

Kyle,

I caught your appearance on UnchartedX where you mentioned the acoustic properties of the sites you've been scanning. That throwaway line about resonance stuck with me, and I started pulling threads. What I found is substantial enough that I thought you'd want to see it.

You know the anomalies better than most—you've had your hands on the stones at Cusco, you've scanned the interior surfaces at Ollantaytambo, you've documented those scoop marks at Aswan. You and Ben have spent more time with precision granite in your hands than most archaeologists ever will.

But here's the thing: there's peer-reviewed physics that connects to what you're seeing. Real papers in real journals, published in the last ten years. And nobody seems to be putting them together.

Let me lay it out.

The 110 Hz Problem

You've done episodes on acoustics in Egypt. So you probably know about the Cook study from 2008—the one where they stuck people in EEG machines and hit them with different frequencies. At 110 Hz, the language center of the brain *turns off*. Temporarily. The right hemisphere lights up.

Published in *Time and Mind*. Replicated. Nobody disputes it.

Now:

- The Hal Saflieni Hypogeum in Malta: 110 Hz
- Newgrange in Ireland: 110 Hz
- The King's Chamber in Giza: 117 Hz (close enough to trigger the same effect)

These sites had no contact with each other. Separated by oceans and millennia. But they all hit the same frequency—the one that does something measurable to consciousness.

You mentioned on the podcast that Egyptology doesn't talk to physics departments. Here's what happens when you force that conversation.

Göbekli Tepe: What They Actually Found

In 2017, a research team got Klaus Schmidt's blessing to do acoustic measurements in Enclosure D. What they documented:

The ground is humming. Constant vibration at 20-22 Hz coming from underground. Infrasound peaks at 14 Hz appearing periodically. And here's the kicker: these frequencies *only appear inside the enclosures*. Walk outside the stone circles, they disappear.

The site was built precisely where the earth itself provides a natural low-frequency drone. That's site selection based on acoustic criteria. 11,600 years ago.

The pillars are hollow. When they tapped Pillar 18, it resonated at 68-69 Hz with harmonics at 91 Hz and 138 Hz. Sound analysis shows it's a resonating cavity, not solid

stone. The T-shape isn't symbolic—it's acoustic engineering. The horizontal arms create differential wave paths.

These "primitive hunter-gatherers" built a frequency machine 7,000 years before the pyramids.

And then they buried it. Deliberately. Carefully. Completely.

Why do you bury a working acoustic temple?

The Pyramid Is a Resonator

2018. ITMO University and Laser Zentrum Hannover. Published in the *Journal of Applied Physics*. Peer-reviewed, no controversy.

They modeled how the Great Pyramid interacts with electromagnetic waves. Finding:

"Under resonance conditions, the pyramid can concentrate electromagnetic energy in its internal chambers and under the base."

The King's Chamber isn't where it is by accident. It's positioned at an electromagnetic node—where the geometry naturally focuses energy.

Now let's talk about those "relieving chambers" above it. The ones with the rough granite beams. You've probably wondered about them. Here's the math: they don't relieve anything. They *add* 2,500 tonnes of load.

But granite is 20-60% quartz. And quartz is piezoelectric—it generates electrical charge under mechanical stress.

Stack 2,500 tonnes of granite above a resonating chamber, and you have a piezoelectric generator. Powered by the weight of the pyramid itself.

The Friction Problem You've Been Looking At

Here's where it connects to what you're actually documenting in the field.

2020 paper in *Frontiers in Mechanical Engineering*, by V.L. Popov. Title: "The Influence of Vibration on Friction."

Under ultrasonic vibration, friction drops by up to 89%. The mechanism is called "walking slip"—the contact point cycles between sticking and sliding thousands of times per second.

This is used in modern manufacturing. Wire drawing. Press forming. The physics is settled.

Now think about those 100-tonne stones at Baalbek. With normal friction, you'd need impossible force to move them. But vibrate the stone—through coordinated drumming, chanting, rhythmic impact—and friction drops to 11% of normal.

The legends of stones being "sung into place" might not be metaphor. They might be technique.

The Interior Joint Geometry

This is where I think you can contribute data nobody else has.

You've scanned those walls in Cusco. You've documented the interior surfaces exposed where earthquakes shifted the stones. You've seen that the pillowing on the exterior *continues into the interior*, changing direction as it goes deeper.

Think about what that rules out:

- **Casting:** Molds produce uniform interiors. These aren't uniform.
- **Chiseling:** Produces flat contact surfaces. These are curved.
- **Template grinding:** Would show consistent curvature. These vary.

What it suggests: the stones were shaped *in place*, through a process that followed actual contact topology. Something was happening at the interface between stones that gradually wore them into perfect fit.

Vibrational fitting—sustained acoustic energy at the contact point—produces exactly this signature. The stone softens locally at the vibrating interface, material displaces, and the surfaces converge toward perfect mating.

You've got the scans. The geometry is in your data. I'd love to see what a comparison between interior surface topology and predicted vibrational wear patterns would show.

Cymatics: The Encoded Geometry

One more piece, and this one connects to your work with Károly on the vases.

When you vibrate a surface covered with particles, the particles organize into geometric patterns. Different frequencies create different shapes. This was formalized by Chladni in 1787.

Now look at Rosslyn Chapel in Scotland. 215 carved stone cubes, each showing a different geometric pattern. In 2006, researchers cracked it: they're Chladni figures. Cymatic frequencies encoded in stone. Read in sequence, they produce a melody.

The builders knew about cymatics *350 years before scientists "discovered" it*. And they encoded that knowledge in architecture.

Those Egyptian vases you've been scanning—the ones with the impossible precision, the complex curves, the symmetry that modern lathes would struggle with—what if they weren't just decorative? What if they were acoustic instruments? Resonating cavities with specific tonal properties?

The bowls at Abu Ghorab. The strange "hotep" object. Parts of a machine, you said on the podcast.

What if the machine was acoustic?

The Hypothesis

Here's how it all fits together:

Ancient builders understood vibrational physics. They used it for:

1. **Site selection:** Finding locations with natural infrasound (Göbekli Tepe)
2. **Stone softening:** High-frequency vibration reduces friction 89%, and may soften stone at contact interfaces

3. **Precision fitting:** Vibrational wear at joints produces the interior geometry you've documented
4. **Energy generation:** Piezoelectric granite under pressure creates charge
5. **Consciousness effects:** Specific frequencies (110 Hz) alter brain function

The oldest sites show the highest sophistication. Quality *decreases* over time. Skills were lost, not developed.

And then, around 10,800 BCE, something happened. Göbekli Tepe gets buried. The knowledge goes underground—literally and figuratively. What survives passes through mystery schools, secret societies, and eventually gets encoded in places like Rosslyn Chapel.

The songs stopped. And nobody remembered what they were for.

What I'm Asking

I'm not looking for you to validate any of this on the show. I know you and Russ take a careful approach, and I respect that.

But you have data nobody else has. Scans of interior surfaces. Detailed geometry of those joint interfaces. Measurements of the acoustic properties of the spaces you've been in.

If you ever wanted to cross-reference that data against vibrational wear patterns or acoustic modeling, I've compiled everything I could find from the physics literature. It's yours if you want it.

The hypothesis is testable:

- Interior joint surfaces should show topology consistent with vibrational wear, not chiseling or casting
- Granite under stress should show piezoelectric signatures
- Resonance frequencies of chambers should cluster around neurologically significant values
- Those Abu Ghorab objects should have measurable acoustic properties

You've got the equipment and the access. I've got the physics papers and the synthesis. Seems like the makings of a useful conversation.

Either way, keep doing what you're doing. The scanning work you and Károly are doing with the Artifact Foundation is exactly what this field needs—actual data, precisely measured, publicly documented.

The stones are still singing. We just forgot how to listen.

Best,
Justin

Key Sources

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Serapeum precision:

Dunn, C. (1998). *The Giza Power Plant*. Bear & Company. [Referenced for measurement methodology]

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P.S. — I know you're a musician. Next time you're chanting in one of those chambers, pay attention to what happens at the resonance point. There's a reason the mystery schools used sound.