

MICHAEL REYNOLDS - GARBAGE WARRIOR

(Interview for the ARCHITEKT magazine)

QUESTIONS: MARTIN PRUŠKA AND JULIUS MACHÁČEK
TRANSLATION: MARGARITA DITA MANEV
PHOTOS: KIRSTEN JACOBSEN

#1

Mr. Reynolds, you are coming to Europe and to the Czech Republic almost as a missionary with a reputation of a consequent pioneer of alternative solutions in the architecture - the architecture, in which our garbage is recycled, the autarkic architecture, which is independent of public energy and water supplies. Which audience would you like to address on your mission, what is the message you are bringing to your European colleagues - architects?

I am most interested in the people - bringing methods and techniques of living sustainably to the people. We have been waiting too long for professionals, legislators, and leaders to act. The state of affairs of the world is questionable now and it is time for people to know how to take care of themselves in a way that works with the phenomena of the planet rather than the phenomena of politics.

#2

Individual house building in more or less developed urbanized areas is ruled by laws, regulations, directives, ordinances almost all everywhere in the world. There are different restrictions in different societies. And you have experienced those extremely - you fought against the bureaucracy and the conservative legislation for many years. Could you briefly explain, how do you think this maze of different directives should be set up to avoid uncontrolled anarchy without suppressing the necessary freedom at the same time?

It has become very clear that government cannot move fast enough to keep up with climate change. The relatively minute health or safety hazards cited by government regulators, that inhibit individuals from moving on their own towards new green methods of living, are no where near as dangerous as not moving toward green development at all.

As for anarchy... I see uncontrolled anarchy right now on a massive scale at the higher levels of leadership. I see this in the way the powerful corporate and political entities are providing utilities (not necessarily with the best interest of all people in mind) in ways that are very dangerous to the people and the planet. They are doing this simply because they are powerful enough to get away with it. This is anarchy... at the level of corporate and governmental leadership. Millions of individuals did not agree to have the earth dotted with nuclear power plants that have the potential to destroy the future of all living things.

Individual anarchy in terms of green building is no where near as dangerous to all creatures as the melt down in Japan.

We need to open doors to allow individual people to pursue green methods of living for themselves on an individual level. We can no longer wait for governments to change things and take care of the people. We saw this in Copenhagen.

It is time for the people to stand for themselves.

„Let us do for ourselves what government does not seem to be able to do for us“.

Government could cooperate with this. This can be facilitated by various chiefs of state making a simple executive order mandating the fast tracking of permits for all green building attempts. This... Knowing some will not be worthy of repeating. Some will be mistakes. We learn through failure. Ideas and concepts that work will easily spread - failures will not. These small scale individual failures will be minute and insignificant. We need to allow ourselves to fail on these minute individual levels rather than the massive and mega life threatening failures like the nuclear power plants in Japan right now. It seems we are „protected“ from minute and insignificant failures of individuals while vulnerable to the anarchy of massive planet threatening failures by the powerful entities.

Our biotecture methods are an attempt to empower individual people to be able to take care of themselves in a decentralized „earth logic“ way.

#3

Building a house in a desert is obviously something different than building it in Manhattan or around a historical area like in Prague. The construction freedom on one hand and regulations, directives on the other hand are inevitably different in different locations - depending on the local conditions. Which possibility does an architect or an investor have if he wants to apply high level of sustainable development rules?

A time is coming when healthy survival of humans will be more important than history. The „new architecture“ of every city is going in any and every direction in terms of aesthetics right now for no reason other than „art“. Why not let it go in any direction in the name of green development. It cannot be any worse.

There are some ugly buildings out there... Ugly for no reason. Existing historic zones and buildings can be preserved and even retrofitted to some extent but new buildings can be machines that take care of people.

We need to open the door for this regardless of history or local aesthetic mandates. At this point on this planet green is more relevant than „art“.

#4

Sustainability - sustainable development. The term, which is nowadays spelled everywhere and by everybody and which is often used and misused also in domains which have nothing to do with sustainability at all. What does this term honestly means for Michael Reynolds?

This term is derived from sustenance. I think this is the word of the future - „sustenance“ for every man woman and child on this planet. Achieving this sustenance in a way that respects and understands the ways of the planet we live on is the real currency of the future.

#5

What is an Earthship and how was it born? (how did you come to this term?)

This term came about because we knew the product we were evolving was more than a „house“. It was a machine which deserved its own name. An Earthship is a living vessel that will provide its inhabitants with sustenance through encounter with planet phenomenon.

#6

There are very different climatic and also historical and cultural conditions in different geographical areas of our planet. What is on your concept - without respect to these geographical particularities - universal?

Sustenance is a universal issue. If a „machine“ can be made that provides sustenance for humans on its own through its own encounter with planet phenomenon - that would be an Earthship.

Physics and biology are studies of universal phenomenon on the planet. The Earthship concept is just applying various techniques of encountering these phenomenon to provide universal sustenance for humans.

#7

Your philosophy, starting points, building technology are in steep opposition to the current technically highly sophisticated construction and architecture developed on computers and designed using more and more expensive materials. You applied your concept of building on several locations affected by disasters - on the Little Andaman island devastated by tsunami in 2004, in Matamoros flooded after Hurricane Katrina in 2005, on Haiti devastated by earthquake in 2010. And right now there is the next disaster in Japan. Did your Earthship construction (concept) find followers in these areas? Wasn't it over after you have built few Earthships there?

If you plant a tree in a foreign land (or in many foreign lands) and then leave and do not follow up with some

nurturing of that tree, more often than not, the tree will die. Our efforts in these areas needed follow up and due to the fact that we funded these projects mostly ourselves, we were not able to provide follow up. Thus, we have ourselves, learned better methods of applying our concepts which will involve follow up.

This happened in Haiti and now there is an Earthship virus that will not die as we have been back once and trained more people and we are going back again. In addition these efforts taught us how to further adapt our concepts in more economical and simple ways so that it will be easier to replicate.

The point here is that we have done many disaster relief projects and we consider all of them learning experiences on how to actually be effective at disaster relief. At this point both our concept and „ourselves“ are experienced and ready.

#8

How many buildings from recycled materials have you built, Mr. Reynolds, during nearly forty years of your experiments? What are you working now on?

We are working on applications for every financial strata but focusing more on a very simple method of living using these concepts. This makes these concepts more available. It is my feeling that half of the battle for sustenance for all people can be won by needing and using less. So... in that respect we are working on ourselves... to need and use less.

All this being said... we are working on a project for Midtown Manhattan... a sustainable Earthship home.

#9

This issue of the ARCHITEKT magazine is mostly devoted to Czech national award for architecture - Grand Prix of Architects. Every year an international jury selects the most successful designs of the past year. If you would be a member of this jury, which criteria would be the most important for you? Are such evaluations of architecture relevant for you?

Well not really as I have been ejected from the architectural community in the USA - then invited to rejoin - but I don't think the definition of architecture is even close to what we need on this planet in terms of sustenance for all people. Maybe architecture will continue - maybe it will not - but the issue at hand is sustenance for all people in a world that is changing rapidly. Architecture as it is today does not adequately address this. I suppose that is why I invented the profession of biotecture.

#10

In our country houses are traditionally built with a cellar which in winter insulates the house from the cold ground, so „that cold cannot come from the floor“. Your Earthships in New Mexico have no cellar, they are even partially inside the soil which accumulates the heat. Do you combine these two principles - heat accumulation and insulation against cold - when you are designing Earthships for colder countries such as ours?

Yes we insulate and isolate the „building owned“ earth from the earth at large with rigid water proof insulation which eliminates the need for the cellar - in fact the Earthship is much like a cellar that admits the sun for heat gain. The point here is that the concepts that will take us into an uncertain future are not based, and cannot be based, on tradition. Tradition is - in fact - a barrier between humanity and their very survival on this planet.

#11

There is not much sun shine during winter in the Czech Republic, sometimes the sun does not shine for several days at all. Is it possible to live in an off-grid Earthship even in such a conditions? What should be used for heating? How many days can electric accumulators support at least basic equipment (lighting, computer, Internet connection)?

Czech Republic will be a challenge in some ways but part of the Earthship concept is that the building is designed in such a way that it needs very little heat source or gain and much less electricity than a „normal“ home. In the very worst scenario, it will need radically less heat and electricity than a normal „traditional“ building. Again - half of the battle is learning how to need less in the first place and designing buildings accordingly.

I have no doubt that we can produce an Earthship in the Czech Republic that will take care of its inhabitants with little or no back up from public utilities.

#12

What is the lowest temperature inside the Earthships in Taos, New Mexico? And how low it could drop in an Earthship built in Czech Republic?

20 degrees Celsius is the lowest it gets in Taos, New Mexico.

I would shoot for the same in the Czech Republic. It does not get as cold in the Czech Republic but it has less sun. We have worked in this arena before. We would demand certain design factors but it will work. At the very worst - a back up heater would be in place for minute use very seldom.

#13

Are there mites in the Earthships? Those mites which are troubling us in our overheated prefabbed flats?

No but any building can become infested if conditions are right. Earthships have so much ventilation that these creatures are not really much of an issue.

#14

Isn't it too moist in the Earthships? Doesn't wooden furniture shrivel? Don't iron components of devices rust?

Earthship buildings are not that much different than other methods of construction - they just have more insulation and more mass and more ventilation and more effective encounter with the phenomenon of the earth. These issues are addressed the same way that comfort is addressed. Comfort for people and comfort for furniture.

#15

Don't harmful gasses evaporate from the tires? Nobody knows well which chemicals were added to them by their manufacturers.

This issue has been addressed by a physicist from University of Wisconsin. Less of gassing of materials occurs in an Earthship than in a conventional building - this is a proven fact.

#16

Won't tires deteriorate in some longer time? Didn't you try to use jute bags filled with earth?

Tires actually last longer - indefinitely - than the bags plus tires are something we continue to produce and need to ultimately get rid of. They are a „natural resource“ of the 21st century.

#17

What is the difference between cleaning of rain water in your Earthships from traditional cleaning of water in waterworks?

No chemicals are used to clean the rain. The water is already at your home - no need for expensive infrastructure.

#18

Is it possible to drink water collected from rain and snow without boiling it? Is it normally potable?

We use bacteria filters - yes drinking is possible.

#19

Doesn't container with grey water smell? For example when inhabitants leave the house for a month or longer?

No - botanicals cells are sealed and natural plant oxygenation treats the water. So simple. So effective. Why has this not been done through the ages? This is simple biology.

#20

In the case of black water: do you separate liquid and solid components? And if so, how?

We separate solids and put them through an anaerobic process to turn them into liquids ready for plant oxygenation. Many years has this worked. I will never use a municipal sewage system again - only too please the ignorant.

#21

Photovoltaic panels produce DC. And home electronic devices are powered by using DC just like halogen bulbs and CFLs. There are also available car refrigerators which are powered using DC. Did you try to use DC instead of AC in the off-grid Earthships to avoid the loss of energy during transforming DC to AC and back and to avoid costs of inverters?

We have been through every scenario and at this point we use bot DC and AC. We invert for appliances but stay DC for house functions so that we are not dependent on an inverter for survival.

#22

How do you protect photovoltaic panels against excessive heat of the too strong sunlight?

Not an issue in the Czech Republic - in New Mexico we turn them out of the summer - very hot - sun.

#23

Which particular steps need to be taken in Pockets of Freedom before you can start building your own house?

That is the beauty of Pockets of Freedom - no steps - just build and survive - have a life.