

WELCOME

The Minister

HELLO, welcome to Cal - Earth. My name is Gaston Khalili and I'm the president of Cal - Earth, the California Institute of Earth and Architecture. What we are here is a humanitarian disaster relief charity and a educational institute. The essence of our work is to empower the individual to know that no matter what happens they have the ability to build themselves a home. A home that is sustainable, that works in harmony with nature, that is fire proof, earthquake resistant, hurricane proof, flood proof and can last a generation. Once the individual has that in their heart and is empowered by that, it is transforming.

Super Adobe

The Minister

NOW, how do you get to something like that? The way you get to that is the understanding of what we teach you, to recognize and work with universal principles and sustainable material. The geometry of the arch is sandbag, barbed wire, and earth. So this right here is the basis of what you need to build. This long bag you have and barbed wire, you can build yourself a shelter. Now this shelter as you see around campus is in its most basic form. We have a disaster relief shelter just back there, those structures have been there for years. We just let them stay there and see how they respond to nature. So the combination of that with the geometry of the arch is the secret of what makes super adobe what it is. If you take this arch and repeat it, it becomes a vault. Like this structure we are in, if you take this arch and turn it on its axis it becomes a dome. This singular creation of nature right here is what makes the structure so powerful. So even if you're using sandbag, barbed wire, and earth which

seems like very soft material. When you use this geometry it becomes what it is because when gravity works with the arch it becomes stronger over time. If you go to caves in the mountains for example there are malitos. They've been there for thousands and thousands of years, extensive tons of weight on them and they become stronger over time.

Charity

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ON the charity side, there is over a billion of homeless people in the world. There are so many natural disasters, so many wars happening. There are so many refugees. I get thousands and thousands of emails. For years people saying please come help us, build for us. Any charity organizations that step forward, they want to donate the funds. However, it rarely happens. Getting our people and the technology to where it is necessary is extremely difficult. So we have come to the point now in the last two years where we've launched our charity. Where we are going to be the delivery system. What we have come up with is this prototype, which we call duffel bag dome. Where we can take two instructors here that have graduated from Cal - Earth. They can take two duffel bags under 50 lbs each, get on any kind of a plane, show up wherever the site is. In three days train 15 to 20 people how to build and leave a structure for them. So that they can become empowered to recognize that no matter what the disaster is they can take care

of themselves and their families. So that is the charity side of what we're doing because frankly I got tired. I got tired of not being able to help all these people. So that in combination with the online classes is our solution, our response to what is occurring. We are in the process of fundraising for that and making it happen, building a special team, building the products so that we can respond too. Here is the thing, when there is a disaster everybody shows up to help. A couple of months pass and everybody leaves. The people are like what do we do now? What do we do? But if you show up and you teach them how to build a home for themselves, if you empower them, if you give them the dignity to recognize that they can take care of themselves. That changes everything. The solutions are very simple.

Education

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NOW, on the educational side of Cal - Earth we offer a one day weekend course all the way to a twelve week program. Where you can come and you can learn. And at the end of the program you can build yourself a home. This house in fact, we have the blueprint, we have the engineering. Same with the Eco - Dome. We have years of research behind us to deliver these systems. It is incredible to see how so many people are doing it all on their own.

Introduction to Rumi

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NOW, this architecture, another aspect of it is inspired by the poetry of Rumi and the storytelling of Rumi. How is it that architecture, a way of building is inspired by poetry, a 13th century poet at that? It is a very practical thing. Whenever my father met challenges he would go to Rumi. He is a Rumi translator by the way. He would translate the Rumi poetry from the original language to English. In fact, as a child he would force me to memorize the poetry in Farsi and I had to do it. When I became a teenager I said “you can’t make me do it anymore.” My father was a very wise man and he said “you’re right I can’t I’ll pay you per line.” I said “that’s a good deal I’ll take it.” Until his last day on earth, I was at his bedside and he was still teaching. I realized the gift that he gave us.

Rumi

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SO, Rumi says “Earth turns to gold in the hands of the wise.” What does that mean? That means that you have the ability to see what is in front of you. The correct perspective to recognize the gifts and secrets in nature. You become empowered when you come to Cal - Earth. Not only do you learn how to build but you learn how to look at a site. You show up and ask yourself. How does the sun move? Where do the seasonal winds come from? What’s in the soil? What’s the weather like? All of this information that you glean will then tell you how to build your building. So it’s a recognition of how to see the whole environment and then respond and build your home.

Rumi and Architecture

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SO, how does Rumi apply to this work? Now you'll see when you guys exit this building. You'll notice on the side of the building there are all these little balls. Why is that there? There was a period in my father's life when he was building here. You'll go around the site and see some buildings that are dilapidated and falling apart. Everything here is built by students. We leave things out and see how they respond to nature. This is one of the highest seismic zones in California. How does it respond to an earthquake? Extreme winters? Extreme summers? So we're always studying how to make it work better.

Cracks

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SO, one of the fears of an architect and one of my father's concerns was cracks. He would do all this masonry work, finish it and it would have cracks. He was really worried, even though it was cosmetic he was concerned that people would come and see this and say "Oh there is a crack in the building." And psychologically think it was not safe. So he was really worried about that and it really troubled him a lot. So he went to Rumi and looked for the answer in the poetry of Rumi. He came across a Rumi poem "That which you fear now is your true worth." He meditated on that and said "Wow I'm afraid of cracks. That means my true worth is a crack, that is my limitation. That is the limit of my ability, of my perception." That is what Rumi meant by worth. "When I see a crack I can't go passed it. So you know what Rumi is telling me? He's telling me to embrace my fear. Because I'm afraid of cracks, I'm going to embrace the crack. I'm going to love the crack. I'm going to look for cracks

everywhere and study them.” And he started looking all through nature. He suddenly realized actually in nature there are no perfect surfaces. Everything is cracked! He started looking at animals and creatures and he noticed the reptiles and the snakes and the lizards and he looked at their skin, they were all covered with cracks! why is that? He looked at them and said “Wow look at all these scales.” The scale creates a sun and a shade zone. When the water comes it distributes the water and it creates protection. “So you know what I’m gonna do, I’m gonna cover my building with cracks.” So we developed what you see outside. It’s called the reptile net. He put cracks all over the buildings and he made it very beautiful. Each little ball as you will see creates a sun and a shade zone. When it rains it distributes the water and it creates extra protection.

Sustainability

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SO step by step, through my father's journey Rumi informed his work. He was able to distill his work to such a simple thing that it is today. Because simplicity is the highest level of genius. When you have 1.8 billion people with inadequate housing. When you have all these environmental occurrences happening. When you have all these challenges happening. There has to be a sustainable solution. If we look at nature, all sentient beings use what is there. So do we. We're not saying don't build with wood, don't build with steel. It's not about that. There is a place for everything, a balance in all things. But we're like 7.6 billion people in the world right now. The fact is, there isn't enough wood, there isn't enough steel to build for everybody. Right? You get a typhoon, comes off the coast of the Philippines, which makes 150,000 people lose their homes. There is a sustainable solution. Right under your feet. We use what is there.

Quest

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SO the crest of Cal - Earth is to empower the individual. You, you, you, you, and you. To recognize that you have it all. All you have to do is seek it. The thing about it is, when my father began the journey he recognized the idea of quest. To have a quest. Something that transcends you. He recognized that by having a quest it was inevitable that it would come true. Why? Because when he was struggling he went to Rumi. He said "I need something to fill this emptiness." My father came across a line of Rumi poetry "The quest itself is the key to your victory." Once you have that, it's going to serve. It's going to transcend. You've already achieved it. You've already gone to the next level.

The Lion The Wolf and The Fox

The Minister

SO the important thing to recognize is that sustainability is the key. There is a lot of toxicity in the environment, pollution. There are all these concerns right now but there are many sustainable solutions. And the thing is that human race, having lived for eons, we understand this. To illustrate this, I'll tell you a little Rumi story about experience. Because here's the thing, you know what my father would want me to say. Do you know what is sustainable? The earthquakes, the hurricanes, the tornadoes are sustainable. You know why? Because they are always there. It's part of mother nature. These things that we call natural disasters, they are actually not natural disasters. They are man-made disasters. Because we build what is there. The hurricane comes, wipes it away and we go back and we build the same thing again. But we have the experience now.

SO this great story is that there once was a lion, a wolf, and a fox. One day they all decide to go hunting as a team so that it would be more effective. So the lion, the wolf, and the fox go in the jungle and the go hunting. At the end of the day, indeed, they were much more effective. They caught a big stag, a medium sized wild boar, and a little rabbit. The lion turns to the wolf and says "how do you think this all should be eaten?" The wolf goes "well your highness logically speaking you are the biggest person so you should eat the stag. I am medium sized I should eat the boar, and the fox is the smallest so he should have the rabbit." The lion looks at him for a moment and jumps on top of him and rips him to pieces and kills him. Then he turns to the fox and goes "how do you think we should eat?" The fox says "Well I'm glad you asked your highness because this is what I'm thinking; I think for a starter you should have the boar, for your main meal you should have the stag, and for your dessert you should have the rabbit." The lion looks at him and says "Wow how did you come up with that? How did you recognize such a great idea?" The fox says "Experience, your highness."

Earth,

The Minister

WE have the experience. We have the technology that you can ask anything you want and get the answer now. We have history. We have solutions and we have the experience. Work with what is there. Empower the individual. Live a sustainable life. Not only is it possible, it is necessary. And we do that, we work with the earth. Put your hand in the hearth, it transforms you. Because we come from the earth. That connection, it transforms you. I see it at every single workshop. People come in. they are waking up, this and that by the third or fourth day there is a peace there.

Clozing

The Minister

SO principle of the arch: gravity and geometry. When you work with these materials, your solutions are sustainable. Bricks, rocks, sandbags, barbed wire, and earth. Simple materials. Infinite possibilities. You know what is really interesting? We get a lot of interviews, people in news media come here. One day BBC came here and interviewed my father. The reporter said "Mr. Khalili what is this mud architecture? Working with earth architecture? Isn't this from antiquity?" Why would anyone want to build with this kind of stuff?" My father said "Well let me ask you a question. What is the most effective most expensive valuable car you have in England? The reporter replied with Rolls - Royce. My father said "What is that Rolls - Royce? What does it run on? What does it roll on? And the reporter said wheel and chassis. "And isn't that the same wheel and chassis used in antiquity? Isn't it?" Sure there is an engine now instead of a horse, you can improve technology but it's the same principle. This arch right here, you go to Italy,

Roman aqueducts thousands of years old are still there. Twenty miles from here is a village leveled from an earthquake. Which by the way we are doing workshops here and helping these people build houses. We are taking the best of the past combined with modern technology and moving it into the future to empower the individual. Because the truth is it is your human right to know that no matter what happens you can build yourself and your family a home. That is healthy. That is safe. That works in harmony with nature.

So thank you so much for coming to Cal - Earth. It is truly an honor for me to be part of this work and share this work with you. Really it is about you because you are the ones making an effort. You are the ones showing up and moving this all forward. So thank you so much for coming!