Vicki, I cannot tell you how meaningful it is to me that you made this introduction tonight. I think it is fitting, since many years ago at the Kennedy Library in Boston it was your late husband, our great Senator from Massachusetts Ted Kennedy, who first put into my mind the idea of a musician doing public service. And now, we are on this stage, at the Kennedy Center---- our nation’s performing arts center---- where you are now a trustee.

Thank you so much for your graciousness, your generosity, and your kind words.

I am deeply honored to be here tonight to present the annual Nancy Hanks Lecture, reporting on the state of the arts, culture and humanities to all of you, engaged citizens, who work in the arts, in policy ---- advocates for an enlightened citizenry.

I’d like to thank Bob Lynch, and Americans for the Arts, for doing the heavy lifting involved in hosting this event. And I’d like to extend a
hearty welcome to all of you who have come to the Kennedy Center, as well as the viewers beyond the four walls of the concert hall, watching the Google webcast.

None of us exists in a vacuum. So before we discuss the state of the arts, culture and humanities, let’s first consider the world environment we are living in. That’s what musicians are trained to do. This may seem contradictory at first, but musicians are trained to be attentive to the biggest possible picture (the whole story, the environment) and at the same time sensitive to the smallest detail (the moment), and that’s what I hope to do with you tonight.

So, on the planetary scale, what do we have?

We have recently reached a world population of over 7 billion people, speaking over 6,000 languages, spread out in over 200 countries. Globally, we face issues of food security and natural resource scarcity among a host of others. So how are we going to share our planet among so many people with so many competing interests? And what role can the arts, culture and humanities play in finding solutions to this dilemma?

On the domestic side, we are emerging from the Great Recession with significant debt, vast unemployment, and shaky infrastructure. Moreover, two former Secretaries of State, George Shultz and Condoleezza Rice, have declared that the state of our K---12 education
system has now reached crisis proportions. And President Obama has spoken of our inability to “put ourselves in someone else’s shoes” or “look through somebody else’s eyes” as an empathy deficit.

The environment looks pretty grim, but I think there are ways each one of us can contribute to a solution.

Tonight I’d like to look at three things:

First, what lessons we can tease out from observing nature?

Second, what we can learn from studying the human realm?

And finally, what can the sciences and the arts teach all of us?

I think the answers to these questions will help us develop the tools we need to tackle some of these seemingly intractable problems. And the answers will help me explain why I want to talk to you all about Art for Life’s Sake.
One of the topics I’ve been reading about recently is what kind of work force we need in the 21st century. What will our graduates need in order to succeed?

The experts say we need four qualities in our students and in our work force. They need to be:

Collaborative,
Flexible,
Imaginative, and
Innovative.

Now according to the 2012 IBM Global CEO Study, “Collaboration is the number---one trait CEOs are seeking in their employees, with 75 percent of CEOs calling it critical.” (“Leading Through Connections” 6).


We know that our present educational system encourages knowledge acquisition and critical thinking. But what about these other qualities? How do we develop those qualities?

Let’s take my favorite example of creativity from science. In ecology, where two eco-systems meet, such as the forest and the savannah, the point of intersection is the site of "edge effect". In that transition zone, because of the influence the two ecological communities have on each other, you find the greatest diversity of life, as well as the greatest number of new life forms.

So that’s one way nature is creative!

The edge effect is something that has also had an impact on my life.

Three events happened to me when I was 7 years old, all interrelated. These personal edges that have contributed to my thinking and development, and make me ask at every stage of my life, "Who am I, and how do I fit in the world?"

The first event was immigration. You see, one thing I realized after my family moved from France to the United States, is that you can't be in two places at once. Yet I was stubborn enough to want to insist that I could.

Who willingly gives up friends, favorite foods, favorite landscapes,
favorite comic books? I wanted life in Paris to continue, but I was also so excited to experience this new existence in New York. Wondering about life in parallel, contemplating similar experiences in different worlds – these thoughts required imagination, the pursuit of which I have devoted much of my life. Call it stubbornness, call it imagination, the ability to transcend physical or in this case geographical restrictions is something that I have strived for all my life.

The second event was meeting my hero, the great cellist Pablo Casals. This happened soon after I arrived in New York City. His musical phrasing had the strength and beauty of marble sculptures. I was mesmerized. But it was something he said that most influenced me. He said: "I am a human being first, a musician second, and a cellist third." Looking back, that may have planted the seeds of the title of tonight's talk------ArtforLife'sSake.

At the recommendation of Pablo Casals, the third event was one my sister and I participated in right here in Washington DC. Here's some archival video footage------

**Video**

This event was one of the first fundraisers for what would become the John F. Kennedy Center for the Performing Arts.

Yes, you just saw Presidents Kennedy and Eisenhower, and Leonard
Bernstein. I knew they were incredibly important people, and now I understand why, but when I was 7, who did I gravitate to? What stuck in my memory?

**Visual: Danny Kaye photo**

Danny Kaye. Take a look at where his eyes are. He came down to my level in order to be an equal. He extended himself, met me at the crucial edge that divides adult from child, and he won my heart. I subliminally internalized that gesture and that attitude, and I’ve tried to be mindful of this in everything I do, to meet people at eye level, at the edge that divides one person from another.

I wonder how the edge effect might work in the cultural realm. Well, let’s ask my friends Lil’ Buck and Cristina Pato to demonstrate.

**Performance: The Swan, accompanied by Saint-Saëns, The Swan**

Thank you, Lil’ Buck, thank you, Cristina. Lil’ Buck, also known as Charles Riley, comes from Memphis, Tennessee. His form of dance, called jookin’, has been around for over 30 years, but it has remained underground, at the edge, for most of this time.

Lil’ Buck is 23 years old, and for the last ten years, he has spent as many as ten hours a day practicing his passion. His great wish is to bring his dance form, from the edge, from the borders, to the center of the dance
Last year Lil Buck toured with Madonna, and last week, he performed two sold out solo shows at Le Poisson Rouge in New York City to great critical acclaim. As you can see he is making great strides toward his goal. By the way, the choreography for this piece was developed by the New Ballet Ensemble in Memphis for arts education and community engagement.

Now some of you realize that Cristina Pato the pianist, is also Cristina Pato the bagpipe or gaita player, who ushered us in earlier. She hails from Northern Spain, in Galicia, where she is a rock star. Cristina is also a member of the Silk Road Ensemble, and she just released her first jazz CD called Migrations. One might say she is an artist who creates her own edge effect!

And the edge effect also has broader implications. Sociologists tell us that societies are powered by three engines: politics, economics and culture.

We know the political engine gives us structure, and is responsible for stability and security. The economic engine, through trade, puts food on the table and a roof over our heads. And the cultural engine encompasses who we are, how we feel and the things that give our lives meaning.
The currency of politics is the distribution of power; the currency of economics is the creation of wealth. Is there a currency in culture? I think there is...it’s trust.

Now, for each of these engines there is a fuel – let’s call it knowledge. Knowledge confers power and status in the political realm. The application of knowledge results in wealth creation in the economic sector. Knowledge in culture gives us perspective, and the capacity for empathy and humility.

My favorite version of a vibrant society has all three engines firing on all cylinders and the populace is energized, fulfilled and engaged. But sometimes these engines have strong borders. I want to suggest to you that societies run better when the engines not only are firing on all cylinders, but also intersect. As in nature, creativity in human society happens at the intersections.

The edge is where those of varied backgrounds come together in a zone of transition, a region of less structure, more diversity and more possibility. The edge is a time and place of transformation and movement and, in a forthcoming report from the American Academy of Arts and Sciences’ Commission on the Humanities and Social Sciences, the CEO of Boeing Jim McNerney credits Americans’ ability to live in between disciplines and cultures as one of its chief competitive advantages.
So what would it look like to work at the intersection of politics and culture? Let’s go back to the title of tonight’s talk, Art for Life’s Sake. What do I mean by that? Do you remember when I said that musicians are taught to be simultaneously attentive to the biggest possible picture and the smallest detail?

Well, another seemingly contradictory thing is that musicians spend years learning technique, but the point of art is always to transcend technique. That’s when we get to meaning. We transcend technique in order to seek out the truths in our world in a way that gives meaning and sustenance to individuals and communities – that’s art for life’s sake.

Over 30 years ago I met the great American novelist William Styron, and he told me something I would never forget. He felt writers have a responsibility to wrestle with the most challenging problems of their time. I think the novels “Confessions of Nat Turner” and “Sophie’s Choice” are examples of Styron responding to the needs he perceived.

Now I’d like to share with you a live performance, an example of an artist who is also responding to need. I met Arthur Bloom through my good friend the cultural impresario Damian Woetzel, who, by the way, also introduced me to Lil Buck. Arthur Bloom has developed an amazing program called MusiCorps, working with injured service members at Walter Reed National Military Medical Center.
Please welcome now the wonderful veteran musicians of MusiCorps and Arthur Bloom. We’re going to perform Levon Helm’s “Wide River to Cross”.

**Performance: Wide River to Cross, Levon Helm**

Specialist Nathan Kalwicki  
Lance Corporal Josh Cawthorn  
Specialist Rex Tharp  
MusiCorps teaching artists Greg Loman and Arthur Bloom  
Corporal Marcus Dandrea  
Lance Corporal Tim Donley

I find performing with my musical friends here so compelling and moving. Seeing them in action, hearing their songs, listening to their stories, reveals the depth of their humanity. Because they have given all of themselves to our country, we need to give back everything that we can.

And here too, we see an edge effect – as music therapists know, by combining two things many don’t usually associate, music and health care – Arthur has discovered a new path to healing for these veterans.

As Arthur explains, this is real work, discipline and rigor. You can see for yourselves the transformative power of what the veterans are doing.
when Lance Corporal Tim Donley says he feels blessed to have found two great loves in his life, first the Marines, and now music.

For me, the work Arthur Bloom is doing, responding artistically to this pressing need, is one of the great examples of Citizen Musicianship, musicians engaged at the intersection of art and need. Citizen Musicians strive to transcend technique, demonstrate empathy with every listener and take action to serve others through music.

Now, I want to tell you how I first came to the idea of Citizen Musician. In 2006 I was working with the Chicago Symphony Orchestra, the Silk Road Project and cultural organizations across Chicago on a year of programming called Silk Road Chicago.

One day my good friend Tim Knowles, the Director of the University of Chicago’s Urban Education Institute, showed me this front-page headline from the Chicago Tribune.

**Visual: Chicago Tribune headline**

So, out of 100 boys entering 9th grade in the Chicago Public Schools, 6 will graduate from college by the time they’re 25 years old. If you’re African-American or Latino, your chances go down to 2.5 out of 100.

I found that statistic devastating. I can’t be a proud citizen as long as this is true. I know I can’t fix it, but I have to respond in some way.
What possible skills do I have that could be useful in addressing this need?

I realized that everything I practice in music — and this is true of all the performing arts — involves the four qualities necessary for success in the workforce of the 21st Century:

Collaboration, flexibility, imagination, innovation.

So today I’m working with three organizations to model the skills the 21st Century demands. The organizations are The Chicago Symphony Orchestra, the President’s Committee on the Arts and the Humanities, and the Silk Road Project.

The Chicago Symphony Orchestra, under Music Director Riccardo Muti’s leadership, practices music for life’s sake on tour and at home. They are deeply engaged in Chicago and as ambassadors through music to places as varied as an orphanage in Saint Petersburg, Russia and in Mexico City, at the Teletón Children’s Rehabilitation Center.

In Chicago, the CSO has worked closely with the Chicago Public Schools and Ingenuity Incorporated on the passage, and now the implementation of the newly adopted Arts Education Plan. That plan makes the arts a core subject in K--12 education in our nation's third--largest school district for the first time ever.
Turnaround schools are public schools that are in the lowest---achieving five percent in their State. Members of the President’s Committee on the Arts and the Humanities have adopted eight Turnaround schools. From Washington DC to Lame Deer Montana these schools have become models for what extraordinary principals, teachers, teaching artists and strategic arts programming can accomplish together. I want to share three examples:

In two years, by infusing his school with the arts, the remarkable principal of Boston’s own Orchard Gardens, Andrew Bott, turned the most failing school in Massachusetts to the school with the most gains in the state.

Principal Patrick Pope at Savoy Elementary in Anacostia, DC took student engagement to a new level by adding regular arts classes and just last month, overall scores in reading and Math rose for the first time in five years.

And attendance went up over 20% on a Northern Cheyenne reservation in Lame Deer, Montana after teaching artist visits to the remote school emphasized building trust.

At the Silk Road Project we work to inspire passion---driven learning through arts integration. We have chosen to work with 6th graders because educators have found that unless students are highly engaged
during the transition to junior high school they won’t graduate from high school.

We’ve partnered with the Harvard Graduate School of Education to create an annual Institute for teachers from all over the country who want to work collaboratively, across disciplines, to make their teaching memorable. And we’re starting a program with the Harvard Business School to encourage undergraduates to focus their passion for culture and develop it entrepreneurially.

We believe that by connecting performance, education and entrepreneurship we can encourage new models of making art for life's sake, for all of our sakes. And, of course, we’re not the only people doing this work – not by a long shot. And there’s more good news – listen to this:

James Catterall has looked at data from the National Educational Longitudinal Study for 25,000 students over ten years and found that

“arts-‐engaged low-‐income students are more likely than their non-‐arts-‐engaged peers to have attended and done well in college, obtained employment with a future, volunteered in their communities and participated in the political process by voting.”
(Catterall, in “Reinvesting in Arts Education: Winning America’s Future Through Creative Schools” 18).

WOW!

So let me give you an example of what happens at the end of a year focused on passion-driven learning.

**Video: Silk Road Connect**

So, from the video you can see how we’re trying to help students develop the tools that will make them eager, rather than fearful, to meet the world they don’t know. From this new perspective they can see a bigger vista and know it is within their reach. By looking at a subject from the perspectives of different disciplines, students develop greater imagination.

A disciplined imagination leads to innovation. Through collaborating and developing flexible thinking, going back and forth between their center and their edges, they find a way to welcome change and to make new ideas safe.

There’s so much talk recently about how the future of our country depends on teaching our children Science, Technology, Engineering and Mathematics – it’s known as STEM.
Yet the qualities crucial to success in the 21st Century workforce will not come just from studying science, technology, engineering and math, as important as those disciplines are.

You may remember, the Catterall study I mentioned tells us that low-income students engaged in arts education are more likely to grow up to succeed in college, have meaningful careers, and be contributing members of their communities.

In the IBM study I mentioned earlier, 75% of CEO’s tell us that collaboration, a skill performing artists practice every day, is critical.

Einstein said “The greatest scientists are always artists as well.” Here’s an elegant way that another one of our great physicists, Richard Feynman, looked at how beauty and science are not mutually exclusive.

Video: Richard Feynman, “Ode to a Flower”

I know many of you will agree — all the evidence points to the necessity of adding an A – as in arts, culture and humanities – to Science, Technology, Engineering and Mathematics. STEM to STEAM.

The arts, culture and humanities give us perspective, and the capacity for empathy and humility. In a world of 7 billion people and more than 200 countries, our problems will not be solved when we have a looming empathy deficit.

©2013 — by Yo-Yo Ma "Art for Life’s Sake: A Roadmap from One Citizen Musician" Americans for the Arts, 26th Annual Nancy Hanks Lecture on Arts and Public Policy
We know that the best decision makers employ great critical thinking with a great capacity for empathy. New studies in neuroscience show that these two ways of thought follow two distinct neural pathways and only one can be activated at any one time. In order for people to make good decisions they have to constantly be able to shift between those two modalities, critical thinking and empathetic thinking. Practicing those two modalities, oscillating between the two, one never excluding the other, is another way to practice going from the center to the edge, back and forth.

Americans for the Arts has been a leader in the effort to turn STEM to STEAM, helping to form the Congressional STEAM caucus, led by Representatives Suzanne Bonamici, Democrat from Oregon, and Aaron Schock, Republican from Illinois.

Now let us all remember: STEM without STEAM loses steam. STEM to STEAM will power our country forward.

To summarize, there are 3 big ideas that I've shared with you tonight:

1. Societies are powered by three engines: politics, economics and culture. A vibrant society exists when all three engines are firing
and intersecting resulting in a populace that is energized, engaged and fulfilled.

2. Our collective work in the arts is not just relevant but essential to strengthening our culture and positively influencing society. Thus "Art for Life's Sake".

3. The arts are the way to foster the four critical skills necessary for our children to succeed in the 21st century workforce: collaboration, flexibility, imagination, innovation.

So, how do we make these ideas reality? I submit that each one of us can and will make a difference if:

- We work at the "edge" where creativity and innovation flourish,
- We work to integrate the arts into our educational process in order to prepare our kids for the future, and
- We work for something greater than ourselves.

Thank you for listening to our music and thank you for listening to my words. Now I'd like to ask you to do something for me.

You have in your programs a postcard that I hope you will fill out and return as you leave the concert hall this evening. I hope that what you write on the card and leave behind to share will be the spark for a conversation you will have together not just tonight but next week, next year and over the next decade.
I'd like to close now by playing for you a very special piece of music that encompasses many of the things we've talked about tonight. It's a Sarabande, by Bach.

Over the years, I've played this work often at friends' weddings and unfortunately also at their memorial services. It's a work that takes us to the edges of the human experience, where joy becomes one with sorrow, where awe and wonder are coupled with compassion and empathy. It feels like a perfect piece of music, yet, it is curiously, deliberately incomplete.

It sounds complete when the piano is playing all four voices at once, but on the cello I can only play, at most, two voices at the same time. I have to focus on the melody, bass, or middle voices.

Now, the melody is like Feynman's flower. Being human, we are attracted to its beauty, and naturally gravitate towards it. But the bass, aaah, the bass, that's the ground, the roots, our values — that's the life—giving force that makes the flower bloom.

Listen to this--------

**Demonstration of piece on piano.**

If I were to play all the voices, I can only hold on to this bass note, G, for one second, but it needs to last many more. Same with the next one, F#,
and the next, until its time to bring the phrase to its completion.

And now, without Cristina, I am going to ask you to help me, first by listening, then willing yourself to sustain in your ears the notes I cannot sustain, and in so doing, fulfilling Bach’s idea that completion in this Sarabande can only be achieved through our combined efforts. When we do so we have the chance, for a brief moment, to be in touch with the sublime.

Performance: Bach, Sarabande from the Sixth Suite for Solo Cello
Works Cited:

Catterall, James, in President’s Committee on the Arts and Humanities, Reinvesting in Arts Education: Winning America’s Future Through Creative Schools, Washington, DC. May 2011.

