

Resonances

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The idea for this sermon came a few weeks ago, as I was sailing in the Oyster Pond River near my house. The boat I usually sail had been hauled out for Hurricane Irene and never made it back to the water, but my neighbors had graciously said I could use their daysailer, which was named Babalou. Babalou and I hit it off very well, and so on a clear afternoon, I was cruising along the river on a beam reach, with soft sunshine and a steady wind at about 15 miles per hour. “Could life get any better than this?” I thought, and then it suddenly got just a little better. The whole boat started to hum. It was a very low vibration, it probably wasn’t on the piano scale, but it was a definite purr. It was like the feeling you get inside your skull when you close your mouth on the “om” in meditation, that buzz, but here I was inside a 17-foot humming skull. Somehow the stays, the aluminum spars, the canvas sails, the fiberglass hull were all in tune to the pressure put on them by wind and water. The Babalou had reached its resonant frequency.

Many things have resonant frequencies. Consider these glasses of water. I rub my finger on one, and it makes this note (demonstrate). I rub my finger on this one, and it makes this note (demonstrate). Each one resonates in its own way. And each of us resonates in our own way.

My daughter came to visit a couple of weeks ago and as she talked about her law work defending poor Brooklyn tenants from eviction, and how she felt when she lost a case, I remembered my own early legal career in Charleston as a public defender, and how I felt when a client went to jail, no matter how much he may have deserved it.

There is a kind of resonance which occurs between people. It happens in conversation when you say, “I know exactly what you mean.” It happens when I am listening to a minister’s sermon and think, “she’s speaking right to me.” It happens when a politician or philosopher or the taxi driver or the waitress says exactly what I’ve been thinking.

Now granted, there is a difference. The glasses resonate because of physical properties, and we resonate with stories and songs because of emotional or spiritual factors. So, in using the same term for both, I’m jumping between the scientific plane and the metaphorical plane, and I’m going to do that this morning. If you like, you can envision a sign over the pulpit that flashes the word “metaphor” from time to time. As Obi-wan Kenobe says, Metaphors be with you.

A minute ago, I read the covenant written by Griswold Williams in the 1920s. It concludes with a statement that the ultimate purpose in having a covenant, the purpose of churches, is so that “all souls will grow into harmony with the Divine.”

Here is an important type of resonance. What is it to grow into harmony with the divine? A lot of us have a lot of trouble with an image of God as an old man in the sky with a white robe and grey beard. Is it any easier to conceive of God as a vibration, a great cosmic tuning fork? What is God’s resonant frequency?

Harmony with the divine: it echoes for me my favorite words from the hymn we’re going to sing in a few minutes, Come thou Fount of Every Blessing/Tune our Hearts to Seek Thy Grace.

Now Griswold Williams, the author of the covenant I read, was a Universalist minister and musician. But the notion of a Divine Harmony goes back long before Universalism.

In the West, the notion of divine harmony goes back to Pythagoras and his Music of the Spheres. Pythagoras lived around 500 B.C.E., and though he was Greek, he did most of his work in Southern Italy.

He established a school there and taught disciples an esoteric body of knowledge which they were sworn not to reveal. Since Pythagoras himself didn’t write anything down, we don’t have any way of knowing directly what he taught, but much of his thought survives in Plato.

We think of Pythagoras mostly as a mathematician, as he was that, but he was also a musician, a theologian and an astronomer, and to the Greeks, these were all about the same thing. And when we contemplate the notion of divine harmony, we realize what strong cross-currents there are between math and theology and music.

Pythagoras’ most important discovery, was probably not the theorem on right triangles that bears his name, but the proportions producing musical harmonies. It is said that he was passing a blacksmith shop and noticed that the hammer blows he could hear coming out were at different pitches. He heard plink plunk plank. He came in and noticed that the men wielding the hammers were different sizes and strengths, and so he had them exchange hammers. It turned out that the same hammer would produce the same sound no matter whether it was wielded by the big guy in the corner or the little skinny one up front. The same piece of metal would sound at a different pitch when struck by hammers of different weights, no matter who was wielding them.

He then went on to apply the same principle to lengths of vibrating string. The difference in pitch between two notes of music is called the interval. The most important interval is the octave which is eight notes distant, and other important intervals are the fifth, or five notes, fourth and third. What Pythagoras found was that if the whole string produces, say,

a “G,” then shortening the length by half will produce a “G” one octave above. Half the length is a ratio of one to two, so the ratio of 1:2 produces the interval of an octave. If you shorten it in the ratio of 3:2, you produce a “D,” that is, a tone which is a fifth above the note produced by the whole string. A ratio of 4:3 produces an “C,” which is a fourth above the basic note. And a ratio of 5:4 produces a “B,” which is a third above. The perfect octave, fifth, fourth and third have always been the basic consonances in Western music. Pythagoras had discovered the mathematical basis for harmony.

[demonstration on banjo]

And in discovering the mathematical basis for harmony, he also invented Western science, in a sense. As Pythagorean David Plant notes, “By associating measurements of length with musical tones he made the first known reduction of a quality (sound) into a quantity (length and ratio).” Still today we think the main thrust of science to be the understanding of nature through mathematics. But for Pythagoras, the musical octave was also the connection between the worlds of matter and spirit.

Spirit and matter: their interface is music and their language is number. Pythagoras took these ideas into cosmology. He conceived of the earth as a globe, which was ahead of his time, but also thought of the heavens as a series of spheres turning on a common axis. Each of the principle heavenly bodies was attached to its own sphere: the sun, the moon, the five visible planets, and the stars, and each sphere moved at its own rate of speed. The distances between the spheres were particular ratios, and these ratios corresponded to particular musical harmonies.

Pythagoras’ teachings laid great emphasis on trying to get his students to hear the music of the sphere. He claimed to be able to hear it himself. He was reputed to be quite an extraordinary musician, and used music in healing illnesses of the body and soul.

Of course, at some point along come Copernicus and his followers Galileo and Kepler, who show that the earth is not the center of the universe. Does this demolish the idea of a music of the Spheres? We should think so. Besides which, we know now that most of space is a vacuum, so there should be no sound waves at all.

Yet in 2003, scientists using NASA’s Chandra X-Ray telescope found powerful sound waves emanating from a massive black hole in the Perseus cluster. These waves had a frequency which, if you put them on a musical scale, would be a B-flat 57 octaves below middle C. As a piano has only 7 octaves, you can see that this note would be too low for human ears to hear.

Remember that resonances depend on ratios. Kepler, the astronomer who overturned the ancient view of the universe, was still concerned with the Pythagorean notion of ratios, and worked out ratios for the difference between the slow point and the fast points of the orbits of the

planets, and he found that these ratios corresponded to the ratios of musical harmonies!

For example, he found that

Saturn moves at a rate of 106" of arc per day at aphelion and 135" at perihelion.

Cancelled down, the ratio 106:135 differs by only two seconds from 4:5 — equivalent to the interval of a major third.

Few scientists today are going to lay more store by Kepler's astronomical ratios than they would by Pythagoras, and yet science does not debunk the whole notion of harmony and proportion but to the contrary exhibits it at every stage. The Fibonacci number series is the basis for the golden proportion (or for readers of the Da Vinci Code, the number phi) which is found not only in the best and most satisfying human art and architecture, but in snail spirals and arrangements of flower petals and the distribution of leaves on trees. The golden proportion is probably found in the front view of this Meeting House.

We sometimes sing a hymn by Emerson that claims "no number tallies nature up;" this may be true for nature as a whole, but for particular aspects of nature, for those who have eyes to see and ears to hear, there are numbers all around, and they enable us to see deeper into the nature of things.

And while we may not literally listen for the music of the spheres, we are doing amazing things with resonances. We have developed a technology to use resonances to see tumors within a living body and save lives. This is Magnetic Resonance Imaging. It depends on setting up resonances within atomic nuclei. I have been through a few MRIs, and it is not the most pleasant experience, because they use real noise to wake up your atomic nuclei.

But think about the MRI for a moment. Resonance allows us to see beneath the surface, to plunge deep into the interior and know what is really going on.

Doesn't this carry over into the emotional and spiritual realm? When we are opaque to ourselves, when we are so confused we can't decide what we really want, we might get swept up in a resonance and say, that's what I want, that's the direction I ought to go.

On a sunny afternoon in North Georgia 30 years ago, I watched a dowser at work trying to locate an underground stream for my sister to dig a well. The man held up two l-shaped copper rods, one in each hand, holding them by the short sides and allowing the long sides to swing freely. As he walked my sister's yard, the long sides were out in front of him parallel, but at a certain point, they swung towards each other and crossed. He said, "dig here," and she did and found abundant water about 30 feet down.

I don't know how it works, but I suspect the dowser picks up some kind of resonance from the water under the earth.

I have many times seen resonance at work in my ministries, where my words have gone

out into the congregation or the community and come back to me in the form of transformations and synergies. I know that I have resonated with ministers, with orators, with songwriters, with voices on the radio, and my life takes new turns because of that resonance.

You might say that the task of the minister is to find the resonant frequency of the congregation, and the task of the church is to find the mission and message which resonates in its community.

One of my favorite aspects of the notion of divine harmony is not the planetary association but that resonating in harmony seems like a good way to be in relation to the divine. The Hebrew Bible depicts God as a stern father or ruler, and you're either for him or against him, loyal or out of favor, virtuous or sinful. As I said, many of us do not relate well to that kind of God. But if we depersonalize the divine, if we conceive the divine as a wave or a tone, we can sidestep a lot of the emotional baggage associated with the Biblical God.

You don't obey or disobey a tone, you either resonate with it or you don't. You may resonate with it at the octave or the fifth or the fourth, so not everyone will resonate with the same tone in the same way. The conception allows a marvelous diversity: you may be in harmony with the divine and I may be in harmony with the divine, but that does not mean that we are necessarily in harmony with each other. Let's say the divine note is G, for God; you may be resonating in B, a third above and I may be resonating in C, and we will sound dissonant to each other.

[demonstration on concertina with congregation]

Here's the lesson: harmony between two does not mean harmony among all.

Another aspect of this: to harmonize with the divine, the divine need not be all powerful and unchanging. Indeed, maybe what God calls us to do most is to listen, listen closely. As the divine music moves along, what we do to harmonize at this moment, may create dissonances in the next moment.

A yes, dissonances. Sometimes it is hard to hear the divine tone. Sometimes all we can hear are cacophonies. Sometimes the only notes we can sound are sour ones. We don't always harmonize even with the ones we most want to.

And we may want all souls to grow into harmony with the divine, but I put it to you that perhaps the agents of that growth are the dissonances. If everything was in perfect harmony all the time, it would be a boring world and a stagnant one. As classical composers discovered in the Twentieth Century, a little dissonance can liven things up.

[vocal demonstration]

Now resonance is something that happens, it isn't something that you do. Recently we have considered the Twelve-step program for compassion promoted by Karen Armstrong.

Compassion is something you feel, but if you follow the program, it is something you are trying to get. Is it the sem for resonance?

I open a magazine and there is a picture of a young African child born with a cleft palate, and the ad says, "You can help Shange live a normal life, or you can turn the page." More often than not, I will turn the page; the plight of Shange has not resonated with me sufficiently that I would get out my checkbook. But perhaps someday, when I had achieved a few more steps on the road to a compassionate life, I would be tuned in to William's plight and respond.

Come thou fount of every blessing, tune our hearts to seek thy grace. I think it's good to remind ourselves from time to time of our highest aspirations, what the view looks like from the top of the mountain, even if we spend most of our time in the valleys. We need to know what a tuned heart can feel like, even if we are out of tune a lot more than we are in, which is a banjo-player's fate. Some days we may be augmented, some days diminished, some days we may even be suspended. So my prayer today is that, each in our own way, we may find our resonant frequency and all of our souls may continue growing into harmony with the divine, however each of us may conceive that.
Amen.

Reading:

L. Griswold Williams

Love is the doctrine of this church,
The quest of truth is its sacrament,
And service is its prayer.

To dwell together in peace,
To seek knowledge in freedom,
To serve human need,
To the end that all souls shall
grow into harmony with the Divine--

Thus do we covenant with each other and with God.