
EARTHEN EVOLUTION = BUILDING SOLUTIONS

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As we face a future of climate emergency as well as a multitude of other man-made disasters, the lack of affordable housing continues to be a huge crisis for much of humanity. As with many other problems, the source often comes down to greed, and greed breeds authoritarianism.

According to David Graeber and David Wengrow, in their book, [The Dawn of Everything](#), we lost our way a very long time ago when it comes to freedom. Long before the Greeks and Romans developed the laws upon which our own are based, societies considered freedom to entail three main ideas: 1. the freedom to move, 2. the freedom to disobey or ignore commands, and 3. the freedom to create new social realities or to shift between them.

When patriarchy took over and slave-holding became common, freedom came to be seen as the power of a male citizen to dispose of his “property” in any way he chose. Dominion over women, nature and slaves was sanctified by certain powerful governments and religions and so here we find ourselves in a schmozzle (a mess, a crisis) of grand proportions.

The question is, can we evolve our way out of disaster before the biosphere collapses completely? In our favor is the awareness of our problems and the easy accessibility to information throughout the world. But unfortunately, corporate and authoritarian powers, whose main concern is for profit, tend to control the information we are allowed to receive and often control voting possibilities where voting is allowed (citizens united, gerrymandering, fox news in USA). Although progress has been made to mitigate injustices over time, human housing and health is not of much concern to corporate entities who influence government and actually profit from human suffering (the pharmaceutical industry, the military-industrial-complex including gun manufacturers, agri-biz, junk food). We must navigate through a system often set up to hold us back through powerful, paid sources of persuasion, distraction and mental manipulation. Even our thoughts are not our own these days. I’m reminded of the way I used to handle my toddlers by giving them the choice of three things, but they were all of my choosing!

Our goal is to find solutions that will not only help individuals and families have secure homes, but will also help the earth to heal from her wounds. We destroy habitats daily with our consumptive habits, not only for our fellow creatures but for humanity as well. We must begin to see ourselves as part of nature, the part of her wise enough to understand her ways and protect her, not to be her dominators.

Free sources of energy are in abundance everywhere and as we learn to harness them and quit burning the fossilized sources we have grown dependent upon, we can develop smarter and more resilient lifestyles that will provide regeneration of soil, cultures and habitat. People hunger for more connection with nature as they look out upon vast paved citiscapes from their apartment balconies, or wish for an apartment balcony and the money for rent as they grovel on street corners. Three things that often prevent people from achieving their goals are the dwindling amounts of Land, Liberty, and Labor.

Land

The Earth herself has been commodified by private ownership, creating unprecedented profits for owners and making it almost impossible for many others to find a slice, or afford it. People like Bill Gates are buying up huge tracts of farmland, for instance, and corporate giants have made it almost impossible for family farmers to sustain themselves. Investment groups are buying up domestic rental properties for profit and making them unaffordable for many families. Lots and houses for sale are so inflated in price that many individuals who would like to build homes are unable to buy land.

Possible Solutions:

1. **GOVERNMENT LAND GRANTS:** In the USA, the BLM and National Forest own vast stretches of the landscape; far more than they are able to take care of. Case in point, although warned not to do it, the US Forest Service recently set a fire that went totally out of control in high winds to clear underbrush in an attempt to prevent future fire disaster, but this one, still burning after a month on the other side of the mountain from my own home (as I write) has already burned down over 1500 structures and has destroyed old agrarian adobe villages that had sustained themselves for generations. Why not offer land to groups or individuals to create sustainable, regenerative eco-villages. It's been a common practice to offer land grants, even by colonial conquerors with land they didn't own, so this idea has a lot of historic precedence.
2. **PRIVATE LAND GRANTS:** Petition wealthy individuals and foundations to purchase and donate land for the creation of eco-villages.
3. **COMMUNITY LAND TRUSTS:** Encourage these groups to set aside land for affordable housing. The houses themselves could be separate from the land, which could be offered through leases to the occupants, making it much more affordable for people to create houses when they don't also have to purchase the land.
4. **FREE TOWNS:** Figure out ways to offer people land at no cost by letting them revitalize towns that have lost their populations for one reason or another. Develop economic strategies to create livelihoods in these mostly empty towns for homeless people, refugees, ex-prisoners and other groups of people that have no place to go, either through governmental, private, or non-profit grants.
5. **DENSITY:** Allow individuals to share their land which they already own by removing zoning restrictions for additional cottages on private land.

6. LIMITATIONS ON OWNERSHIP: Create laws that will prevent the practice of hoarding large numbers of rental homes and apartments for profit.

Liberty

Here in the USA, as we pledge allegiance to the flag, and to the republic for which it stands, guaranteeing liberty and justice for all, we must question again whom was or was not included in this guarantee. Long before the USA was founded, we know from history that women were not included in government proceedings since the early invasions of Neolithic villages and the subsequent misogynistic take-over by left-brain cultures so well described by Leonard Schlain in his book, [The Alphabet Versus the Goddess](#). We know slaves were never intended to have any liberty at all, but were considered property. We know that Indigenous cultures were not allowed liberty as we herded what survivors remained onto “reservations”, destroying their cultures and livelihoods and the sacred, unowned lands they had cared for since before time began to be counted. Just as in Roman times, our liberties were reserved for the lucky few.

Although activists have worked over centuries to mitigate these and other injustices, we lost the freedom to disobey or ignore commands a long time ago and our jails are full of frustrated misfits who might have tried. Laws are often arbitrary constructs to protect the “haves” from the “have-nots”. New archeological evidence shows that egalitarian societies took care of themselves without strict sets of laws for eons, and quite successfully kept authoritarianism from taking hold through various cultural practices such as regularly switching out those community members charged with keeping order among large groups. Along with our freedom to disobey commands has come the loss of freedom to shelter ourselves in numerous ways we find appropriate. Now we must navigate solutions to this problem.

Possible Solutions:

1. CLIMATE EMERGENCY EARTHEN BUILDING ACT: As the International Code Commission considers dropping adobe bricks from the “conventional” masonry code, we need to make sure that people continue to be allowed to build shelter with the most plentiful free resource available; the dirt beneath our feet. There are many ways to make earthen walls, as people have done throughout history, and all have appropriate uses in various climates and situations. I propose a moratorium on restrictions and interference with this process. The advantages to building with earth are many:

- a. It doesn't burn. As was discovered by cave-women, clay, when heated to very high temperatures, becomes harder and will hold water. It can even be used for cooking over an open fire! Therefore, stoves and fireplaces may also be built with appropriate combinations of earthen materials. As the danger of fire becomes ever more pervasive and dangerous, this is an important quality.
- b. The ingredients are available almost everywhere, and local building traditions exist in nearly all climates. Where they have been lost or forgotten, information is now available on-line or in books.
- c. Earthen buildings are easily repaired with the same dirt they were made from.
- d. Building with earth is non-toxic and will even pull toxins from the body. It is easy to work with

and whole families can be involved in the process with little danger to small children, though you should take care not to drop a brick on them from above.

- e. Earth stays cool in the summer and warm in the winter if certain design considerations are well thought out. Double-wythe walls and solar heat gain work exceptionally well, as does shading the walls in hot climates.
- f. Through its hygroscopic nature, earthen walls prevent the buildup of moisture by absorbing and releasing it into the atmosphere, actually preventing mold in a damp climate if walls are not coated with materials that interfere with this process. When placed correctly with the land falling away on all sides, even adobe buildings with minimal foundations survive for centuries, as my own historic home in Talpa, NM has done, not to mention Taos Pueblo and the St. Frances de Asis Mission in Ranchos.

2. EXPERIMENTAL CATEGORY: In the realm of small aircraft, there continues to exist an entire category of “experimental” or “home-built” airplanes. Indeed, the Wright brothers were not stopped from experimenting enough to get planes to fly in the first place. As we witness the way our society continues to do things in a broken way, why not allow people to experiment and come up with better ways of doing whatever they wish to as long as it hurts no one else. For buildings, many places have an experimental code already in place. Let’s make this universal. Often builders wish to change plans as they go along and discover new ideas and ways of proceeding. It was common in the past to start with one room and live in it a while, then add on appropriately. If people worry about having a generic sameness in their neighborhoods, separate experimental zones could be established where people could build as they wish. If other people would like to buy one of these properties already built, they would do so with full disclosure.

3. DESIGN CONTESTS: Establish a grant to fund a contest for the best designs for small homes and eco-villages that would use resources in the most intelligent ways for various climates. Build the winning entries and try them out, then offer the designs and instructions to those who wish to use them at a fair price or free through grants.

4. CLIMATE EMERGENCY AGREEMENT: Builders could sign an agreement saying they will do their own research and build structurally sound buildings that take into consideration the climate and the materials they are using. They can also agree to document their process so that future occupants or those wishing to replicate their ideas can know what was done. Instead of specific codes with inspections, why not offer people instruction and help when it is requested?

Labor

As we builders know, it takes a lot of effort and a lot of time to construct even a modest home. Code enforcement does not offer owner-builders enough time to complete the tasks without extensions. As we have been told many times, “time is money” and when you do things in a hurry or in the wrong season, it costs more. Banks expect a prompt return on their loans and usually set their own time limits on mortgage-built homes (mortgage=death pledge, in entomology). Besides allowing owner-builders more time in the first place, perhaps special governmental or philanthropic loan programs should be set up for them.

Possible Solutions:

1. PRISONERS: In the USA, we have more of our own citizens in jail than any other country on the planet. Many of these prisoners are incarcerated not for any violent act they have committed, but for infractions of various rules that keep changing. This is especially problematic for those who have already been incarcerated because federal “for-profit prisons” (actually owned by corporations to make money) require the state itself to guarantee a high recidivism rate. Therefore, ex-felons are targeted and often caught up in paperwork fiascos that land them behind bars once again. They are not offered jobs by most employers and become like lost souls in our society.

My thought is that while incarcerated, give prisoners meaningful work by having them build ecovillages and gardens. Nonviolent offenders could live in tents in future villages and be supervised while they are taught useful skills creating places where people would want to live in the future.

2. REFUGEES: Due to war, famine, climate change and subsequent natural disasters, we will continue to have refugees. Instead of housing them in cages at borders or various tent cities, could it not be possible to offer them land and materials to build permanent villages? As they while away their days waiting for one governmental solution or another, couldn't they be making adobes? Add homeless people to this same plan and it might improve their mental health.

3. MECHANICAL MECHANISMS: As new innovations are developed to create buildings through computerized 3-D printers that use actual mud (thanks, Ronald Rael) this is still in its formative stages and cannot yet be relied upon to house the world. For large projects, backhoes can do wonders to help along the process of making and moving large quantities of mud. Regular cement mixers can be used for earth-building projects and run through solar electric panels.

4. OWNER-BUILDERS: Throughout history, families were more responsible for creating their own dwellings. Many factors come into play, but economic and legal considerations are primary. As modern life becomes more complicated, land more expensive, and people gravitate toward cities, the entire idea is ever more inaccessible. People work as hard as they can just to pay rent, or if they manage to purchase a home through a mortgage, which many do not qualify for in the first place, they are committed to working for 30 years to pay for it. The difficulty of negotiating loans, permits and time limits stop others who sadly end up in mobile homes that lose value over time.

Although I try to stay hopeful and avoid doomsday scenarios, many scientists predict rising oceans and more “natural” disasters. Since large cities are often on the coastlines, this will likely require people to flee. As some places become unbearably hot, others will become more pleasant. Home-made houses might see a resurgence in popularity out of necessity. Obviously, it would be wise to band together with others to create eco-villages before disaster strikes. One of the first and most famous is Gaviotas, Colombia, built on what was formerly a complete wasteland. The village was started by Paulo Lugari as a way to figure out ways that humans can live comfortably in poor conditions and the book, [Gaviotas: A Village to Reinvent the World](#), written by Alan Weisman in 1998, describes their journey. The Global Village Network offers courses in ecovillage and permaculture design, as do other organizations. We have many examples of thriving communities such as Findhorn and The Farm in

Tennessee. There is a glimpse of a modern one called Ecoville, in Costa Rica, on the new netflix series, “Down To Earth”.

There are many benefits to the creative activity of building for one’s self, almost too obvious to mention. The late Christopher Alexander says that when people and families work on a project together, “suddenly they feel incredibly good, liberated, and full of powerful emotions that have no correlation with anything predictable”. It is well documented that working with earth in building or gardening brings out the best in people and it is deeply satisfying.

In the USA, and many other countries, drug use has become a terrible problem as people want to escape from their stressful, meaningless lives. In experiments with rats, we find that when left isolated in boring cages the rats choose drug-laced liquid over plain water. However when placed in a playful cage with other rats, they choose the plain water. Humans are also playful creatures whom, when given the opportunity to use their hands in a loving, creative way, working with others, will not resort to drugs. If given a more hopeful future that allows everyone to be housed and to live in more useful, meaningful ways, overall mental health is sure to improve. The desperation of even a few members of society affects us all because we are social creatures who suffer when we see others suffer, unless we have become emotionally damaged enough to lose our compassion entirely.

In my own experience, the process of building an adobe home (with a 16 ft. diameter dome included) gave me a needed sense of self-worth and accomplishment as well as a secure off-grid place to call home. It was a creative outlet that I found more meaningful than making more pictures for walls and I created something of tangible value that will carry into the future, providing a place that catches water, a protected place to grow food and a beautiful shelter.

I wish to see a future where instead of industrial farms, the land is transformed into a network of eco-villages connected by rail to larger cultural centers, energy comes from natural free sources, and people are engaged in activities they love doing. Imagination is our greatest human resource and when we are encouraged to be creative we can solve problems rather than exacerbate them. We are part of nature, so let’s start acting like it, and evolve.

*Carole Crews grew up in an old adobe house in Ranchos de Taos watching her neighbors perform their annual church enjarra. She returned to her roots and became an enjarradora herself after earning her art degree at UT Austin. She wrote the book, **Clay Culture: Plasters, Paints and Preservation**, and is an Adobe in Action board member.*