EARTHSHIPS

Naod Araya, Kelsey Evans, Hope Lawrence, and Briauna McKenzie



BACKGROUND

History and features

FUNCTIONALITY

Definition and comparisons

CONCEPTUALIZATION

Architecture, art, and Western-centrism

PG

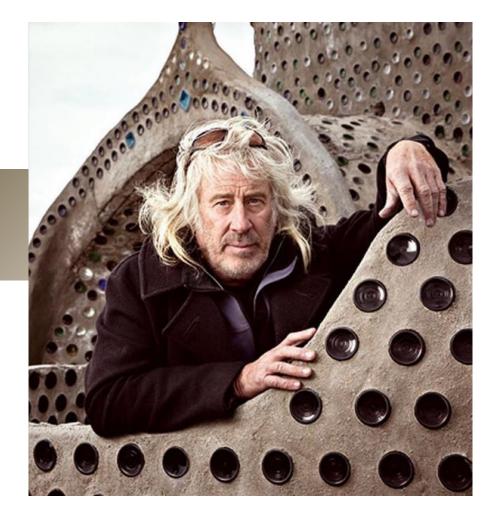
IENDA

BUSINESS & MEDIA

Marketing and profitability

DEFINING SUCCESS

Is this the way forward?



MICHAEL REYNOLDS

Architect Concept creator and founder Earthship Biotecture in Taos, NM



EARTHSHIP ACADEMY LEARN HOW TO BUILD A SELF SUFFICIENT but also opics such as: JUST ONE

MONTH

You will study hands on but also have classes, delve into topics such as: -Earthship plumbing, -Solar wiring -Construction techniques -Earthship maintenance and lot more!

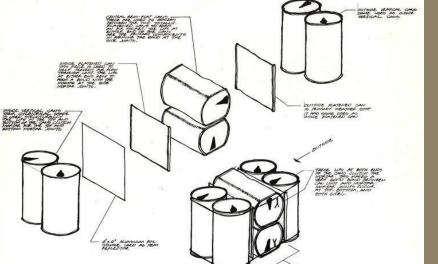
INFO: ACADEMY@EARTHSHIP.COM

-init!

(CFD)

REGISTER NOW FOR SPRING 2020 SESSION





HISTORY

• 1969: Graduated from the

University of Cincinnati

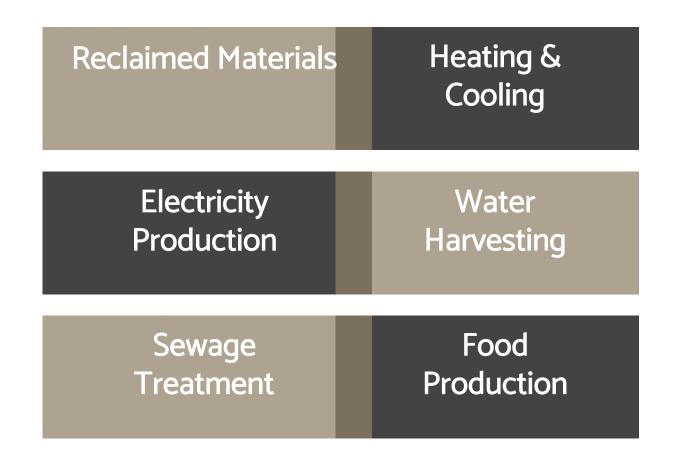
- 1990: Sued and lost licenses
- 2007: Reinstated licenses

IN THE PUBLIC EYE

2007 documentary glorifying his work and spotlighting him as a crusader of sustainability



FEATURES OF AN EARTHSHIP



FUNCTIONALITY

THE REALITY

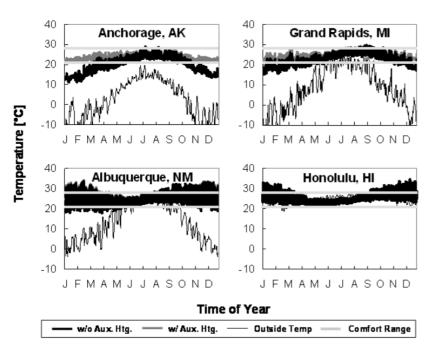
• Labor intensive

- Fossil fuels use
- Tire off-gassing?
- Food production?
- Passive heating for all climates?

"WE BUILD AUTONOMOUS HOUSES"

Cold Climates

- Thermal mass
 - $\circ\,$ Ability to absorb and store heat
 - Major differences between day and night temperatures
- Insulation
 - R-value: Resistance to heat flow



WHAT IS AN EARTHSHIP?







HEMPCRETE

VS



CORK



CABANA FLORIPA



TUBOHOTEL

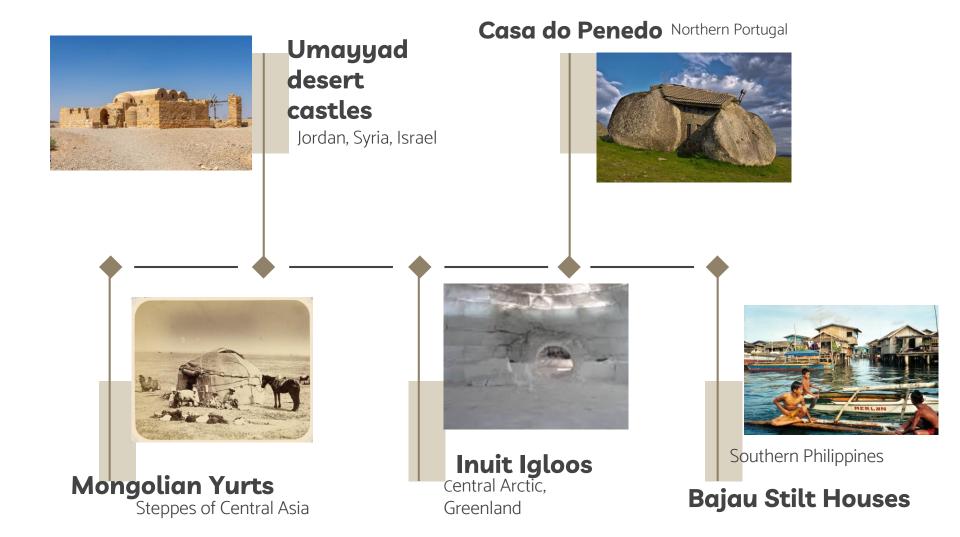
Other Eco-Building Certifications

	Earthship	LEED	BREEAM	LBC
Food	\checkmark	Х	X	\checkmark
Energy	\checkmark	\checkmark	\checkmark	\checkmark
Shelter	\checkmark	\checkmark	\checkmark	\checkmark
Garbage Management	\checkmark	\checkmark	\checkmark	\checkmark
Clean Water	\checkmark	\checkmark	\checkmark	\checkmark
Sewage Management	\checkmark	Х	Х	✓
Goal/Focus	Self-Sufficiency	Sustainable Building	Sustainable Building	Regenerative Design

CONCEPTUALIZATION



Vernacular: "domestic, native, indigenous"





Sulawesi, Indonesia



Rwanda



Somoan Islands



Dubai (area)



Sikkim, India





Contemporary

- High culture modern
- Romanticization: origin myth of the primitive hut

Vernacular

- "Other"
- Ecological
- Primitive

THE EARTHSHIP MOVEMENT

- A tale of privilege
- Art statement
- Humble intentions:
 - Acknowledgement of responsibility



"Out of the crooked timber of humanity, no straight thing was ever made."

- Immanuel Kant, Idea for a Universal History with a Cosmopolitan Purpose

BUSINESS & MEDIA IMAGINATION

MAINSTREAM NEWS

Earthships and pocket neighborhoods: Speakers share ideas to solve county's housing woes

Erin Rode, Ventura County Star Published 4:41 p.m. PT Aug. 14, 2019

After Maria, an 'Earthship' Rises in Puerto Rico

JAYME GERSHEN SEPTEMBER 20, 2018

FEATURE / BUSINESS & ECONOMY

No more trashing US 'Earthship' homes

Solutions and innovations Canada Welcome to earthships: an off-thegrid solution to Canada's housing crisis?

LITERATURE

SOCIAL MEDIA

HACKING THE EARTHSHIP



We Lived In An Earthship BuzzFeedVideo

> Earthship Biotecture-mic... · 10/18/19 ~ What's happening? EARTHSHIPS are happening... all over the World...



Earthship Biotecture-mic... 10/14/19 V We are in Australia right now!



WTF Is an Earthship? Taos, NM | Travel Vlog

Earthships, a Circular solution for Africa

earthship OK! We are going for it! Earthship Biotecture is taking the private initiative to set up a DISASTER RELIEF project for the BAHAMAS! We are Earthship: I Want One



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MARTIN GODFREY COOK

THE ZERO-CARBON

HOUSE



... hoping to showcase earthship homes as a low-cost means of addressing the housing shortages that plague many of Canada's First Nations communities. *The Guardian*

"I was an idiot for building out of garbage. I have been persecuted for doing this – for treating sewage..." Mike Reynolds (AI Jazzera)

... that could provide affordable housing to people who can't keep us with increasing real estate prices. *Al Jazeera*

"This housing that we make is made to take care of people. Feed them, keep them warm, with no utility bills." *Mike Reynolds (The Guardian)*

The Ultimate Panacea

"We build houses that address the 6 human needs for a **harmonious life** on Earth"

- Earthships Biotecture

\$225 per square foot

\$191 per square

foot

COST TO BUILD

RESALE VALUE



~1.2 BILLION HOUSEHOLDS

\$2,500 Academy \$500 Internship

'FREE' LABOR

BUSINESS

Differing Imaginations

Is this greenwashing or good intentions that have fallen short?



CONCLUSION

DEFINING SUCCESS: CONSCIENCE VS CAPITAL



THANKS

Does anyone have any questions?



- "BREEAM New Construction 2018 (UK)." BREEAM, BRE Global Ltd, 31 July 2019, www.breeam.com/NC2018/
- Burnette et. al. "Living off the Land': How Subsistence Promotes Well-Being and Resilience among Indigenous Peoples of the Southeastern United States." Social Service Review, Volume 92, Issue 3, September 2018. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6407868/
- Cairns, Stephen, and Heynen, Hilde. The SAGE Handbook of Architectural Theory, ed. C. Greig Crysler, 2012.
- "Earthship Pros and Cons." Archinia, Archinia, archinia.com/earthships/earthship-pros-cons.
- Harkness, Rachel. "Earthships: The Homes That Trash Built." *Anthropology Now*, Vol. 3, No. 1 (April 2011), pp. 54-65. https://www.jstor.org/stable/10.5816/anthropologynow.3.1.0054?seq=1#page_scan_tab_contents
- Kruis, Nathanael J., and Matthew K. Heun. "Analysis of the Performance of Earthship Housing in Various Global Climates." *ASME 2007 Energy Sustainability Conference*, June 2007, pp. 431–440., doi:10.1115/es2007-36030.
- Reardon, Chris, et al. "Thermal Mass." *YourHome*, Commonwealth of Australia, 29 July 2013, <u>www.yourhome.gov.au/passive.</u> design/thermal-mass.
- Reynolds, Michael. "Earthship Global." *Earthship Biotecture*, 2019, <u>www.earthshipglobal.com/</u>.
- "Vernacular architecture of Dogon Country and its development," Field Study of the World, https://www.fieldstudyoftheworld.com/vernacular-architecture-of-dogon-country-and-its-development/.
- "What Is an Earthship?" *Environment and Ecology*, 2019, <u>environment-ecology.com/environment-and-architecture/375-what-is-earthship.html</u>.

Images:

- <u>https://www.atlasobscura.com/articles/earthships-sustainable-architecture</u>
- https://www.earthshipglobal.com/earthship-images
- <u>https://image.shutterstock.com/image-photo/looking-manhattan-skyscrapers-on-foggy-260nw-1100045249.jpg</u>
- https://www.arch2o.com/wp-content/uploads/2015/12/Arch2O-Earthships_Michael_Reynolds-26-1170x878.jpc