland, offering to do home repairs in exchange for unwanted items. They repaired these and circulated them among themselves. Soon they established a commissary and sent scouts around the city and into the surrounding farms to see what they could scavenge or exchange labor for. Within six months they had 1,500 members, and a thriving sub-economy that included a foundry and machine shop, woodshop, garage, soap, factory, print shop, wood lot, ranches, and lumber mills. They rebuilt 18 trucks from scrap. At UXA's peak it distributed 40 tons of food a week.

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<sup>1</sup> Editorial by Walter Locke in *The Dayton News*, quoted by Borsodi in *Flight From the City*, pp. 170-71.

It all worked on a time-credit system.... Members could use credits to buy food and other items at the commissary, medical and dental services, haircuts, and more. A council of some 45 coordinators met regularly to solve problems and discuss opportunities.

One coordinator might report that a saw needed a new motor. Another knew of a motor but the owner wanted a piano in return. A third member knew of a piano that was available. And on and on. It was an amalgam of enterprise and cooperation—the flexibility and hustle of the market, but without the encoded greed of the corporation or the stifling bureaucracy of the state.... The members called it a "reciprocal economy."....<sup>1</sup>

Stewart Burgess, in a 1933 article, described a day's produce intake by the warehouse of Unit No. 1 in Compton. It included some fifteen different kinds of fruits and vegetables, including two tons of cabbage and seventy boxes of pears, all the way down to a single crate of beets—not to mention a sack of salt. The production facilities and the waste materials it used as inputs foreshadow the ideas of Colin Ward, Kirkpatrick Sale and Karl Hess on community warehouses and workshops, discussed in the last chapter:

In this warehouse is an auto repair shop, a shoe-repair shop, a small printing shop for the necessary slips and forms, and the inevitable woodpile where cast-off railroad ties are sawed into firewood. Down the street, in another building, women are making over clothing that has been bartered in. In another they are canning vegetables and fruit—Boy Scouts of the Burbank Unit brought in empty jars by the wagon-load.<sup>2</sup>

Such ventures, like the Knights of Labor cooperatives, were limited by the capital intensiveness of so many forms of production. The bulk of the labor performed within the barter networks was either in return for salvage goods in need of repair, for repairing such goods, or in return for unsold inventories of conventional businesses. When the supply of damaged machinery was exhausted by house-to-house canvassing, and local businesses disposed of their accumulated inventory, barter associations reached their limit. They could continue to function at a fairly low volume, directly undertaking for barter such low-capital forms of production as sewing, gardening on available land, etc., and trading labor for whatever percentage of output from otherwise idle capacity that conventional businesses were willing to barter for labor. But that level was quite low compared to the initial gains from absorbing excess inventory and salvageable machinery in the early days of the system. At most, once barter reached its sustainable limits, it was good as a partial mitigation of the need for wage labor.

But as production machinery becomes affordable to individuals independently of large employers, such direct production for barter will become increasingly feasible for larger and larger segments of the workforce.

The Great Depression was a renaissance of local barter currencies or “emergency currencies,” adopted around the world, which enabled thousands of communities to weather the economic calamity with “the medium of exchange necessary for their activities, to give each other work.”<sup>3</sup>

The revival of barter on the Internet coincides with a new economic downturn, as well. A Craigslist spokesman reported in March 2009 that bartering had doubled on the site over the previous year.

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1 Jonathan Rowe, "Entrepreneurs of Cooperation," *Yes!*, Spring 2006 <<http://www.yesmagazine.org/article.asp?ID=1464>>.

2 J. Stewart Burgess, "Living on a Surplus," *The Survey* 68 (January 1933), p. 6.

3 Bernard Lietaer, *The Future of Money: A New Way to Create Wealth, Work and a Wiser World* (London: Century, 2001), p. 148. In pp. 151-157, he describes examples from all over the world, including “several thousand examples of local scrip from every state in the Union.”

Proposed swaps listed on the Washington area Craigslist site this week included accounting services in return for food, and a woman offering a week in her Hilton Head, S.C., vacation home for dental work for her husband.

Barter websites for exchanging goods and services without cash are proliferating around the world.

With unemployment in the United States and Britain climbing, some people said bartering is the only way to make ends meet.

"I'm using barter Web sites just to see what we can do to survive," said Zedd Epstein, 25, who owned a business restoring historic houses in Iowa until May, when he was forced to close it as the economy soured.

Epstein, in a telephone interview, said he has not been able to find work since, and he and his wife moved to California in search of jobs.

Epstein said he has had several bartering jobs he found on Craigslist. He drywalled a room in exchange for some tools, he poured a concrete shed floor in return for having a new starter motor installed in his car, and he helped someone set up their TV and stereo system in return for a hot meal.

"Right now, this is what people are doing to get along," said Epstein, who is studying for an electrical engineering degree.

"If you need your faucet fixed and you know auto mechanics, there's definitely a plumber out there who's out of work and has something on his car that needs to be fixed," he said.<sup>1</sup>

As the crisis progresses, and with it the gradually increasing underemployment and unemployment and the partial shift of value production from wage labor to the informal sector discussed in Chapter Three, we can expect to see the growth of all sorts of income-pooling and cost-spreading mechanisms.

These include a restored emphasis on mutual aid organizations of the kind described by left-libertarian writers like Pyotr Kropotkin and E. P. Thompson. As Charles Johnson wrote:

It's likely also that networks of voluntary aid organizations would be strategically important to individual flourishing in a free society, in which there would be no expropriative welfare bureaucracy for people living with poverty or precarity to fall back on. Projects reviving the bottom-up, solidaritarian spirit of the independent unions and mutual aid societies that flourished in the late 19th and early 20th centuries, before the rise of the welfare bureaucracy, may be essential for a flourishing free society, and one of the primary means by which workers could take control of their own lives, without depending on either bosses or bureaucrats.<sup>2</sup>

More fundamentally, they are likely to entail people coalescing into primary social units at the residential level (neighborhood cohousing projects, urban communes and squats, intentional communities, extended family compounds, etc.), as a way of pooling income and reducing costs. As the state's social safety nets come apart, such primary social units and extended federations between them are likely to become important mechanisms for pooling cost and risk and organizing care for the aged and sick.

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1 Kevin Sullivan, "As Economy Plummet, Cashless Bartering Soars on the Internet," *Washington Post*, March 14, 2009 <[http://www.washingtonpost.com/wp-dyn/content/article/2009/03/13/AR2009031303035\\_pf.html](http://www.washingtonpost.com/wp-dyn/content/article/2009/03/13/AR2009031303035_pf.html)>.

2 Charles Johnson, "Liberty, Equality, Solidarity: Toward a Dialectical Anarchism," in Roderick T. Long and Tibor R. Machan, eds., *Anarchism/Minarchism: Is a Government Part of a Free Country?* (Hampshire, UK, and Burlington, Vt.: Ashgate Publishing Limited, 2008). Quoted from textfile provided by author.

Poul Anderson, in the fictional universe of his Maurai series, envisioned a post-apocalypse society in the Pacific Northwest coalescing around the old fraternal lodges, with the Northwestern Federation centered on lodges rather than geographical subdivisions as the component units represented in its legislature. The lodge emerged as the central social institution during the social disintegration following the nuclear war, much as the villa became the basic social unit of the new feudal society in the vacuum left by the fall of Rome. It was the principal and normal means for organizing benefits to the sick and unemployed, as well as the primary base for providing public services like police and fire protection.<sup>1</sup>

### C. LETS Systems, Barter Networks, and Community Currencies

Local currencies, barter networks and mutual credit-clearing systems are a solution to a basic problem: “a world in which there is a lot of work to be done, but there is simply no money around to bring the people and the work together.”<sup>2</sup>

Unconventional currencies are buffers against unemployment and economic downturn. Tsutomu Hotta, the founder of the Hureai Kippu (“Caring Relationship Tickets,” a barter system in which participants accumulate credits in a “healthcare time savings account” by volunteering their own time), estimated that such unconventional currencies would replace a third to a half of conventional monetary functions. “As a result, the severity of any recession and unemployment will be significantly reduced.”<sup>3</sup>

One barrier to local barter currencies and crowdsourced mutual credit is a misunderstanding of the nature of money. For the alternative economy, money is not primarily a store of value, but an accounting system to facilitate exchange. Its function is not to store accumulated value from past production, but to provide liquidity to facilitate the exchange of present and future services between producers.

The distinction is a very old one, aptly summarized by Schumpeter's contrast between the “money theory of credit” and the “credit theory of money.” The former, which Schumpeter dismisses as entirely fallacious, assumes that banks “lend” money (in the sense of giving up use of it) which has been “withdrawn from previous uses by an entirely imaginary act of saving and then lent out by its owners. It is much more realistic to say that the banks 'create credit..,' than to say that they lend the deposits that have been entrusted to them.”<sup>4</sup> The credit theory of money, on the other hand, treats finances “as a clearing system that cancels claims and debts and carries forward the difference....”<sup>5</sup>

Thomas Hodgskin, criticizing the Ricardian “wage fund” theory from a perspective something like Schumpeter's credit theory of money, utterly demolished any moral basis for the creative role of the capitalist in creating a wage fund through “abstention,” and instead made the advancement of subsistence funds from *existing* production a function that workers could just as easily perform for one another through mutual credit, were the avenues of doing so not preempted.

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1 Poul Anderson, *Orion Shall Rise* (New York: Pocket Books, 1983).

2 Lietaer, p. 112.

3 Ibid., pp. 23-24.

4 *Joseph Schumpeter, History of Economic Analysis*. Edited from manuscript by Elizabeth Boody Schumpeter (New York: Oxford University Press, 1954), p. 1114.

5 Ibid., p. 717.

The only advantage of circulating capital is that by it the labourer is enabled, he being assured of his present subsistence, to direct his power to the greatest advantage. He has time to learn an art, and his labour is rendered more productive when directed by skill. Being assured of immediate subsistence, he can ascertain which, with his peculiar knowledge and acquirements, and with reference to the wants of society, is the best method of labouring, and he can labour in this manner. Unless there were this assurance there could be no continuous thought, an invention, and no knowledge but that which would be necessary for the supply of our immediate animal wants....

The labourer, the real maker of any commodity, derives this assurance from a knowledge he has that the person who set him to work will pay him, and that with the money he will be able to buy what he requires. He is not in possession of any stock of commodities. Has the person who employs and pays him such a stock? Clearly not....

A great cotton manufacturer... employs a thousand persons, whom he pays weekly: does he possess the food and clothing ready prepared which these persons purchase and consume daily? Does he even know whether the food and clothing they receive are prepared and created? In fact, are the food and clothing which his labourers will consume prepared beforehand, or are other labourers busily employed in preparing food and clothing while his labourers are making cotton yarn? Do all the capitalists of Europe possess at this moment one week's food and clothing for all the labourers they employ?...

...As far as food, drink and clothing are concerned, it is quite plain, then, that no species of labourer depends on any previously prepared stock, for in fact no such stock exists; but every species of labourer does constantly, and at all times, depend for his supplies on the co-existing labour of some other labourers.<sup>1</sup>

...When a capitalist therefore, who owns a brew-house and all the instruments and materials requisite for making porter, pays the actual brewers with the coin he has received for his beer, and they buy bread, while the journeymen bakers buy porter with their money wages, which is afterwards paid to the owner of the brew-house, is it not plain that the real wages of both these parties consist of the produce of the other; or that the bread made by the journeyman baker pays for the porter made by the journeyman brewer? But the same is the case with all other commodities, and labour, not capital, pays all wages....

In fact it is a miserable delusion to call capital something saved. Much of it is not calculated for consumption, and never is made to be enjoyed. When a savage wants food, he picks up what nature spontaneously offers. After a time he discovers that a bow or a sling will enable him to kill wild animals at a distance, and he resolves to make it, subsisting himself, as he must do, while the work is in progress. He saves nothing, for the instrument never was made to be consumed, though in its own nature it is more durable than deer's flesh. This example represents what occurs at every stage of society, except that the different labours are performed by different persons—one making the bow, or the plough, and another killing the animal or tilling the ground, to provide subsistence for the makers of instruments and machines. To store up or save commodities, except for short periods, and in some particular cases, can only be done by more labour, and in general their utility is lessened by being kept. The savings, as they are called, of the capitalist, are consumed by the labourer, and there is no such thing as an actual hoarding up of commodities.<sup>2</sup>

What political economy conventionally referred to as the "labor fund," and attributed to past abstention and accumulation, resulted rather from the present division of labor and the cooperative distribution of its product. "Capital" is a term for a right of property in organizing and disposing of this present labor. The same basic cooperative functions could be carried out just as easily by the workers

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1 Thomas Hodgskin, *Labour Defended Against the Claims of Capital* (New York: Augustus M. Kelley, 1969 [1825]), pp. 36-40.

2 Hodgskin, *Popular Political Economy: Four Lectures Delivered at the London Mechanics' Institution* (New York: Augustus M. Kelley, 1966 [1827]), p. 247.

themselves, through mutual credit. Under the present system, the capitalist monopolizes these cooperative functions, and thus appropriates the productivity gains from the social division of labor.

Between him who produces food and him who produces clothing, between him who makes instruments and him who uses them, in steps the capitalist, who neither makes nor uses them, and appropriates to himself the produce of both. With as niggard a hand as possible he transfers to each a part of the produce of the other, keeping to himself the large share. Gradually and successively has he insinuated himself between them, expanding in bulk as he has been nourished by their increasingly productive labours, and separating them so widely from each other that neither can see whence that supply is drawn which each receives through the capitalist. While he despoils both, so completely does he exclude one from the view of the other that both believe they are indebted him for subsistence.<sup>1</sup>

Franz Oppenheimer made a similar argument in "A Post Mortem on Cambridge Economics":

THE JUSTIFICATION OF PROFIT, to repeat, rests on the claim that the entire stock of instruments of production must be "saved" during one period by private individuals in order to serve during a later period. This proof, it has been asserted, is achieved by a chain of equivocations. In short, the material instruments, for the most part, are not saved in a former period, but are manufactured in the same period in which they are employed. What is saved is capital in the other sense, which may be called for present purposes "money capital." But this capital is not necessary for developed production.

Rodbertus, about a century ago, proved beyond doubt that almost all the "capital goods" required in production are created in the same period. Even Robinson Crusoe needed but one single set of simple tools to begin works which, like the fabrication of his canoe, would occupy him for several months. A modern producer provides himself with capital goods which other producers manufacture simultaneously, just as Crusoe was able to discard an outworn tool, occasionally, by making a new one while he was building the boat. On the other hand, money capital must be saved, but it is not absolutely necessary for developed technique. It can be supplanted by co-operation and credit, as Marshall correctly states. He even conceives of a development in which savers would be glad to tend their savings to reliable persons without demanding interest, even paying something themselves for the accommodation for security's sake. Usually, it is true, under capitalist conditions, that a certain personally-owned money capital is needed for undertakings in industry, but certainly it is never needed to the full amount the work will cost. The initial money capital of a private entrepreneur plays, as has been aptly pointed out, merely the rôle of the air chamber in the fire engine; it turns the irregular inflow of capital goods into a regular outflow.<sup>2</sup>

Oscar Ameringer illustrated the real-world situation in a humorous socialist pamphlet, "Socialism for the Farmer Who Farms the Farm," written in 1912. A river divided the nation of Slamerica into two parts, one inhabited by farmers and the other by makers of clothing. The bridge between them was occupied by a fat man named Ploot, who charged the farmers four pigs for a suit of clothes and the tailors four suits for a pig. The difference was compensation for the "service" he provided in letting them across the bridge and providing them with work. When a radical crank proposed the farmers and tailors build their own bridge, Ploot warned that by depriving him of his share of their production they would drive capital out of the land and put themselves out of work three-quarters of the time (while getting the same number of suits and pigs, of course).<sup>3</sup>

Schumpeter distinction between money theories of credit and credit theories of money is useful

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1 Hodgskin, "Labour Defended," p. 71.

2 Franz Oppenheimer, "A Post Mortem on Cambridge Economics (Part Three)," *The American Journal of Economics and Sociology*, vol. 3, no. 1 (1944), pp. 122-123, [115-124]

3 Oscar Ameringer. "Socialism for the Farmer Who Farms the Farm." Rip-Saw Series No. 15 (Saint Louis: The National Rip-Saw Publishing Co., 1912).

here. Critiquing the former, he wrote that it was misleading to treat bank credit as the lending of funds which had been “withdrawn from previous uses by an entirely imaginary act of saving and then lent out by their owners. It is much more realistic to say that the banks 'create credit...,' than to say that they lend the deposits that have been entrusted to them.”<sup>1</sup> The latter, in contrast, treat finances “as a clearing system that cancels claims and carries forward the difference.”<sup>2</sup>

E. C. Riegel argues that issuing money is a function of the individual within the market, a side-effect of his normal economic activities. Currency is issued by the buyer by the very act of buying, and it's backed by the goods and services of the seller.

Money can be issued only in the act of buying, and can be backed only in the act of selling. Any buyer who is also a seller is qualified to be a money issuer. Government, because it is not and should not be a seller, is not qualified to be a money issuer.<sup>3</sup>

Money is simply an accounting system for tracking the balance between buyers and sellers over time.<sup>4</sup>

And because money is issued by the buyer, it comes into existence as a debit. The whole point of money is to create purchasing power where it did not exist before: “...[N]eed of money is a condition precedent to the issue thereof. To issue money, one must be without it, since money springs only from a debit balance on the books of the authorizing bank or central bookkeeper.”<sup>5</sup>

IF MONEY is but an accounting instrument between buyers and sellers, and has no intrinsic value, why has there ever been a scarcity of it? The answer is that the producer of wealth has not been also the producer of money. He has made the mistake of leaving that to government monopoly.<sup>6</sup>

Money is “simply number accountancy among private traders.”<sup>7</sup> Or as Riegel's disciple Thomas Greco argues, currencies are not “value units” (in the sense of being stores of value). They are means of payment *denominated* in value units.<sup>8</sup>

In fact, as Greco says, “barter” systems are more accurately conceived as “credit clearing” systems. In a mutual credit clearing system, rather than cashing in official state currency for alternative currency notes (as is the case in too many local currency systems), participating businesses *spend the money into existence* by incurring debits for the purchase of goods within the system, and then earning credits to offset the debits by selling their own services within the system. The currency functions as a sort of IOU by which a participant monetizes the value of his future production.<sup>9</sup> It's simply an accounting system for keeping track of each member's balance:

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1 Schumpeter, *History of Economic Analysis*, p. 1114.

2 Ibid., p. 717.

3 E. C. Riegel, *Private Enterprise Money: A Non-Political Money System* (1944), Introduction <<http://www.newapproachtofreedom.info/pem/introduction.html>>.

4 Ibid., Chapter Seven <<http://www.newapproachtofreedom.info/pem/chapter07.html>>.

5 Riegel, *The New Approach to Freedom: together with Essays on the Separation of Money and State*. Edited by Spencer Heath MacCallum (San Pedro, California: The Heather Foundation, 1976), Chapter Four <<http://www.newapproachtofreedom.info/naf/chapter4.html>>.

6 Riegel, “The Money Pact, in Ibid. <<http://www.newapproachtofreedom.info/naf/essay1.html>>.

7 Spencer H. MacCallum, “E. C. Riegel on Money” (January 2008)

<<http://www.newapproachtofreedom.info/documents/AboutRiegel.pdf>>.

8 Thomas Greco, *Money and Debt: A Solution to the Global Crisis* (1990), Part III: Segregated Monetary Functions and an Objective, Global, Standard Unit of Account <[http://circ2.home.mindspring.com/Money\\_and\\_Debt\\_Part3\\_lo.PDF](http://circ2.home.mindspring.com/Money_and_Debt_Part3_lo.PDF)>.

9 Greco, *The End of Money and the Future of Civilization* (White River Junction, Vermont: Chelsea Green Publishing, 2009), p. 82.



Your purchases have been indirectly paid for with your sales, the services or labor you provided to your employer.

In actuality, everyone is both a buyer and a seller. When you sell, your account balance increases; when you buy, it decreases.

It's essentially what a checking account does, except a conventional bank does not automatically provide overdraft protection for those running negative balances, unless they pay a high price for it.<sup>1</sup>

There's no reason businesses cannot maintain a mutual credit-clearing system between themselves, without the intermediary of a bank or any other third party currency or accounting institution. The businesses agree to accept each other's IOUs in return for their own goods and services, and periodically use the clearing process to settle their accounts.<sup>2</sup>

And again, since some of the participants run negative balances for a time, the system offers what amounts to interest-free overdraft protection. As such a system starts out, members are likely to resort to fairly frequent settlements of account, and put fairly low limits on the negative balances that can be run, as a confidence building measure. Negative balances might be paid up, and positive balances cashed out, every month or so. But as confidence increases, Greco argues, the system should ideally move toward a state of affairs where accounts are never settled, so long as negative balances are limited to some reasonable amount.

An account balance increases when a sale is made and decreases when a purchase is made. It is possible that some account balances may always be negative. That is not a problem so long as the account is actively trading and the negative balance does not exceed some appropriate limit. What is a reasonable basis for deciding that limit?... Just as banks use your income as a measure of your ability to repay a loan, it is reasonable to set maximum debit balances based on the amount of revenue flowing through an account.... [One possible rule of thumb is] that a negative account balance should not exceed an amount equivalent to three months' average sales.<sup>3</sup>

It's interesting how Greco's proposed limit on negative balances dovetails with the credit aspect of the local currency system. His proposed balance limit, a de facto interest-free loan, is sufficient to fund the minimum capital outlays for many kinds of low-overhead micro-enterprise. Even at the average wages of unskilled labor, three months' income is sufficient to acquire the basic equipment for a Fab Lab (at least the open-source versions described in Chapter Six). And it's far more than sufficient to meet the capital outlays needed for a microbakery or microcab.

Greco recounts an experiment with one such local credit clearing system, the Tucson Traders. It's fairly typical of his experience: initial enthusiasm, followed by gradual decline and dwindling volume, as the dwindling number of goods and services and the inconvenience of traveling between the scattered participating businesses take their toll.<sup>4</sup>

The reason for such failure, in normal economic times, is that local currency systems are crowded out by the official currency and the state-supported banking system.

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1 Ibid., p. 102.

2 Ibid. pp. 106-107

3 Ibid., p. 134.

4 Greco, *The End of Money*, pp. 139-141.

For a credit clearing system to thrive, it must offer a valued alternative to those who lack sources of money in the conventional economy. That means it must have a large variety of participating goods and services, participating businesses must find it a valuable source of business that would not otherwise exist in the conventional economy, and unemployed and underemployed members must find it a valuable alternative for turning their skills into purchasing power they would not otherwise have. So we can expect LETS or credit clearing systems to increase in significance in periods of economic downturn, and even more so in the structural decline of the money and wage economy that is coming.

Karl Hess and David Morris cite Alan Watts' illustration of the absurdity of saying it's impossible for willing producers, faced with willing consumers, to produce for exchange because "there's not enough money going around":

Remember the Great Depression of the Thirties? One day there was a flourishing consumer economy, with everyone on the up-and-up; and the next: poverty, unemployment and breadlines. What happened? The physical resources of the country—the brain, brawn, and raw materials—were in no way depleted, but there was a sudden absence of money, a so-called financial slump. Complex reasons for this kind of disaster can be elaborated at lengths by experts in banking and high finance who cannot see the forest for the trees. But it was just as if someone had come to work on building a house and, on the morning of the Depression, that boss had to say, "Sorry, baby, but we can't build today. No inches." "Whaddya mean, no inches? We got wood. We got metal. We even got tape measures." "Yeah, but you don't understand business. We been using too many inches, and there's just no more to go around."<sup>1</sup>

The point of the mutual credit clearing system, as Greco describes it, is that two people who have goods and services to offer—but no money—are able to use their goods and services to buy other goods and services, even when there's "no money."<sup>2</sup> So we can expect alternative currency systems to come into play precisely at those times when people feel the lack of "inches." Based on case studies in the WIR system and the Argentine social money movement, Greco says, "complementary currencies will take hold most easily when they are introduced into markets that are starved for exchange media."<sup>3</sup> The widespread proliferation of local currencies in the Depression suggests that when this condition holds, the scale of adoption will follow as a matter of course. And as we enter a new, long-term period of stagnation in the conventional economy, it seems likely that local currency systems will play a growing role in the average person's strategy for economic survival.

There has been a new revival of local currency systems starting in the 1990s with the Ithaca Hours system and spreading to a growing network of LETS currencies.

But Ted Trainer, a specialist on relocalized economies who writes at "The Simpler Way" site, points out that LETS systems are, by themselves, largely worthless. The problem with LETS systems, by themselves, is that

most people do not have much they can sell, i.e., they do not have many productive skills or the capital to set up a firm. It is therefore not surprising that LETS systems typically do not grow to account for more than a very small proportion of a town's economic activity.... What is needed and what LETS systems do not create is productive capacity, enterprises. It will not set up a cooperative bakery in which many people with little or no skill can be organised to produce their own bread.

So the crucial element becomes clear. *Nothing significant can be achieved unless people acquire the*

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1 Karl Hess and David Morris, *Neighborhood Power: The New Localism* (Boston: Beacon Press, 1975), pp. 154-155.

2 Greco, *The End of Money*, p. 116.

3 Ibid., p. 158.

*capacity to produce and sell things that others want.* Obviously, unless one produces and sells to others one can't earn the money with which to purchase things one needs from others. So the question we have to focus on is how can the introduction of a new currency facilitate this *setting up of firms that will enable those who had no economic role to start producing, selling, earning and buying.* The crucial task is to create productive roles, not to create a currency. The new currency should be seen as little more than an accounting device, necessary but not the crucial factor.

It is obvious here that what matters in local economic renewal is not redistribution of income or purchasing power. What matters is *redistribution of production power.*<sup>1</sup>

It is ridiculous that millions of people are been unable to trade with each other simply because they do not have money, i.e., tokens which enable them to keep track of who owes what amount of goods and work to whom. LETS is a great solution to this elementary problem.

However it is very important to understand that a LETS system is far from sufficient. In fact a LETS on its own will not make a significant difference to a local economy. The evidence is that on average LETS transactions make up less than 5% of the economic activity of the average member of a scheme, let alone of the region. (See R. Douthwaite, Short Circuit, 1996, p. 76.) [[Look up]]

LETS members soon find that they can only meet a small proportion of their needs through LETS, i.e., that there is not that much they can buy with their LETS credits, and not that much they can produce and sell. Every day they need many basic goods and services but very few of these are offered by members of the system. This is the central problem in local economic renewal; the need for ways of increasing the capacity of local people to produce things local people need. The core problem in other words is how to set up viable firms....

The core task in town economic renewal is to enable, indeed create a whole new sector of economic activity involving the people who were previously excluded from producing and earning and purchasing. This requires much more than just providing the necessary money; it requires the establishment of firms in which people can produce and earn.<sup>2</sup>

As he writes elsewhere, the main purpose of local currency systems is “to contribute to getting the unused productive capacity of the town into action, i.e., stimulating/enabling increase in output to meet needs.” Therefore the creation of a local currency system is secondary to creating firms by which the unemployed and underemployed can earn the means of exchange.<sup>3</sup>

For that reason, Trainer proposes Community Development Cooperatives as a way to promote the kinds of new enterprises that enable people to earn local currency outside the wage system.

The economic renewal of the town will not get far unless its CDC actively works on this problem of establishing productive ventures *within the new money sector* which will enable that sector to sell things to the old firms in the town. In the case of restaurants the CDC's best option would probably be to set up or help others set up gardens to supply the restaurants with vegetables. Those who run the gardens would pay the workers in new money, sell the vegetables to the restaurants for new money, and use their new money incomes to buy meals from the restaurants.

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1 Ted Trainer, “Local Currencies” (September 4, 2008), *The Simpler Way* <<http://ssis.arts.unsw.edu.au/tsw/localcurrency.html>>.

2 Trainer, “We Need More Than LETS,” *The Simpler Way* <<http://ssis.arts.unsw.edu.au/tsw/D11WeNdMreThLETS2p.html>>.

3 Trainer, “The Transition Towns Movement; its huge significance and a friendly criticism,” (*We can do better*, July 30, 2009 <<http://candobetter.org/node/1439>>.

The Community Development Cooperative must work hard to find and set up whatever other ventures it can because the capacity of the previously poor and unemployed group of people in the town to *purchase from* normal/old firms is strictly limited by the volume that that group is able to sell to those firms. Getting these productive ventures going is by far the most important task of the Community Development Cooperative, much more important than just organising a new currency in which the exchanges can take place.

The other very important thing the Community Development Cooperative must do is enable low skilled and low income people to cooperative [sic] produce many things for themselves. A considerable proportion of people in any region do not have the skills to get a job in the normal economy. This economy will condemn them to poverty and boredom. Yet they could be doing much useful work, especially work to produce many of the things they need. But again this will not happen unless it is organised. Thus the Community Development Cooperative must organise gardens and workshops and enterprises (such as furniture repair, house renovation and fuel wood cutting) whereby this group of people can work together to produce many of the things they need. They might be paid in new money according to time contributions, or they might just share goods and income from sales of surpluses.<sup>1</sup>

Trainer's critique of stand-alone LETS systems makes a lot of sense. When people earn official dollars in the wage economy, and then trade them in for local currency notes at the local bank that can only be spent in local businesses, they're trading dollars they already have for something that's *less* useful; local currency, in those circumstances, becomes just another greenwashed yuppie lifestyle choice financed by participation in the larger capitalist economy. As Greco puts it,

a community currency that is issued on the basis of payment of a national currency (e.g., a local currency that is sold for dollars), amounts to a "gift certificate" or localized "traveler's check." It amounts to prepayment for the goods or services offered by the merchants that agree to accept the currency. That approach provides some limited utility in encouraging the holder of the currency to buy locally... [But] that sort of issuance requires that someone have dollars in order for the community currency to come into existence.<sup>2</sup>

Local currency should be a tool that's *more* useful than the alternative, giving people who are outside the wage system and who lack official dollars a way to transform their skills into purchasing power they would otherwise not have. A unit of local currency shouldn't be something one obtains by earning official money through wage employment and then trading it in for feel-good money at the bank to spend on establishment Main Street businesses. It should be an accounting unit for barter by the unemployed or underemployed person, establishing *new* microenterprises out of their own homes and exchanging goods and services directly with one another.

Trainer's main limitation is his focus on large-scale capital investment in conventional enterprises as the main source of employment. In examining the need for capital for setting up viable firms, he ignores the enormous amounts of capital that already exist.

The capital exists in the form of the ordinary household capital goods that most people already own, sitting idle in their own homes: the ordinary kitchen ovens that might form the basis of household microbakeries producing directly for credit in the barter network; the sewing machines that might be used to make clothes for credit in the network; the family car and cell phone that might be used to provide cab service for the network in exchange for credit toward other members' goods and services; etc. The unemployed or underemployed carpenter, plumber, electrician, auto mechanic, etc.,

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1 Trainer, "We Need More Than LETS."

2 Greco, *The End of Money*, p. 81.

might barter his services for credit to purchase tomatoes from a market gardener within the network, for the microbaker's bread or the seamstress's shirts, and so forth. The “hobbyist” with a well-equipped workshop in his basement or back yard might custom machine replacement parts to keep the home appliances of the baker, market gardener, and seamstress working, in return for their goods and services. Eventually “hobbyist” workshops and small local machine shops might begin networked manufacturing for the barter network, perhaps even designing their own open-source products with CAD software and producing them with CNC machine tools.

Hernando de Soto, in *The Mystery of Capital*, pointed to the homes and plots of land, to which so many ordinary people in the Third World hold informal title, as an enormous source of unrealized investment capital. Likewise, the spare capacity of people's ordinary household capital goods is a potentially enormous source of “plant and equipment” for local alternative economies centered on the informal and household sector.

There is probably enough idle oven capacity in the households of the average neighborhood or small town to create the equivalent of a hundred cooperative bakeries. Why waste the additional outlay cost, and consequent overhead, for relocating this capital to a stand-alone building?

Another thing to remember is that, even when a particular kind of production requires capital investment beyond the capabilities of the individual of average means, new infrastructures for crowdsourced, distributed credit—microcredit—make it feasible to aggregate sizable sums of investment capital from many dispersed small capitals, without paying tribute to a capitalist bank for performing the service. That's why it's important for a LETS system to facilitate not only the exchange of present goods and services, but the advance of credit against future goods and services.

Such crowdsourced credit might be used by members of a barter network to form their own community or neighborhood workshops in cheap rental space, perhaps (again) contributing the unused tools sitting in their garages and basements.

Of course the idle capacity of conventional local businesses shouldn't be entirely downplayed. Conventional enterprises with excess capacity can often use the spare capacity to produce at marginal costs a fraction of the normal cost, for barter against similar surpluses of other businesses. For instance, vacant hotel rooms in the off-season might be exchanged for discounted meals at restaurants during the slow part of the day, matinee tickets at the theater, etc. And local nonprofit organizations might pay volunteers in community currency units good for such surplus production at local businesses. In Minneapolis, for example, volunteers are paid in Community Service Dollars, which can be used for up to half the price of a restaurant meal before 7 p.m., or 90% of a matinee movie ticket. This enables local businesses to utilize idle capacity to produce goods sold at cost, and enables the unemployed to turn their time into purchasing power.<sup>1</sup>

As we already saw above, barter associations like UXA frequently exchanged their members' skills for the surplus inventory of conventional businesses.

#### **D. Contemporary Ideas and Projects**

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<sup>1</sup> Lietaer, pp. 207-209.

To some extent Factor e Farm and 100kGarages, which we examined in the previous chapter, are local economy projects of sorts. Rather than duplicating the material in the last chapter, we refer you back to it.

**Jeff Vail's "Hamlet Economy."** This is a system of networked villages based on an idealized version of the historical "lattice network of Tuscan hill towns" numbering in the hundreds (which became the basis of a modern regional economy based largely on networked production). The individual communities in Vail's network must be large enough to achieve self-sufficiency by leveraging division of labor, as well as providing sufficient redundancy to absorb systemic shock. When larger-scale division of labor is required to support some industry, Vail writes, this is not to be achieved through hierarchy, with larger regional towns becoming centers of large industry. Rather, it is to be achieved by towns of roughly similar size specializing in producing specialized surplus goods for exchange, via fairs and other horizontal exchange relationships.<sup>1</sup>

The Hamlet relies on a "design imperative," in an age of Peak Oil, for extracting the maximum quality of life from reduced energy inputs. The Tuscan hill towns Vail points to as a model are decentralized, open source and vernacular.

How is the Tuscan village decentralized? Production is localized. Admittedly, everything isn't local. Not by a long shot. But compared to American suburbia, a great percentage of food and building materials are produced and consumed in a highly local network. A high percentage of people garden and shop at local farmer's markets.

How is the Tuscan village open source? Tuscan culture historically taps into a shared community pool of technics in recognition that a sustainable society is a non-zero-sum game. Most farming communities are this way—advice, knowledge, and innovation is shared, not guarded. Beyond a certain threshold of size and centralization, the motivation to protect and exploit intellectual property seems to take over (another argument for decentralization). There is no reason why we cannot share innovation in technics globally, while acting locally—in fact, the internet now truly makes this possible, leveraging our opportunity to use technics to improve quality of life.

How is the Tuscan village vernacular? You don't see many "Colonial-Style" houses in Tuscany. Yet strangely, in Denver I'm surrounded by them. Why? They make no more sense in Denver than in Tuscany. The difference is that the Tuscans recognize (mostly) that locally-appropriate, locally-sourced architecture improves quality of life. The architecture is suited to their climate and culture, and the materials are available locally. Same thing with their food—they celebrate what is available locally, and what is in season. Nearly every Tuscan with the space has a vegetable garden. And finally (though the pressures of globalization are challenging this), their culture is vernacular. They celebrate local festivals, local harvests, and don't rely on manufactured, mass-marketed, and global trends for their culture nearly as much as disassociated suburbanites—their strong sense of community gives prominence to whatever "their" celebration is over what the global economy tells them it should be.<sup>2</sup>

**Global Ecovillage Network.** GEN was based on, and in some cases went on to incorporate, a number of "apparently simultaneous ideas arising in different locations at about the same time."<sup>3</sup> It seems to have been a direct outgrowth of the "planetary village" movement, centered on the Findhorne

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1 Jeff Vail, "Re-Post: Hamlet Economy," *Rhizome*, July 28, 2008 <<http://www.jeffvail.net/2008/07/re-post-hamlet-economy.html>>.

2 Vail, "The Design Imperative," *JeffVail.Net*, April 8, 2007 <<http://www.jeffvail.net/2007/04/design-imperative.html>>.

3 Albert Bates, "Ecovillage Roots (and Branches): When, where, and how we re-invented this ancient village concept," *Communities Magazine* No. 117 (2003).

community in Scotland, founded in 1962.<sup>1</sup>

In 1975 the magazine *Mother Earth News* began constructing experimental energy systems, novel buildings, and organic gardens near its business office in Hendersonville, North Carolina, and in 1979, began calling this educational center an "eco-village."

At about the same time in Germany, during the political resistance against disposal of nuclear waste in the town of Gorleben, anti-nuclear activists attempted to build a small, ecologically based village at the site, which they called an okodorf (literally ecovillage). In the largest police action seen in Germany since the Second World War, their camp was ultimately removed, but the concept lived on, and small okodorf experiments continued in both eastern and western Germany. The magazine *Okodorf Informationen* began publishing in 1985 and later evolved into *Eurotopia*. After reunification of Germany, the movement coalesced and became part of the International ecovillage movement.

About the same time in Denmark, a number of intentional communities began looking beyond the social benefits of cohousing and other cooperative forms of housing towards the ecological potentials of a more thorough redesign of human habitats. In 1993 a small group of communities inaugurated the Danish ecovillage network, *Landsforeningen for Okosamfund*, the first network of its kind and a model for the larger ecovillage movement that was to follow....

Throughout the 1980s and early 1990, on Bainbridge Island near Seattle, Robert and Diane Gilman used their journal, *In Context*, to publish stories and interviews describing ecovillages as a strategy for creating a more sustainable culture. When Hildur Jackson, a Danish attorney and social activist, discovered *In Context*, the ecovillage movement suddenly got traction.

Ross Jackson, Hildur's husband, was a Canadian computer whiz who had been working in the financial market, writing programs to predict shifts in international currencies. When he took his algorithms public as Gaia Corporation, his models made a fortune for his investors, but Ross, being a deeply spiritual man, wanted little of it for himself. Searching for the best way to use their prosperity, Ross and Hildur contacted the Gilmans and organized some gatherings of visionaries at Fjordvang, the Jackson's retreat in rural Denmark, to mull over the needs of the world....

Ross Jackson was also interested in utilizing the new information technology that was just then emerging: email and electronic file exchanges between universities and research centers (although it would still be a few years before the appearance of shareware browsers and the open-to-all World Wide Web).

Ross and Hildur Jackson created a charitable foundation, the Gaia Trust, and endowed it with 90 percent of their share of company profits. In 1990, Gaia Trust asked *In Context* to produce a report, *Ecovillages and Sustainable Communities*, in order to catalog the various efforts at sustainable community living underway around the world, and to describe the emerging philosophy and principles in greater detail. The report was released in 1991 as a spiral bound book (now out of print).

In September 1991, Gaia Trust convened a meeting in Fjordvang to bring together people from eco-communities to discuss strategies for further developing the ecovillage concept. This led to a series of additional meetings to form national and international networks of ecovillages, and a decision, in 1994, to formalize networking and project development under the auspices of a new organization, the Global Ecovillage Network (GEN).

By 1994 the Internet had reached the point where access was becoming available outside the realm of university and government agencies and contractors. Mosaic was the universal browser of the day, and the first Internet cafes had begun to appear in major cities. Ross Jackson brought in a young Swedish web

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<sup>1</sup> Ross Jackson, "The Ecovillage Movement," *Permaculture Magazine* No. 40 (Summer 2004), p. 25.

technician, Stephan Wik, who'd had a computer services business at Findhorn, and the Ecovillage Information Service was launched from Fjordvang at [www.gaia.org](http://www.gaia.org). With Stephan and his co-workers gathering both the latest in hardware advances and outstanding ecovillage content from around the world, [gaia.org](http://gaia.org) began a steady growth of "hits," increasing 5 to 15 percent per month, that would go on for the next several years, making the GEN database a major portal for sustainability studies.

In October 1995, Gaia Trust and the Findhorn Foundation co-sponsored the first international conference "Ecovillages and Sustainable Communities--Models for the 21st Century," held at Findhorn in Scotland. After the conference, GEN held a formative meeting and organized three worldwide administrative regions: Europe and Africa; Asia and Oceania; and the Americas. Each region was to be overseen by a secretariat office responsible for organizing local ecovillage networks and developing outreach programs to encourage growth of the movement. A fourth secretariat was established in Copenhagen to coordinate all the offices, seek additional funding, and oversee the website. The first regional secretaries, chosen at the Findhorn meeting, were Declan Kennedy, Max Lindegger, and myself. Hamish Stewart was the first international secretary.<sup>1</sup>

According to Ross Jackson, the GEN was founded "to link the hundreds of small projects that had sprung up around the world..."<sup>2</sup> The Gaia Trust website adds:

The projects identified varied from well-established settlements like Solheimer in Iceland, Findhorn in Scotland, Crystal Waters in Australia, Lebensgarten in Germany to places like The Farm in Tennessee and the loosely knit inner-city Los Angeles Ecovillage project to places like the Folkecenter for Renewable Energy in Thy and many smaller groups that were barely started, not to mention the traditional villages of the South.<sup>3</sup>

Following the foundation of GEN, Albert Bates continues, "[w]ith generous funding from Gaia Trust for this new model, the ecovillage movement experienced rapid growth."

Kibbutzim that re-vegetated the deserts of Palestine in the 20th century developed a new outlook with the formation of the Green Kibbutz Network. The Russian Ecovillage Network was inaugurated. Permaculture-based communities in Australia such as Crystal Waters and Jarlanbah pioneered easy paths to more environmentally sensitive lifestyles for the mainstream middle class. GEN-Europe hosted conferences attended by ecovillagers from dozens of countries, and national networks sprang up in many of them. In South and North America, nine representatives were designated to organize ecovillage regions by geography and language. By the turn of the 21st century GEN had catalogued thousands of ecovillages, built "living and learning centers" in several of them, launched ecovillage experiments in universities, and sponsored university-based travel semesters to ecovillages on six continents....

Ecovillages today are typically small communities with a tightly-knit social structure united by common ecological, social, or spiritual views. These communities may be urban or rural, high or low technologically, depending on circumstance and conviction. Okodorf Seiben Linden is a zero-energy cohousing settlement for 200 people in a rural area of eastern Germany. Los Angeles EcoVillage is a neighborhood around an intersection in inner Los Angeles. Sasardi Village is in the deep rainforest of Northern Colombia. What they share is a deep respect for nature, with humans as an integral part of natural cycles. Ecovillages address social, environmental, and economic dimensions of sustainability in an integrated way, with human communities as part of, not apart from, balanced ecologies....<sup>4</sup>

The best concise description of an ecovillage that I've seen comes from what is apparently an older

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1 Bates, "Ecovillage Roots (and Branches)."

2 Ross Jackson, "The Ecovillage Movement."

3 "What is an Ecovillage?" Gaia Trust website <<http://www.gaia.org/gaia/ecovillage/whatis/>>.

4 Bates, "Ecovillage Roots (and Branches)."



version of the Gaia Trust website, preserved on an article at *Permaculture Magazine*:

Ecovillages are urban or rural communities that strive to combine a supportive social environment with a low-impact way of life. To achieve this, they integrate various aspects of ecological design, permaculture, ecological building, green production, alternative energy, community building practices, and much more.

These are communities in which people feel supported by and responsible to those around them. They provide a deep sense of belonging to a group and are small enough for everyone to be seen and heard and to feel empowered. People are then able to participate in making decisions that affect their own lives and that of the community on a transparent basis.

Ecovillages allow people to experience their spiritual connection to the living earth. People enjoy daily interaction with the soil, water, wind, plants and animals. They provide for their daily needs – food, clothing, shelter – while respecting the cycles of nature.

They embody a sense of unity with the natural world, with cultural heritage around the world and foster recognition of human life and the Earth itself as part of a larger universe.

Most ecovillages do not place an emphasis on spiritual practices as such, but there is often a recognition that caring for one's environment does make people a part of something greater than their own selves. Observing natural cycles through gardening and cultivating the soil, and respecting the Earth and all living beings on it, ecovillages tend to maintain, recreate or find cultural expressions of human connectedness with nature and the universe.

Respecting this spirituality and culture manifests in many ways in different traditions and places.<sup>1</sup>

The typical ecovillage has 50-400 people. Many ecovillages, particularly in Denmark, are linked to a cohousing project of some sort.<sup>2</sup> Such projects lower the material cost of housing (construction materials, heating, etc.) per person, and reduce energy costs by integrating the home with workplace and recreation.<sup>3</sup> Neighborhood-based ecovillages in some places have influenced the liberalization of local zoning laws and housing codes, and promoted the adoption of new building techniques by the construction industry. Ecovillage practices include peripheral parking, common open spaces and community facilities, passive solar design, vernacular materials, and composting toilets.<sup>4</sup>

The ecovillage movement is a loose and liberally defined network. According to Robert and Diane Giulman, in *Ecovillages and Sustainable Communities* (1991), an ecovillage is “A human-scale, full-featured settlement in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development and can be successfully continued into the indefinite future.” The GEN refuses to police member communities or to enforce any centralized standard of compliance. At a 1998 GEN board meeting in Denmark, the Network affirmed “that a community is an ecovillage if it specifies an ecovillage mission, such as in its organizational documents, community agreements, or membership guidelines, and makes progress in that direction. The Network promotes the Community Sustainability Assessment Tool, a self-administered auditing survey, as a way to measure progress toward the same general set of goals.<sup>5</sup> The Ecological portion of the checklist, for example, includes detailed survey questions on

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1 “What is an Ecovillage?” (sidebar), Agnieszka Komoch, “Ecovillage Enterprise,” *Permaculture Magazine* No. 32 (Summer 2002), p. 38.

2 Jackson, p. 26.

3 Jackson, p. 28.

4 Jackson, p. 29.

5 Linda Joseph and Albert Bates, “What Is an 'Ecovillage'?” *Communities Magazine* No. 117 (2003).

1. Sense of Place - community location & scale; restoration & preservation of nature
2. Food Availability, Production & Distribution
3. Physical Infrastructure, Buildings & Transportation - materials, methods, designs
4. Consumption Patterns & Solid Waste Management
5. Water - sources, quality & use patterns
6. Waste Water & Water Pollution Management
7. Energy Sources & Uses<sup>1</sup>

Question 2, “Food Availability,” includes questions on the percentage of food produced within the community, what is done with food scraps, and whether greenhouses and rooftop gardens are used for production year-round.<sup>2</sup>

Such liberality of standards is arguably necessary, given the diversity of starting points of affiliate communities. An ecovillage based in an inner city neighborhood, it stands to reason, will probably have much further to go in achieving sustainability than a rural-based intentional community. Urban neighborhoods, of necessity, must be “vertically oriented,” and integrate the production of food and other inputs on an incremental basis, often starting from zero.<sup>3</sup>

**The Transition Town Movement.** This movement, which began with the town of Totnes in the UK, is described by John Robb as an “open-source insurgency”: a virally replicable, open-source model for resilient communities capable of surviving the Peak Oil transition. As of April 2008, some six hundred towns around the world had implemented Transition Town projects.<sup>4</sup>

The Transition Towns Wiki<sup>5</sup> includes, among many other things, a *Transition Initiatives Primer* (a 51 pp. pdf file), a guide to starting a Transition Town initiative in a local community.<sup>6</sup> It has also published a print book, *The Transition Handbook*.<sup>7</sup>

Totnes is the site of Rob Hopkins' original Transition Town initiative, and a model for the subsequent global movement..

The thinking behind [Transition Town Totnes] is simply that a town using much less energy and resources than currently consumed could, if properly planned for and designed, be more resilient, more abundant and more pleasurable than the present.

Given the likely disruptions ahead resulting from Peak Oil and Climate Change, a resilient community—a community that is self-reliant for the greatest possible number of its needs—will be infinitely better prepared than existing communities with their total dependence on heavily globalised systems for food, energy, transportation, health and housing.

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1 <<http://gen.ecovillage.org/activities/csa/English/toc.html>>.

2 <<http://gen.ecovillage.org/activities/csa/English/eco/eco2.php>>.

3 Joseph and Bates.

4 John Robb, “Resilient Communities: Transition Towns,” *Global Guerrillas*, April 7, 2008

<<http://globalguerrillas.typepad.com/globalguerrillas/2008/04/transition-town.html>>.

5 <<http://transitiontowns.org/>>.

6 Ben Brangwyn and Rob Hopkins, *Transition Initiatives Primer: becoming a Transition Town, City, District, Village, Community or even Island* (Version 26—August 12, 2008)

<<http://transitionnetwork.org/Primer/TransitionInitiativesPrimer.pdf>>.

7 Rob Hopkins, *The Transition Handbook: From Oil Dependency to Local Resilience* (Green Books)

<<http://transitiontowns.org/TransitionNetwork/TransitionHandbook>>.

Through 2007, the project will continue to develop an Energy Descent Action Plan for Totnes, designing a positive timetabled way down from the oil peak.<sup>1</sup>

The most complete Energy Descent Action Plan is that of Kinsale. It assumes a scenario in which Kinsale in 2021 has half the energy inputs as in 2005. It includes detailed targets and step-by-step programs, for a wide range of areas of local economic life, by which energy consumption per unit of output may be reduced and local inputs substituted for outside imports on a sustainable basis. In the area of food, for example, it envisions a shift to local market gardening as the primary source of vegetables and a large expansion in the amount of land dedicated to community-supported agriculture. By 2021, the plan says, most ornamental landscaping will likely be replaced with fruit trees and other edible plants, and the lawnmower will be as obsolete as the buggy whip. In housing, the plan calls for a shift to local materials, vernacular building techniques, and passive solar design. The plan also recommends the use of local currency systems, skill exchange networks, volunteer time banks, and barter and freecycling networks as a way to put local producers and consumers in contact with one another.<sup>2</sup>

**Global Villages.** These are designed to generate 80% of their income internally and 20% externally, with internally generated wealth circulating five times before it leaves the community. As described by Claude Lewenz, in *How to Build a Village*:

The local economy is layered, built on a foundation that provides the basic needs independent of the global economy—if it melts down the Villagers will survive. The local economy is diversified.... The local economy must provide conditions that encourage a wide diversity of businesses and officers to operate. Then when some collapse or move away, the local economy only suffers a bit—it remains healthy.<sup>3</sup>

Lewenz's Village is also essentially the kind of "resilient community" John Robb and Jeff Vail have in mind:

...[E]conomies can collapse and first-world people can starve if systems fail. We have now built a food system almost entirely dependent on diesel fuelled tractors, diesel delivery trucks and a long-distance supermarket delivery system. More recently, we shifted to an economic and communication system entirely dependent on computers—a system that only runs if the electrical grid supplies power. In the Great Depression in the USA, poor people say they hardly noticed—in those days they kept gardens because the USA was predominantly rural and village. The potential for economic collapse always looms, especially as the global economic system becomes more complex and vulnerable. Prudence would dictate that in planning for a local economy, it include provisions to assure the Village sustained its people, and those of the surrounding region, in such adverse conditions.

The challenge is to maintain a direct rural and farm connection for local, good food, and establish an underlying local economy that can operate independent of the larger economy and which can put unemployed people to work in hard times.<sup>4</sup>

The Global Villages network<sup>5</sup> has had fairly close ties with Marcin Jakubowski and Factor e Farm,

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1 Ibid., p. 10.

2 *Kinsale 2021: An Energy Descent Action Plan*. Version.1. 2005. By Students of Kinsale Further Education College. Edited by Rob Hopkins <<http://transitionculture.org/wp-content/uploads/members/KinsaleEnergyDescentActionPlan.pdf>>.

3 Claude Lewenz, *How to Build a Village* (Auckland, New Zealand: Village Forum Press and Jackson House Publishing Company, 2007), p. 73.

4 Ibid., p. 77.

5 See also the Global Villages site maintained by Frahz Nahrada, another leading figure in the movement. <<http://www.globalvillages.info>>.

which we considered in the previous chapter.

**Venture Communism.** Venture communism is a project developed by Dmytri Kleiner. The basic principle—purchasing undeveloped land and resources cheaply from the capitalist economy, and then financing itself internally from the rents on that land as development by venture communist enterprises causes it to appreciate in value—is reminiscent of Ebenezer Howard's original vision for the Garden City movement.

Starting from the belief that political change can only follow a change in the mode of production, venture communism is an attempt to create a mode of production that will expand socialism by reducing the labour available to be exploited by property....

Socialism is defined as a mode of production where the workers own the means of production, and especially the final product. By withholding our labour from Capitalists and instead forming our own worker-owned enterprises we expand Socialism.

The more labour withheld from Capitalists, the less they are able to exploit.<sup>1</sup>

In an extended passage from the P2P Foundation Wiki, Kleiner describes the actual functioning of a venture commune:

**"A Venture Commune is a joint stock corporation, much like the Venture Capital Funds of the Capitalist class, however it has four distinct properties** which transform it into an effective vehicle for revolutionary worker's struggle.

**1—A Share In The Venture Commune Can Only Be Acquired By Contributions Of Labour, and Not Property.**

In other words only by working is ownership earned, not by contributing Land, Capital or even Money. Only Labour.

It is this contributed labour which represents the initial Investment capacity of the Commune.

The Commune Issues its own currency, based on the value of the labour pledges it has.

It then invests this currency into the private enterprises which it intends to purchase or fund, these Enterprises thus become owned by the Commune, in the same way that Enterprises which receive Venture Capital become owned by a Venture Capital Fund.

**2—The Venture Commune's Return On Investment From Its Enterprises Is Derived From Rent and Not Income.**

As condition of investment, the Enterprise agrees to not own its own property, neither Land nor Capital, but rather to rent Land and Capital from the Commune.

The Commune, unlike a Venture Capital Fund, never takes a share of the income of the Enterprise nor of any of its workers.

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<sup>1</sup> Luca, "TeleKommunisten" (interview with Dmytri Kleiner), ecopolis, May 21, 2007 <<http://www.ecopolis.org/telekommunisten/>>.

The Commune finances the acquisition of Land and Capital by issuing Bonds, and then Rents the Land and Capital to its Enterprises, or an Enterprise can sell whatever Land and Capital it acquires through other means to the Commune, and in turn Rent it.

In this way Property is always owned Mutually by all the members of the Commune, however all workers and the Enterprises that employ them retain the entire product of their labour.

### **3—The Venture Commune Is Owned Equally By All Its Members.**

Each member can have one share, and only one share. Thus although each worker is able to earn different prices for their labour from the Enterprises, based on the demand for their labour, each worker may never earn any more than one share in the ownership of the Commune itself, and therefore can never accumulate a disproportionate share of the proceeds of Property.

Ownership of Property can therefore never be concentrated in fewer and fewer hands and used to exploit the worker as in Capitalist corporations.

### **4—All Those Who Apply Their Labour To the Property of the Commune Must Be Eligible For Membership In The Commune.**

The Commune may not refuse membership to any Labour employed by any of its enterprises that work with the Land and Capital controlled by the commune. In this way Commune members can not exploit outside wage earners, and the labour needs of the Enterprise will ensure that each Commune continues to grow and accept new members."

#### **Discussion**

Dmytri Kleiner:

"I see venture communism in two initial phases, in the first phase proto-venture-communist enterprises must break the Iron law and then join together to found a venture commune.

In a mature venture commune, cost-recovery is simply achieved by using rent-sharing to efficiently allocate property to its most productive use, thereby ensuring mutual accumulation. Rent sharing works by renting the property for its full market value to member enterprises and then distributing the proceeds of this rent equally among all commune members.

Investment, when required by exogenous exchange, is funded by selling bonds at auction. Endogenous liquidity is achieved through the use of mutual credit.

However in the initial phase there is no property to rent-share and the demand for the bonds is likely to be insufficient, thus the only way the enterprise can succeed is to break the iron law and somehow capitalize and earn more than subsistence costs, making mutual accumulation possible.

IMO, there are two requirements for breaking the iron law:

a) The enterprise must have highly skilled creative labour, so that the labour itself can capture scarcity rents, i.e. artists, software developers.

b) Production must be based on what I call "commodity capital," that is Capital that is a common input to most, if not all, industries, and therefore is often subsidized by public and private foundations and available on the market for below its actual cost. Examples of this are telecommunications and transportation infrastructure, both of which have been heavily subsidized.

Also, a third requirement for me, although not implied by the simple economic logic, is that the initial products are of general use to market segments I believe are most directly agents for social change, i.e. other peer producers, activists, diasporic/translocal communities and the informal economy broadly.

Also, I would like to note that while the initial enterprises depend on complex labour and should focus on products of strategic benefit, a mature venture commune can incorporate all types of labour and provide all types of goods and services once the implementation of rent-sharing, bond-auction and mutual-credit is achieved." (Oekonux mailing list, January 2008)<sup>1</sup>

The Telekommunisten collective is one such initial enterprise for raising money. "Venture Communism," Kleiner writes, "is a form of worker's self organization which provides a model of sharing property and forming mutual capital that is compatible with anti-capitalist ideals."

However, venture communism does not provide a means of acquiring such property in the first place. Telekommunisten is intended to realize possibilities in forming the privative mutual property required to initiate venture communism.

The lack of any initial financing, most forms of which would be incompatible with the venture communist principal of ownership as a reward for labour not wealth, present twin challenges for a proto-venture-communist enterprise to overcome: Forming capital and finding customers. The first challenge in essence requires breaking the Iron Law of Wages, the implications of which are that worker's can never form capital because they can never earn any more than their subsistence cost from wages alone.

The primitive accumulation theory of Telekommunisten proposes to break the Iron Law by exploiting it's boundary conditions, namely that some labour is scarce, and therefore captures a form of scarcity rent in addition to wages and that some forms of capital are themselves commodities, and therefore can not even capture interest, more to the point, often these forms of capital are common inputs to production and are subsidized by private and public funds and are available on the market for below their own reproduction costs.

Therefore, the Iron Law can be broken if you are able to invest scarce labour and employ commodity capital in production. An obvious example of such commodity capital is basic telephone and internet infrastructure, which connects the farthest reaches of the globe together, built almost entirely with public money and available to be exploited for far less than it's real cost. And likewise, an obvious example of the needed scarce labour investment is the IT and media skills required to derive new products from basic internet and telephone service.

Thus, Telekommunisten propose to form the primitive mutual property required to initiate venture communism by collective investment in the form of IT and media labour using only commonly available internet resources to derive marketable products. The first of these products is Dialstation, which allow any land line or mobile telephone to make very inexpensive international phone calls.

The second challenge, finding customers without any initial financing for marketing, is addressed by linking the artistic and political nature of the project very closely with our products, therefore we promote products such as Dialstation as a matter of course in our artistic production and our participation in the activist and hacker communities. Our basic premise is that people will use and promote our products if they identify with our artistic and political practices, and in turn the economy generated can support and expand these practices.<sup>2</sup>

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1 "Venture Communism," *P2P Foundation Wiki* <[http://p2pfoundation.net/Venture\\_Communist](http://p2pfoundation.net/Venture_Communist)> (accessed August 8, 2009).

2 "Telekommunisten: The Revolution is Coming" <<http://telekommunisten.net/about>> Accessed October 19, 2009.

It is most notable for its Dialstation project, an international long-distance service.<sup>1</sup>

**Decentralized Economic and Social Organization (DESO).** This is a project in development by Reed Kinney. It's a continuation of the work of his late father, Mark Kinney, among other things a writer on alternative currency systems and an associate of Thomas Greco.<sup>2</sup> Kinney's book on DESO is forthcoming. Here's a brief summary of the project:

This is a miniscule explanation of Decentralized Economic Social Organization, DESO.

The text has required five years to research and write. As of July 2009, I'm now editing it. The text categorically unfolds every DESO structure, component, department, and its accompanying philosophies. It is a substantial work and will require a conventional publisher by October 2009. As a favor to Kevin Carson, I can offer this very brief overview.

The content of this text is an object of dialogue. The assertion made here is that the base of human intercourse is structurally embedded. And that each type of socioeconomic structure generates a corresponding form of social intercourse. The stated objective here is the development of the socioeconomic pattern that best meets the real needs of its members and that generates the maximum and the fullest mental health among them. This content is derived from many contributors, like Paulo Freire, whom each create equally important components that are here molded into coherent functioning form. True dialogue is the soil, water and sunlight needed to germinate DESO.

DESO is the creation of viable, independent communities within which the humanity of each person is supported through humanistic education and participatory decision making processes. The autonomous DESO economy is designed to both support and further cultivate those objectives.

DESO's economic organization, its educational organization, and its civic organization are designed to interpenetrate and to be interdependent. From their incipience each DESO community develops those three fundamental DESO spheres concurrently. DESO culture is the consequence of inter-community networks. However, it is structured to maintain and perpetuate decentralization.

DESO creates stable, regional economies that resemble the self-sustaining ecosystems of nature. DESO independence is proportional to its population. Structurally, DESO is designed to expand exponentially through mass centrist society, MCS, which it depopulates with astonishing rapidity. Ultimately, DESO curbs the destructive momentum of MCS.<sup>3</sup>

**The Triple Alliance.** This is an interesting proposal for building a resilient community through social production by the urban underemployed and unemployed. The idea was originally sparked by a blog post by Dougald Hine: "Social Media vs the Recession."

Looked at very simply: hundreds of thousands of people are finding or are about to find themselves with a lot more time and a lot less money than they are used to. The result is at least three sets of needs:

- practical/financial (e.g. how do I pay the rent/avoid my house being repossessed?)
- emotional/psychological (e.g. how do I face my friends? where do I get my identity from now I

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1 <<http://www.dialstation.com/>>.

2 See, for example, Mark Kinney's pamphlet "In Whose Interest?" (n.d) <[http://www.appropriate-economics.org/materials/in\\_whose\\_interest.pdf](http://www.appropriate-economics.org/materials/in_whose_interest.pdf)>. It briefly sets forth a view of money much like Greco's. His work is quoted several times in Greco's body of work.

3 Reed Kinney, private email.

don't have a job?)

- directional (e.g. what do I do with my time? how do I find work?)...

Arguably the biggest thing that has changed in countries like the UK since there was last a major recession is that most people are networked by the internet and have some experience of its potential for self-organisation... There has never been a major surge in unemployment in a context where these ways of "organising without organisations" were available.

As my School of Everything co-founder Paul Miller has written, London's tech scene is distinctive for the increasing focus on applying these technologies to huge social issues... Agility and the ability to mobilise and gather momentum quickly are characteristics of social media and online self-organisation, in ways that government, NGOs and large corporations regard with a healthy envy.

So, with that, the conversations I've been having keep coming back to this central question: is there a way we can constructively mobilise to respond to this situation in the days and weeks ahead?...

- Information sharing for dealing with practical consequences of redundancy or job insecurity. You can see this happening already on a site like the Sheffield Forum.
- Indexes of local resources of use to the newly-unemployed—including educational and training opportunities—built up in a user-generated style.
- Tools for reducing the cost of living. These already exist—LiftShare, Freecycle, etc.—so it's a question of more effective access and whether there are quick ways to signpost people towards these, or link together existing services better.
- An identification of skills, not just for potential employers but so people can find each other and organise, both around each other and emergent initiatives that grow in a fertile, socially-networked context.

If the aim is to avoid this recession creating a new tranche of long-term unemployed (as happened in the 1980s), then softening the distinction between the employed and unemployed is vital. In social media, we've already seen considerable softening of the line between producer and consumer in all kinds of areas, and there must be lessons to draw from this in how we view any large-scale initiative.

As I see it, such a softening would involve not only the kind of online tools and spaces suggested above, but the spread of real world spaces which reflect the collaborative values of social media. Examples of such spaces already exist:

- Media labs on the model of Access Space or the Brazilian Pontos de Cultura programme, which has applied this approach on a national scale
- Fab Labs for manufacturing, as already exist from Iceland to Afghanistan
- studio spaces like TenantSpin, the micro-TV station in Liverpool based in a flat in a towerblock—and like many other examples in the world of Community Media

Again, if these spaces are to work, access to them should be open, not restricted to the unemployed. (If, as some are predicting, we see the return of the three day week, the value of spaces like this open to all becomes even more obvious!)<sup>1</sup>

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<sup>1</sup> Dougald Hine, "Social Media vs the Recession," *Changing the World*, January 28, 2009  
<<http://otherexcuses.blogspot.com/2009/01/social-media-vs-recession.html>>.



This was the direct inspiration for Nathan Cravens, of *Appropedia* and sometime Open Source Ecology collaborator, in outlining his Triple Alliance:

The Triple Alliance describes a network of three community supported organizations necessary to meet basic needs and comforts.

- The Open Cafe, a place to have a meal in good company without a price tag
- The CSA or community supported farm
- The Fab Lab, a digitally assisted manufacturing facility to make almost anything<sup>1</sup>

As we saw in Chapter Six, the Fab Lab already exists in the form of commercial workshop space (for example TechShop); it also exists, in forms ranging from non-profit to commercial, in the “hacker space” movement. Regarding this latter, according to *Wired* magazine there are 96 hacker spaces worldwide—29 of them in the United States—including the Noisebridge hacker space profiled in the article.

Located in rented studios, lofts or semi-commercial spaces, hacker spaces tend to be loosely organized, governed by consensus, and infused with an almost utopian spirit of cooperation and sharing.

"It's almost a Fight Club for nerds," says Nick Bilton of his hacker space, NYC Resistor in Brooklyn, New York. Bilton is an editor in The New York Times R&D lab and a board member of NYC Resistor. Bilton says NYC Resistor has attracted "a pretty wide variety of people, but definitely all geeks. Not Dungeons & Dragons-type geeks, but more professional, working-type geeks."...

Since it was formed last November, Noisebridge has attracted 56 members, who each pay \$80 per month (or \$40 per month on the "starving hacker rate") to cover the space's rent and insurance. In return, they have a place to work on whatever they're interested in, from vests with embedded sonar proximity sensors to web-optimized database software....

Noisebridge is located behind a nondescript black door on a filthy alley in San Francisco's Mission District. It is a small space, only about 1,000 square feet, consisting primarily of one big room and a loft. But members have crammed it with an impressive variety of tools, furniture and sub-spaces, including kitchen, darkroom, bike rack, bathroom (with shower), circuit-building and testing area, a small "chill space" with couches and whiteboard, and machine shop.

The main part of the room is dominated by a battered work table. A pair of ethernet cables snakes down into the middle of the table, suspended overhead by a plastic track. Cheap metal shelves stand against the walls, crowded with spare parts and projects in progress.

The drawers of a parts cabinet carry labels reflecting the eclecticism of the space: Altoids Tins, Crapulence, Actuators, DVDs, Straps/Buckles, Anchors/Hoisting, and Fasteners.

Almost everything in the room has been donated or built by members — including a drill press, oscilloscopes, logic testers and a sack of stick-on googly eyes.

While many movements begin in obscurity, hackers are unanimous about the birth of U.S. hacker spaces: August, 2007 when U.S. hackers Bre Pettis, Nicholas Farr, Mitch Altman and others visited Germany on a geeky field trip called Hackers on a Plane.

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<sup>1</sup> Nathan Cravens, "The Triple Alliance," *Appropedia: The sustainability wiki* <[http://www.appropedia.org/The\\_Triple\\_Alliance](http://www.appropedia.org/The_Triple_Alliance)> (accessed July 3, 2009).

German and Austrian hackers have been organizing into hacker collectives for years, including Metalab in Vienna, c-base in Berlin and the Chaos Computer Club in Hannover, Germany. Hackers on a Plane was a delegation of American hackers who visited the Chaos Communications Camp — "Burning Man for hackers," says Metalab founder Paul "Enki" Boehm — and their trip included a tour of these hacker spaces. They were immediately inspired, Altman says.

On returning to the United States, Pettis quickly recruited others to the idea and set up NYC Resistor in New York, while Farr instigated a hacker space called HacDC in Washington, D.C. Both were open by late 2007. Noisebridge followed some months later, opening its doors in fall 2008.

It couldn't have happened at a better time. Make magazine, which started in January, 2005, had found an eager audience of do-it-yourself enthusiasts. (The magazine's circulation now numbers 125,000.) Projects involving complex circuitry and microcontrollers were easier than ever for nonexperts to undertake, thanks to open source platforms like Arduino and the easy availability of how-to guides on the internet.

The idea spread quickly to other cities as visitors came to existing hacker spaces and saw how cool they were.

"People just have this wide-eyed look of, 'I want this in my city.' It's almost primal," says Rose White, a sociology graduate student and NYC Resistor member....

Hacker spaces aren't just growing up in isolation: They're forming networks and linking up with one another in a decentralized, worldwide network. The hackerspaces.org website collects information about current and emerging hacker spaces, and provides information about creating and managing new spaces.<sup>1</sup>

Cravens specified that his model of Fab Labs was based on Open Source Ecology (for rural areas) and hacker spaces like NYC Resistor<sup>2</sup> (for urban areas).<sup>3</sup>

In discussion on the Open Manufacturing email list, I suggested that Cravens' three-legged stool needed a fourth leg: housing. Open-source housing would fill a big gap in the overall resiliency strategy. It might be some kind of cheap, bare bones cohousing project associated with the Cafe (water taps, cots, hotplates, etc) that would house people at minimal cost on the YMCA model. It might be an intentional community or urban commune, with cheap rental housing adapted to a large number of lodgers (probably in violation of laws restricting the number of unrelated persons living under one roof). Another model might be the commercial campground, with space for tents, water taps, etc., on cheap land outside the city, in connection with a ride-sharing arrangement of some sort to get to Alliance facilities in town. The government-run migrant worker camps, as depicted in *The Grapes of Wrath*, are an example of the kind of cheap and efficient, yet comfortable, bare bones projects that are possible based on a combination of prefab housing with common bathrooms. And finally, Vinay Gupta's work in the Hexayurt project on emergency life-support technology for refugees is also relevant to the housing problem: offering cheap LED lighting, solar cookers, water purifiers, etc., to those living in tent cities and Hoovervilles. Cravens replied:

In an urban area, one large multi-level building could provide all basic needs. A floor for hydroponically [sic] grown food, the fab, and cafe. The remaining space can be used for housing. The more sophisticated the

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1 Dylan Tweney, "DIY Freaks Flock to 'Hacker Spaces' Worldwide," *Wired*, March 29, 2009 <<http://www.wired.com/gadgetlab/2009/03/hackerspaces/>>.

2 <<http://www.nycresistor.com>>.

3 Nathan Cravens, "important appeal: social media and p2p tools against the meltdown," *Open Manufacturing* (Google Groups), March 13, 2009 <<http://groups.google.com/group/openmanufacturing/msg/771617d04e45cd63>>.

fabs and availability of materials, the better conditions may rival or exceed present middle class standards.<sup>1</sup>

Such large multi-level buildings resemble what actually exists in the networked manufacturing economies of Emilia-Romagna (as described by Sabel and Piore) and Shenzhen (as described by Bunnie Huang), which we examined in Chapter Six: publicly accessible retail space on the ground floor, a small factory upstairs, and worker housing above that.

This would probably fall afoul of local zoning laws and housing codes in the United States, in most cases. But as Dmitry Orlov points out, massive decreases in formal home ownership and increases in unemployment in coming years, coupled with increasingly hollowed-out local governments with limits on resources available for enforcement, will quite plausibly lead to a situation in which squatting on (de facto) abandoned residential and commercial real estate is the norm, and local authorities turn a blind eye to it. Squats in abandoned/public buildings, and building with scavenged materials on vacant lots, etc. (a la Colin Ward), might be a black market version of what Cravens proposes.

Although Cravens expressed some interest in the technical possibilities for such social housing, he objected to my proposal to include housing as a fourth leg of an expanded Quadruple Alliance.

I disagree with the name, Quadruple Alliance, as these three organizations I consider community ventures outside the home environment. Because the home I prefer to keep in the personal realm, I do not consider that an official community space.<sup>2</sup>

To the extent that my proposed housing “fourth leg” is a departure from Cravens' schema, it may be a closer approximation to Hine's original vision. Hine's original post addressed the basic question, from the individual in need of subsistence: “What do I do now that I'm unemployed.” Housing is an integral part of such considerations. From the perspective of the sizable fraction of the general population that may soon be unemployed or unemployable, and consequently homeless, access to shelter falls in the same general class of pressing self-support needs as work in the Fab Lab and feeding oneself via the CSA farm. Although Cravens chose to focus on social production to the exclusion of private subsistence, if we revert to Hine's original concern, P2P housing projects are very much part of an overall resilient community package—analogue to the Roman villas of the Fifth Century—for weathering the Great Recession or Great Depression 2.0.

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1 Ibid.

2 Nathan Cravens, “[p2p-research] simpler way wiki,” *P2P Research*, April 20, 2009 <[http://listcultures.org/pipermail/p2presearch\\_listcultures.org/2009-April/002083.html](http://listcultures.org/pipermail/p2presearch_listcultures.org/2009-April/002083.html)>.