



Paolo Soleri's Arcology, City in the Image of Man 10, Arcosanti, Arizona, USA

Arcologies and Linear Cities

By Jill Whitelaw

— **R. Buckminster Fuller, inventor of Geodesic Domes said:**

“Let architects sing of Aesthetics that bring Rich clients in hordes to their knees; Just give me a Home, in a great Circle Dome, where stresses and strains are at ease.”

“You do not belong to you. You belong to the Universe. The significance of you will remain forever obscure to you, but you may assume you are fulfilling your significance if you apply yourself to converting all you experience to highest advantage to others. Make the world work, for 100% of humanity, in the shortest possible time, through spontaneous cooperation, without ecological offense or the disadvantage of anyone.”

An Arcology is an elegant design City 2.0, City in the Image of Man, City of the Future. Arcology is Paolo Soleri's portmanteau for Architecture and Ecology. In the allegory presented by Jeff Stein, in his Ted Talks [Arcology: Sustainable Hyperstructures](#) he said they found that an elephant is 10,000 bigger than a mouse but that the elephant only needed 1000 times the energy as it was one elegant design. He says:

“This is the basis of arcology, the core of the idea we have for reformulating our cities, elegantly designed hyper-organisms, miniaturized and complex. This is not a reform project, its not about getting more miles per gallons

from the automobiles that are separating us in the first place. But reformulating , how we relate in cities to the rest of the living planet, and by doing so in a profoundly dense way , how we can keep it all thriving and alive. We are really at a moment in our culture, the end of one thing, the beginning of another: the end of cheap fossil fuels, the end of a large and wealthy middle class in this country, the end of a stable climate, globally, the end of an idea that we are live humans building on a dead planet. And really the end of architecture and built form that was conceived based on all of the above. With the Cosanti Foundation, we are interested in imagining how buildings, how cities perform, and how as a result of a research and knowledge-based living laboratory, Arcosanti in Arizona, they might adapt and help us to adapt to new cultural and ecological and technological realities, In this moment, the new generation is going to be asked to redesign everything – buildings landscapes, processes, cities and we think this must be undertaken in a what we call a frugal or a lean way. Here's what I mean, We've begun a project 42 years ago now Arcosanti in central Arizona, that is an urban laboratory, about 100 people are living and working there today, but the intent is ultimately to demonstrate Arcology at this place, building a town of 5000 people on just 15 acres of a 4000 acres land preserve. We began with a form, that performs with sun and seasons and sociability, the Apse, a quarter of a sphere, facing south, and shades itself from high summer sun, and gathers light and heat in the winter from the low winter sun.” - Jeff Stein Ted Talk

What is becoming of our beautiful earth? By design science we can orchestrate linear cities and allow what already is to remain and focus our efforts on building land bridges to other cities nearby and on route to far away. Elegant design is graceful and works for people and the planet.

Landscape architects measure the contour and plan and plant the trees. Edible landscapes add to this.

We need a conversation to be happening about the development of Canada. It is happening in Senate and Parliament, and in city governments, but going along with the same old stuff. How much is being invested in new energy projects? The NEB should apparently be called the Oil and Gas Board, and a new collaboration formed.

In the up and coming sector, Arcosanti has a new Director and Architect, Jeff Stein since Paolo passed away a few years ago. Richard Register continues to build Eco-Cities and Eco-city ideas. Jean Jerde follows in Paolo Soleri's wake building Arcologies (architecture and ecology) worldwide at an amazing rate, while in his Ted talk Gordon Gill takes us on a tour of buildings that produce enough energy to power thousands of nearby houses, the Net zero and then some. Again win win win for us all.

There are ways to solve the energy crisis in BC, in Canada, in the World; many, in fact are going to be what it takes, and there are already so many great examples. Almost all of our energy systems are outdated. A need for clean energy, with the exception of large hydro dams which usurp and flood farmland, often mistaken as clean energy, that much concrete emitting co2, the falls of dams are know, many being removed for good reason in the us; and with Solar we need to keep in mind the lifecycle of the panels - where they are coming from and where they will end up, and look for renewable biodegradable, to things like graphene and plasma, water and wind and less on mining and chemicals. Fuel cells needed too much battery and mining. They will likely evolve, but the market here hasn't seen any yet. Geothermal should be ready to go - it is the collaboration with Indigenous communities that we have missed the mark with and it will for sure be needed when planning arcologies.

This is a chat about new energy, new and old ways to harvest energy, which are local renewable and easy to access? These ones are best, with a plan toward what is going to be sustainable, what is going to help the earth and her creatures find balance. which all people on earth need to have right now, and until your country/region is carbon neutral, clean and green we have work to do, and peaceful talks are better than war. People have rights and a voice.

Canada claims to care for its people. Let's show that we all do. The indigenous populations have been suffering greatly and a show of human decency (while boosting economy) could be found in large projects such as this. Permanent Culture

or Permaculture, ie Bucky Fuller – see quotes above – and other aspects of humanity ask us to look beyond our own needs and look to the needs of others - to the natural ways of doing things.

Two variations on a theme of energy and where to invest in better ways for people: An experimental Arcology, a portmanteau of Architecture and Ecology; with more Arcologies planned if it is believed to be economically feasible ; and/or BC/Coast Salish to BC eastern interior Linear City section of Vancouver to East/Montreal arterial.

The concepts of Arcology are miniaturization, complexification, simplification and duration. Part of the idea is to focus building and the economy on these houses and arcological cities across Canada/These Northern Landscapes where most people are living on the 49th parallel. Maybe in some years we could move the line up to the 60th parallel, or 70th 80th, or the 65th even and make another train and more housing, with a priority of not moving currently occupied residences and homesteads as much (with a cost of equal reimbursement and agreement if we do need to move a house, dignity, respect for your life and as a native with ancestral hunter gatherer lines.

Pedestrian walkways all along with housing - condos, rentals, artist studios lofts, linear marketplace, industrial areas. All passive solar, with utilities on the North side, along with storage and parking lots. Solar on the rooftop if that would be the best solution.

One Billion dollars in building permits were granted by the city of Vancouver in 2017 or thereabouts. Vancouver/Coast Salish's houses are part of our heritage and history and many now could be preserved, removing only ones that need it. Renovation incentives and subsidies for low income are a start and point to where we are at and how we can find the way forward. By building a linear Arcology across Canada, with crops of solar on rooftops, wind and geothermal in a proximal we can not only build abundance but show respect for families that still rent or own houses in dense urban areas. Demolishing a house and sending the wood to landfill adds to the carbon problem greatly.

In BC we have a new government, the NDP and the Greens could represent a humanitarian and ecological partnership, call it a minority government but it could be We who care, not so much greedy capitalism, but healthy ethical capitalism perhaps. We are in danger of losing the good governments we have helped to form, and according to Elizabeth May in her Stanley Park TED talk our voting system needs to change. PM Trudeau is ramming the pipeline through where people don't want it to go. How can he help to create a win/win/win?

These Northern Lands need a shift, and what better than a bridge, that is, more rail across this land. If it could offer transportation and housing, and economics, it would be a win win win.

Trains provide fluid movement across a distance. A linear city would provide housing, transportation and opportunities for energy harvesting, manufacturing. The huge bonus would mean people being able to travel easily in a day and ship things at a much lower carbon rate than flying across the country.

A row of Gen-set [large] style solar panels along the back of the roof line would provide a good deal of energy, supplying power to these buildings. Extensive farms could be built in the interior greenhouse spaces, or in the surrounding farmlands, which could now be more and more left untouched along with existing perfectly good housing which is now being knocked down for profit; we would all have enough electrical energy, as well as more to sell back to the grid; Government/public and private ownership of windfarms as well as condos and affordable housing for everyone to own.

This mega project could be a great bridge between healthy economics and ecological responsibility.

If Canada chose to build a linear city with 3 underground transportation lines, subway, train and TGV, it would be a big focus on decreasing carbon and using a common method of transportation across the country, providing housing and a building focus on passive solar, & solar along the top. Like a park with street trees, a pedestrian walkway would span most of our country, bridging East and West, creating Canada-wide cohesion. There is already talk about a Montreal Toronto

train, and it could also just go to Ottawa so as to be accessible for councillors, the Senate and all people who wish or need to attend Parliament.

It would be nice for the passenger train to have a view. Thankfully, we already have that, and can continue to value the CP rail line across Canada and use that. Maybe this line only has two underground rail lines. Less infrastructure is good, as it means less cost but more can be much more efficient. A Skytrain across Canada? We can value what we have, and create something A New that in Vancouver Coast Salish's case it means we could go right up Hastings treetops with a subway, as it is needed there anyway, and connect it with the rest of BC and Canada continuing to Toronto or beyond. The organic bakery driver at Choices mentioned an idea that has been floating around: of making another Vancouver and linking them using something like Elon Musk's hypertube. Kamloops they suggested, as I was criticising us all for living in the estuary i was calling it, the watershed, I think I meant, all of this land in the delta, around the Salish Sea and up to Lillooet.

What are the countries that are leading the way doing?

What is happening in your neighbourhood? We need to develop city 2.0.

A focus on a BC/Saskatchewan To Quebec Linear City concept, with Multi-Use Buildings, shops and services, a lengthened City in the Image of Man if you will. Ongoing residential building especially near towns, filling in between as needed. Away from the watershed, new Arcological towns on south facing slopes, using elegant design to fulfil the needs of the people.

New Paradigms are needed in our energy systems. Around the world we see much change, which can be harder to spot here at home. Germany and Europe are leading the way, and we need to follow.

More thoughts from Bucky Fuller:

“A designer is an emerging synthesis of artist, inventor, mechanic, objective economist and evolutionary strategist.”

“Nature is a totally efficient, self-regenerating system. IF we discover the laws that govern this system and live synergistically within them, sustainability will follow and humankind will be a success.”

*****“ . The alternative is a design science revolution... Design science produces so much performance per unit of resource invested as to take care of all human needs.” (Buckminster Fuller)**