feature

Sound Trek: To Boldly Go Where Many Have Gone Before

by Christine M. Grimm

With its warp speed whoosh, the futuristic technology and message of peace in *Star Trek* have deeply influenced modern culture since the first appearance of this iconic vision over 40 years ago. The phenomena's unique aural landscapes came from the electronic imagination of Alan Howarth, who created many memorable sound effects for the first six *Star Trek* movies. In the meantime, the film composer/sound designer has continued his own trek into the world of sonic space. Based on his research at the Great Pyramid of Egypt and its Mayan equivalents, Howarth has made startling discoveries about the role of sound and its profound implications in our lives.


Alan Howarth on his Egyptian expedition

Pyramids and Temples

Named after the Egyptian sun god, the natural frequencies of RA Music originated in the mathematical research of the late Wes Bateman and his belief that the architect of the Great Pyramid intended it as a mathematical model. Bateman's concepts of the Prime Directive and the United Federation of Planets were incorporated into Gene Roddenberry's original "Star Trek" universe in the mid-1960s.

After reading Bateman's book, *The Rods of Amon Ra* in 1994, Howarth collaborated with him to explore the principle that the universe is literally in tune with itself. In 2004, the sound researcher gained the support of Dr. J.J. Hurtak, author of *The Book of Knowledge: The Keys of Enoch* and other works that influenced the makers of *Star Trek*. Hurtak's Academy for Future Science (AFFS) became the sponsor for Howarth's acoustics research in the Mayan temples of Mexico's Yucatan Peninsula that are estimated to have been built around 800 BC. After taking more than 200 samples of sound from these temples in seven different locations, Alan Howarth created a database of acoustic resonances and discovered similar frequencies centered around 424 Hz or cycles per second. Using these findings, a white paper published by the University of Mexico City concluded that the frequencies were a conscious design element of the Mayan culture and its musical knowledge. It appears that the ancient Mayans understood the natural frequencies and designed the temples to produce transcendent sounds as part of their religious ceremonies.

In 2005, Howarth and an Academy for Future Science research team embarked on a private expedition to investigate the acoustics of interior chambers in the Great Pyramid, which was built around 5000 BC, to see if it created resonance with the natural frequencies mathematically predicated by Wes Bateman. The researchers were amazed to discover that the dominant frequencies of the King's Chamber matched Bateman's prediction of 424 cycles per second. Was it just a coincidence that these two advanced ancient cultures, separated by more than 4000 years, used the same natural frequencies to support their spiritual practices?

Music and Mathematics

When Alan Howarth examined the worldwide instrumental tunings in music, he discovered another significant fact: Many of history's great composers worked with the RA frequencies, which actually range between 421.5 and 426.3 cycles per second and have 424 as the median average for the note of "A." According to Howarth, "To fully appreciate Mozart or Handel, you must listen to their music in the tuning for which it was created: A=424 and not the modern standard tuning of A=440."

What does RA actually sound like? Because the RA tuning resides lower than the tuning to which our ears are accustomed, the sound is naturally deeper and more relaxed. With the proper tuner set to -64 cents flat, most instruments can easily be tuned to A=424. Computers and keyboards can usually be recalibrated in the same way, but acoustic pianos require professional retuning—which is definitely worth the effort.

In the RA system, musical frequencies also correspond with mathematical ratios: A=424 is derived from Pi (3.14…), which resonates with the mental, emotional, and spiritual realm. These frequencies correlate to brainwaves in the ideal alpha state of relaxation and meditation, in which a person is most receptive to external input. Using this ratio as the basis for their extensive research, Alan Howarth and Wes Bateman also turned to nature's kingdom of sounds and found the same phenomenon there: The whale's song, the bird's chirp, and wolf's howl are all centered on the natural frequency of A=424 cycles per second.


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The cycles per second describes the number of up and down soundwaves that occur in that space of time. In order for these waves of sound to mesh with the waves of our body structures, they must be in the same precise number of cycles per second. This is called the law of sympathetic vibration: If the vibration of one body matches the resonance of another body, this second body will begin to vibrate with the same sound. According to Howarth, the frequencies of RA Music correspond to our own natural vibrations. Instead of just hearing music with our ears, we can feel it throughout our mind and body. This also enhances the potential of healing ourselves and our world with sound.

The slightly higher frequency of A=432 corresponds with Phi (1.618…), which resonates with the proportions of physical structures such as plants, animals, and human beings. Phi is known as the golden mean and serves as the source for the Fibonacci numbers (as popularized in Dan Brown's *The Da Vinci Code*) that are the basis for the musical properties.

How did we lose touch with these natural frequencies? The tuning fork was invented by John Shore of England in 1711 and had a pitch of A=423.5 (within .5 cycles of the RA median value). According to Jonathan Tennenbaum's article in the Schiller Institute's *Fidelio* magazine, C=256 (equivalent to A=426.7) was widely recognized as the standard "scientific" or "physical" pitch until the 20th century. Since 1925, most Western music has been played and recorded in a