bout a year ago I was giving a talk in an auditorium for a few thousand people. I had just finished and people were streaming out of the auditorium in very predictable patterns, rivers of people flowing out the exits, and then I saw this guy going the wrong way. He was about

my age, 50-something, and he was coming straight toward me, fighting his way through the crowd. He had such a look of intention about him that it actually made me afraid for a moment. I starting packing up my papers a little faster, and from twenty rows back this guy pointed at me and said, "Don't leave! I need to talk to you." When he finally reached me, he began by saying, "I have to tell you something I have never told anyone else."

He proceeded to tell me that every Saturday afternoon, his wife leaves with her friends and it's his time to have the house to himself—his own private time. And then he said, "The minute my wife leaves the house for her errands, I lock the door, I go downstairs in the basement and I do

something that I am so embarrassed about I have never told anyone else about it." He explained that on those Saturdays in the basement he listens, at very cranked-up volume, to the music of his college years—bands like R.E.M., Duran Duran, and the Police. He kept it secret from other people because he thought it must be some form of immaturity. He would have been embarrassed

for anyone to know. At the same time, as he put it, "I feel like a piece of me just dies if I don't hear that music every few weeks, and now I know why."

I had just given a talk about how music at times is a container for certain powerful life experiences.

This guy just *loved* his college years; it was his favorite time of life, a time full of treasures for him. Music served as the container for that particular time of his life—it kept that time alive for him. So if he doesn't get to have that music, he feels like he's dying because that piece of him literally *is* dying. There's something about that music that captured the feeling of that time of life.

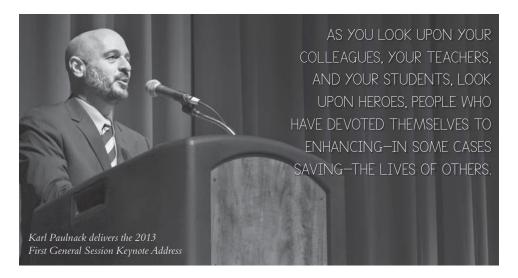
I received a letter from a woman who wrote to tell me about her 16-year-old son. Like many 16-year-old boys, he had managed to purchase the music that would most annoy and horrify his parents, and then he managed to find just the right volume to be completely excruciating to them. She hated his music.

One day he was involved in a traf-

fic accident and died. This mother entered a period of indescribable anguish from which she could find no relief. She kept his room exactly as it was, thinking she might preserve his presence in the house. She looked at pictures. She looked at homework assignments. She made awkward attempts to interact with his friends. Nothing helped.

MUSIC
SAVES
LIVES

IN SOME VERY REAL WAY, BECAUSE MUSIC FORMS THE CONTAINERS THAT CARRY OUR EXPERIENCES, OUR LIVES DEPEND ON MUSIC. WITHOUT MUSIC, WE LOSE LIFE; WE LOSE THE CAPACITY TO ENGAGE IN AND RETAIN OUR EXPERIENCE MEANINGFULLY.



And then, in desperation, she played his music. She did that for months; she'd come home and turn on his music, the music she hated, and she could feel him in the house. She felt the feeling she had felt when he was around. His music was the only thing that captured and carried him in the home. And she still hates the music, but the music carries him, and it brings him home again. The music she still hates carries the son she still loves.

Music can capture and hold our experience of life the way a container holds a liquid. Music supports our capacity to engage in and retain our experiences, the feelings and the flavors and the timbres of our experiences.

I'm not talking about memory, but *experience*. This distinction is critical. Memories are stored in specific parts of the brain. Language is also stored in a very specific part of the brain. If the brain is injured or deteriorates with age, we can lose memory or language stored in the damaged areas.

The power of music—the ability to capture and hold the entire gestalt of an experience—this is something stored in several parts of the brain simultaneously. This is one of the reasons why people with various brain injuries who have lost memory, or language, or motor skills, can often still sing, can still make music, can still access music. And people whose brains work differently—people on the autism spectrum, people with degenerative diseases such as Alzheimer's—who find spoken language impossible can often communicate powerfully and effectively using music.

At Beth Israel Hospital, one of the teaching hospitals of Harvard University,

there is a Music, Neuroimaging, and Stroke Recovery department. Music is so powerful in supporting something called *neuroplasticity*, the ability of the brain to rewire itself and make new connections, that there's an entire department at Harvard dedicated to using music as a way to help stroke survivors recover.

We've known for a long time that music stimulates creativity and is essential for the way the brains of young children develop, but at Beth Israel they're now using MRI and PET scanning to show the power of music helping the brain create and repair connections within itself, storing and restoring the experiences of our lives. We're now able to show with a brain scan what intuition has told us for hundreds of years: healthy, creative, active brains benefit from music. Music helps us make connections, literally and figuratively.

This process of making new brain connections, neuroplasticity, is fascinating stuff, and the subject of a great deal of current research. My colleagues at Harvard tell me that at this moment there are only four things we know of that stimulate neuroplasticity, four things that cause the brain to create new connections.

The first is music. The second is physical exercise. The third is play—just play—little kids, outside, sandbox, fantasy, toys, make-believe, play. The fourth is something called *numinous experience*. *Numinous* is a word that is often used to refer to mystical experiences in a religious context, but it has a broader meaning. Singing in a chorus can be numinous experience under certain circumstances.

Numinous experiences are those in which our sense of self is absorbed into

something bigger than we are. That could be a sense of God, or the earth, a connection to others, or service of a greater goal or higher purposes, anything that takes us beyond the state of ego. It could include being absorbed into a church choir, an orchestra, marching band, or a string quartet—anything where you merge with something bigger than yourself.

Those of you who teach music to young children, think about this list: music, exercise, play, and being part of something bigger than yourself. That's the recipe for creative brains.

A good choir rehearsal or classroom music lesson automatically hits two out of the four, and if you include some physical activity and fun, as good teachers often do, you hit the mother lode of brain wiring, four out of four. A fun, physical musical activity that draws people into a group is the equivalent of chicken soup for the brain.

While music has the capacity to carry our lives like a container, it also functions to increase our capacity to engage in experiences we are about to have. This shows up in all sorts of ways, ways that people don't even notice unless they're really paying attention.

In the terrible earthquake in Haiti a few years ago, I woke up and was reading about it on the CNN website during my morning coffee. This was the first account of the first night of that earthquake, describing the extent of the damage and what people who were trapped and crushed in the rubble were doing as they were awaiting rescue. At the end of the third paragraph of that story, it said, "people prayed and sang through the night."

Why were they singing? Why would people in an earthquake sing? Why would people on the night of 9/11 stand on the street corner and sing? Why did the musicians who were about to drown on the Titanic think it would be a good time to sit down and play music? Why do people who are in the process of dying often need music? Why do people who are falling in love almost always have music? The answer to all of these questions is the same.

This list of questions encompasses intense experiences, some of the most intense experiences we can imagine. When we are at the end of our lives and we are desperately hanging on to whatever

is left, we hang on with music. In some very real way, because music forms the containers that carry our experiences, our lives depend on music. Without music, we lose life; we lose the capacity to engage in and retain our experience meaningfully.

I have a great friend who is the former marketing director at the conservatory where I teach. Karen was always begging me to lighten up a little.

She'd hear me do a welcome speech to the parents of incoming freshmen and she'd come running after me, wringing her hands, saying, "Karl, look, I left you alone with the parents for 20 minutes, and you covered 9/11, earthquake, drowning, and stroke! Aren't there any fun parts to being a musician? Isn't there anything light you could talk about?"

Of course there is fun and lightness in music. That's the primary thing that attracted many of us to it in the first place. However, I feel some obligation to speak up about the life-and-death part of music. Most people already get that music can be fun and entertaining.

But music can also be deep, lifesaving, and essential, and I feel a responsibility to that. If people think that music is just about fun and lightness, they start to think it's something we can do without. But we can't. We die without music. We must have it.

It's like saying, "I find oxygen so refreshing. Don't you?" I suppose that's true; it is refreshing to breathe oxygen. But it's not the whole truth. Cutting off someone's oxygen supply doesn't result in a state of under-refreshment; that's dishonest. And so it is with music.

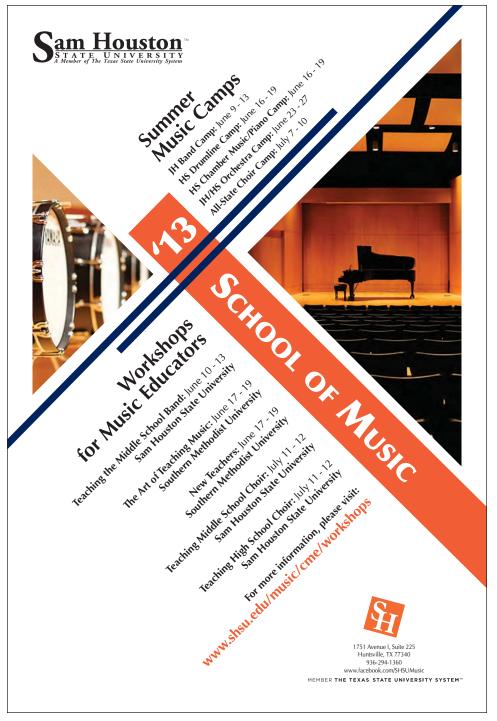
It's so important that we're clear about this in our minds and clear and direct with others about it, because if we're not, people go around cutting public school music programs thinking, "Yes, well, I know, I'm sorry, I guess our kids will just be a little bit less refreshed."

Many of you are familiar with the Venezuelan music program El Sistema that uses musical training and placement in classical orchestras as a way to rescue young children. This one music program has made such an impact on Venezuela that the government has committed to the idea that by 2015, every single child in Venezuela should have access to it. El Sistema is primarily funded by the government not as arts funding, but as a social services program. They provide music to people through the mechanism we use to provide food stamps and baby formula. It's part of what they consider welfare. It keeps people alive. They realize that music carries life.

You might teach music in a program that is seriously underfunded in some way; you might be involved in some kind of musical activity where you donate your time; or you might experience some combination of being underfunded and unappreciated. If you are a musician, if you carry musical practice in any way, you are

holding the lives of the people you carry with your practice.

The reason you keep going, even if you don't have enough equipment or enough money or enough staff or even enough appreciation, is the same reason that doctors went to Haiti during that earthquake. Even though in many cases there was no sterile water, no anesthesia, not enough supplies, no nurses, no equipment; and even though they couldn't possibly help everyone, they still went. Why? Because they knew people would die if



they didn't—those same people who were singing to make it through the first night would die if they didn't go in and try to help them.

Doctors are very aware that their work carries life. Musicians are not always aware; sometimes we need to be reminded.

The people who brought music to those kids in Venezuela ran into burning buildings to get those kids out. Those kids were in the grip of organized gangs, drug dealers, and hardened criminals. Some of those kids would have died if musicians had not gone in for them and brought them music to help carry them.

Most of you knew all of this before I articulated it. It's the reason you're still here. I'm saying it to you today because we need to hang on to it. Understanding why we do what we do is critical. We need to remember this individually and we need to remind each other of it when we forget. Of course we have to be advocates for adequate funding, staff, and equipment to do the job, but the first thing we have to do is help people understand what we're doing, how music works.

When someone fundamentally misunderstands what you do with your life, please stop them and set them straight.

If someone thinks you're teaching kids music to raise their math scores, to entertain them, or to keep them out of trouble for an hour, find some way to gently help that person wake up. Hard as your jobs are, you may find it much easier to teach little kids how we make music than to teach grownups why we make music.

But the most important thing I have to say to you today is this:

If you saw someone working where they were not appreciated, where no one really understood what they did or how hard they worked, how hard they trained to get the job, where they don't have adequate equipment or budget or staff to really do the job, you might ask why they haven't had the common sense to walk away for something better. And if you didn't know any better, it might be easy to mistake such a person for a loser or a fool—on some level, someone who has made an unwise choice about what to do in life.

But the doctors in Haiti who worked without adequate supplies or staff, or firefighters who rush into a building where they can't get everyone out in time because they don't have enough equipment—these are not losers or fools; these are heroes. These are people who go into an impossible task because they realize people will die if they don't go in and do what they can do. They understand that, because of the nature of their practice, they carry lives in their hands.

When young people ask me if they should choose music as a career, I ask them what else they would choose if they couldn't do music. If they name something, I tell them to do that, whatever it is. The only people who should go into music are people who have no other good second choice. Why? Because like being a parent or a firefighter, to do it well, you have to be willing to give up your life to do music. I'm not being dramatic; many of you already understand this. In some real sense you gave up your life to serve something bigger than yourself.

The good news is that when we choose to serve something beyond self, something that demands and consumes all we have to give, we experience a sense of meaning, fulfillment, satisfaction, and joy from our work that people in many other vocations cannot even begin to imagine. This is numinous experience. And as you look upon your colleagues, your teachers, and your students, look upon heroes, people who have devoted themselves to enhancing—in some cases saving—the lives of others. See each other. Recognize

And when you go back to the communities from which you came, you will go back to people who are in the process of living and dying, falling in love, marrying, graduating, growing up, growing old—people in every stage and age of life, all of whom will be more alive if they have music. Go find the people who need you to play, write, sing, and teach music so they can be well, and go save their lives. Don't wait for them to appreciate you they don't even know they need you. They have no idea.

I see you. I recognize you as heroes, people who on some level have given their lives for the lives of others, people who serve something bigger than any of us, bigger than all of us, and I thank you for carrying our children, for carrying humanity and for carrying music.

This article is a condensed version of Karl Paulnack's keynote address delivered at the 2013 TMEA Clinic/Convention. Video of the full address is available at www.tmea.org/2013keynote. Paulnack is the Director of the Boston Conservatory's Music Division and has recently accepted the position as Dean of the School of Music at Ithaca College.

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