

of Kew allows visitors to put on headphones and listen to eucalyptus and other species. Trees in many areas are already on the edge of what their cavitation can sustain. Pine trees are especially good at repairing the embolisms and are able to do repairs on a daily or hourly basis. The cells are dying, and that is what causes the rings inside the trees but also causes trees to exude sap; indeed, the sounds create a micro-habitat drawing insects, which in turn attract birds.

**Trees are like slow animals**

Since 1983, biologists Jack Schultz and Ian Baldwin have been working on

plant communication and cite, “Trees are like slow animals; the only thing they can’t do is run away when attacked.” Canadian biologist Suzanne Simard has recorded tree communication via fungi, and that is now affectionately known as the “Wood Wide Web.”

Sound artist Alex Metcalf has devised a listening cone based on an old-fashioned ear trumpet, but with a tree’s tiny sounds magnified. Hardwoods are easiest to hear, and we can hear the trees’ sap gurgling, crackling, bubbling in springtime. Trees communicate with each other in the forest via coiled, tube-like fungi structures in soil called

hyphae (kind of like fiber-optic cables) and a spoonful of soil can hold seven miles of them!

In Italy, scientists in the Damanhur community developed—and now sell—a device that amplifies and modulates the “music of the plants” to levels audible for the human ear. The device also shows that plants are able to learn and remember. Sonic artists and music composers connect the device to trees and plants and play music together with the trees’ singing, using Musical Instrument Digital Interface (MIDI), a technical standard that describes a communications protocol, that allows

a digital connection to interact with each other.

**Important reminder for winter**

Our local trees and shrubs need water in winter. Lack of moisture can mean injury or death to root systems. Water only when air temperatures are above 40 degrees F, apply water at mid-day so it will have time to soak in before possible freezing at night, and water during extended dry periods without snow cover—one to three times per month.

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*Art Matters*

**Live longer with art in your life**



*By Janet Sellers*

Can enjoying art at a gallery, a museum, or at home help you live longer? A World Health Organization report on over 3,000 studies on the topic shows that art has a power for our longevity in ways scientists never expected. It’s been long known that art making is an important plus for kids and adults to develop and maintain physical and mental agility, and that putting pencil to page keeps parts of our brain and neurology from going dormant—especially getting our imagination on the page and in generating and capturing original thoughts on the page.

The good news for people of all ages is that the beneficial impact of the arts is furthered by taking part in the arts. The recently published English Longitudinal Study of Ageing, held over 14 years, concluded that “receptive arts engagement could have a protective association with longevity in older

adults.” Their data show substantial reductions in mortality for participants who engaged in cultural activities at the initial assessment point when adjusted for all identified demographic, socioeconomic, health related, behavioral, and social factors. Cultural activities included going to museums, art galleries, concerts, or the theater.

A study funded by the National Endowment for the Arts reported that a knowledge base and appreciation for the arts stemming from a STEAM (science, technology, engineering, arts, and math) education approach actually translated into a more accurate pathway to college. The study tracked participants from their sophomore year of high school to their mid-20s. The key findings from the study confirmed that arts students were:

- more likely to apply to more colleges than non-arts students.
- 21 percent more likely to attend

a postsecondary institution than non-arts students.

- just as likely to pursue STEM majors as non-arts students.
- just as likely to receive scholarships as their non-arts peers.

The study was a powerful indicator that the arts empowered students to love learning, which turned out to be the most relevant factor in addressing higher education and developing the student’s unique talents. Some of today’s most renowned innovators have an arts education and hold degrees in arts education disciplines:

- YouTube Chief Executive Susan Wojcicki majored in history and literature.
- Logitech Chief Executive Bracken Darrell majored in English.
- Slack founder Stewart Butterfield majored in English.
- Airbnb founder Brian Chesky majored in the fine arts.

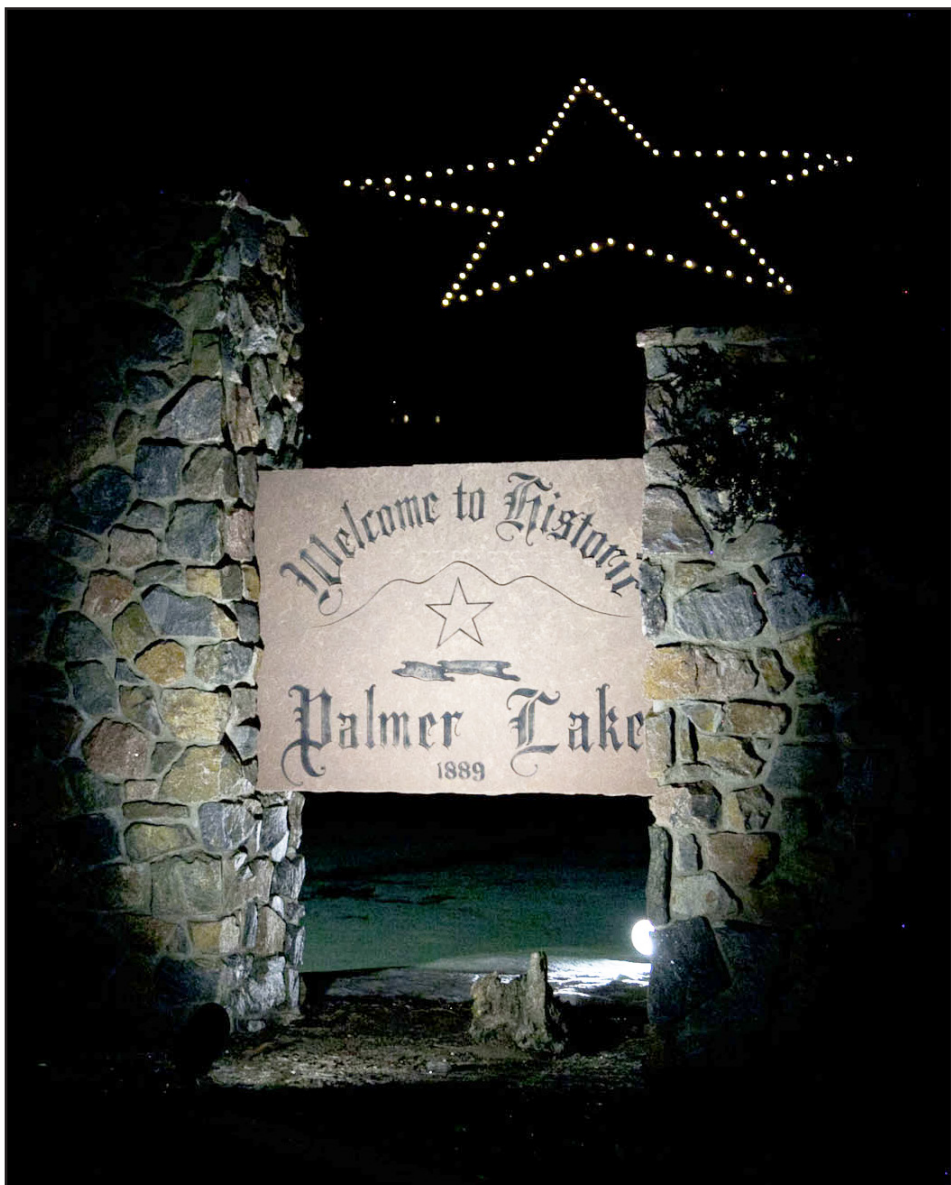
- Jack Ma, the chief of Alibaba in China, holds a bachelor’s degree in English.

We have plenty of information about the positive effects and neurophysiological changes induced by activities such as the arts, which enable “deep play” or “flow.” What are the mechanisms linking cultural engagement with longer life? Would quality of life be the key? These are hard to pin down without further study, but there is a consensus that these, and beneficial social engagement, are pivotal to health and longevity.

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**Snapshots of Our Community**

**Palmer Lake Star**



**Above:** The Palmer Lake Star greeted visitors driving into Palmer Lake on Colorado State Highway 105 during the holiday season. *Photo by David Futey.*

**Open Space Contract, Dec. 3**



**Above:** Nearly 100 acres of open space in South Woodmoor are now under contract in a unique purchase agreement between the sellers, WOSC LLC—formerly known as the Walters Open Space Committee that represents 111 residents whose homes border the land—and a local land development company. The contract was signed Dec. 3 and is expected to close in 120 days or early April 2020.

**Pictured at right** are Tish Norman, left, and Ray Sullivan of WOSC LLC. Go to <https://www.gofundme.com/save-south-woodmoor-co-open-space> if you wish to help WOSC defray administrative expenses. *Caption information provided by Ray Sullivan and Tish Norman. Photos courtesy of WOSC LLC.*

