Surrounded by beautiful green paddy fields, I was excavating and found a complete pot with no missing pieces.

When I flipped it over, there was an imprint of the maker's thumb.

For a moment, time stopped and I was seized by the feeling that I didn't know where I was.

Because we realized that what we were digging up from the past wasn't things, it was people.

Nothing feels more present than in the midst of the great past

I can't tell you how many times I've been speechless in front of the Pyramids of Giza.

I feel that no one is as lucky as I am

Pyramids are a testament to human wisdom and that anything is possible.

There are a lot of people who can't believe it's human work and believe it was created by aliens.

it's ridiculous

You just have to look closer and you can see the human hand hidden in the carved marks.

The Great Pyramid of Giza was built by stacking 2.3 million stones, one at a time, with incredible control and efficiency.

Human ingenuity, not pyramids, has stood the test of time.

It is the common excellence of mankind.

History repeats itself, but we are unique.

I like archeology because I can confirm that humans haven't changed.

Mother-in-law joke found in 3,500-year-old Mesopotamia

(Laughter) You can hear neighbors yelling at each other in Egypt 4,600 years ago.

One of my favorites is from Luxor, 3,300 years ago, with an inscription about a student who skipped class and went drinking.

(Laughter) Young people these days —

(Laughter) What I see is exquisite architecture, breathtaking statues -- it's kind of like a selfie out of a stone block.

I posted it on my wall and I was obsessed with cats (Laughter) for thousands of years.

(Laughter) (Applause) Archaeologists are custodians of cultural memory, spokespersons for billions of people and thousands of cultures that have come before us.

Appropriate scientific methods, imagination, and a bet on one's beliefs—these are the three treasures archaeologists use to bring the dead back to life.

In the past year, archaeologists have made incredible discoveries, including a new human ancestor in South Africa, and a 3.3-million-year-old tool found in Kenya — one of the oldest tools ever discovered.

And a series of medical instruments found on a pirate ship in 1718.

What you see here is a tool used to treat syphilis.

seems painful!

(Laughter) There are a thousand times more important, if not the most talked about, discoveries made by fellow archaeologists.

But I think our most important job as archaeologists is to acknowledge that people existed in the past and had lives worth learning about.

Can you imagine what the world would be like today if all humans were recognized as such?

Excavation is difficult, and a common scene looks like this.

i don't see anything

Where should I start digging?

This is an archaeological site south of Cairo

let's see from space

I still don't see anything

What you're seeing here is a WorldView 3 satellite image with a resolution of 30 centimeters.

It means that you can zoom in from 600 kilometers in space and see the tablet you have.

why do i know that

Because I'm a "Space Archaeologist"

You didn't hear me wrong

I'm a space archaeologist

That means— (Applause) Hi.

We'll run an algorithm through satellite imagery to find subtle spectral differences that indicate something is buried underground, and we'll go excavate that location.

By the way, NASA has a space archaeology program, which is a real job.

(Laughter) Let's look at it again.

Ruins just south of Cairo

There is nothing

Please pay attention to the red square

We run an algorithm on this image, it's like a space version of a CAT scan, and you get something like this.

This square is an ancient tomb, previously unknown and unexcavated, and for the first time we are seeing something that has been unseen for thousands of years.

(Applause) Considering how much is still undiscovered, we're just scratching the surface.

Even in the Nile delta alone, we've excavated only one-thousandth of the total amount of Egyptian ruins.

Add to that the thousands of other sites our team has discovered, and what we thought we knew was a tiny fraction of what was undiscovered.

Looking at the incredible work that my fellow archaeologists are doing around the world, there must still be millions of sites waiting to be discovered.

Discovering them will unlock the potential of human existence.

But there are also headaches

Over the past year, we've seen news of eye-opening destruction and massive looting of archaeological sites at the hands of ISIS and others.

ISIS destroyed the Temple of Palmyra

Can you imagine blowing up a temple?

ISIS destroyed the tomb of the prophet Jonah.

Looting of ruins is rampant, and it's like watching a crater on the moon.

Given ISIS' desire to destroy modern society, it's natural to seek to destroy cultural identity as well.

Many swarms of invaders throughout history have done the same thing.

We know ISIS is profiting from looting, but we don't know how big it is.

What that means is that if you buy anything from the Middle East antiques on the market, you could be supporting terrorists.

When the ruins are robbed, it's like a jigsaw puzzle with 90% of the pieces missing.

This is an act of mass erasure of ancient history.

There are two types of robbery: robbery by criminal agents like ISIS, and robbery by locals who are willing to make a living.

We might do it to feed our families, so I'm not going to blame the locals.

Blame it on the middleman, the unscrupulous traffickers, the international art market, which exploits vague and poorly enforced laws.

The looting is global, it's on the rise, and there's nothing we can do to stop it.

but that is changing

My team just finished investigating looting in Egypt.

Based on open source data, we've mapped all the robberies that happened in Egypt between 2002 and 2013.

We found evidence of looting and destruction at 267 sites and mapped over 200,000 dug holes.

it's terrible

I've compiled that data, and I've marked the robberies.

At this site, the looting situation worsened in 2009, 2011, 2012, and there are hundreds of sites.

Putting all this data together, we find that, contrary to popular belief, it wasn't after the Arab Spring of 2011 that Egypt's looting got worse, it was the recession of 2009.

Using big data, we showed that mining is fundamentally an economic problem.

Unless we do something to curb this problem, all of Egypt's ruins will be destroyed by 2040.

we are on the brink

Our generation has the tools and technology needed to stop looting, but it's not moving fast enough.

Archaeological sites can surprise us with their resilience.

We've just returned from excavations in Risht, a joint project with the Egyptian Ministry of Antiquities, where the ruins are.

Middle Kingdom of Egypt, 2000-1750 BC

The Middle Kingdom is the Renaissance period in ancient Egypt.

After a period of violent civil strife and natural disasters, Egypt recovered, and art, architecture, and literature flourished.

It's one of my favorite periods in Egyptian history because it teaches us how humans can survive great calamities and thrive.

At these ruins, we've already found countless robberies.

Risht has royal tombs, so thousands of people who served in the Pharaoh's court must have been buried there.

This is North Rishte and this is South Rishte before and after.

When I first visited this site, I discovered that many of the tombs of high-ranking officials had been looted.

let me tell you how big it is

Imagine a two-meter-by-two-meter room filled with coffins, jewels, and stunning statues.

Multiply more than 1000 times

So many things have been stolen

When I started working on it, my co-director, Mohammed Youssef, an Egyptian, came over and said, "We have to start with this tomb.

because it's been robbed

If you don't do something, you'll get hit again."

I agreed, but I didn't expect to find anything.

I thought everything was already taken away

But from there, a beautiful relief began to emerge.

look at this portrait it just takes your breath away

Found more inscriptions

I even learned the title of the owner of the tomb: ``Army Supervisor'' and ``Treasurer''.

Maybe we can find out the person's name.

hope raised its head

For the ancient Egyptians, immortality was the ultimate desire.

And then one day this came out

The name of the owner of the tomb is Intef.

It says so in hieroglyphs

Together with a team in Egypt, we restored the name of a person from 3,900 years ago.

(Applause) Together with the Egyptian team, we celebrated this moment of discovery, the fruit of our collaboration.

what we did was right

I found this wonderful, almost intact false door.

Engraved with Intef and its inscription

You can even see him sitting here.

I realized I was wrong in my assumptions about the looted ruins.

The 70 Egyptians I work with on the ground every day are my colleagues and my friends.

Seeing so much hatred and ignorance of the people of the Middle East, every moment at the ruins feels like a protest for peace.

Working together, we may look different, think differently, speak different languages, but all superficial differences vanish under our common mission of archaeological discovery.

What I've learned from this excavation is that archeology isn't about what you find.

It's all about what kind of possibilities you can show

Sometimes when you travel, you find a family that has been separated for a long time, not a family that shares genes, but a chapter in the Book of Life.

he's my brother omar farouk

Omar is from Gaft, a village just north of Luxor.

The villagers of Gaft carry on the glorious tradition of Egyptology.

They support excavations and worker organizations.

Omar is my COO and CFO

i can't do without him

Many years ago, when I was still a young graduate student, Omar was a young man from Gaft who spoke very little English. Quite by chance, we found out that we were born on the same day, same month, same year, six hours apart.

are twins

(Laughter) Even though we were separated by oceans, we were always connected to ancient Egypt as our mother.

I knew that we had been together all this time. Somewhere in my soul, not in my head, I knew that. Not everything can be explained.

(in Arabic) my brother omar i will always love you

(in English) my brother omar i will always love you

Before I left for my first excavations in Egypt, I was called by the famous Egyptologist and my mentor, Professor William Kelly Simpson.

He handed me a check for $2,000 and said, "Use this.

Enjoy your adventures this summer

I hope someday someone will do the same."

So my TED Prize wish is to repay some of that kindness, with interest -- (Laughter) for the generosity and kindness of one great man.

let me make a wish

May we discover millions of unknown archaeological sites around the world.

May we assemble a 21st century team of world explorers to discover and protect the world's still-hidden heritage that holds clues to the resilience and creativity of humanity as a whole.

(Applause) Thank you.

(Applause.) How can we do that?

We're using the TED Prize money to build an online, crowdsourced citizen science platform that allows anyone in the world to contribute to the discovery of archaeological sites.

There are less than 200 space archaeologists in the world.

My dream is to involve people all over the world in discovering and preserving archaeological sites.

All you have to do is sign in and create a username.

(Laughter) Once I get the tutorial, I'll start working on it.

Please note that the GPS data and map data of the ruins will not be displayed.

Treat it like patient data, don't reveal where it's located.

You will be given a photo of a 20m square or 30m square from the stack of cards, and you will look for a certain feature in it.

This is really a scientific exercise, because the satellite data is pre-processed and batched using algorithms for you to find out.

and will look for

what do you see? Are there no temples?

Are there no graves? Are there pyramids?

Are there any traces of damage to the ruins or robbery?

I'll mark those places.

As a guide, there are many examples of what to look for.

With your help, the data collected will be shared with select experts to help create a global alert network to protect archaeological sites.

but that's not the end

Based on your findings, archaeologists will take you to the dig site through Periscope streaming, Google+ and social media.

100 years ago, archeology was only for the rich.

50 years ago it was only for men

It's now mostly reserved for scholars.

Our goal is to democratize the process of archaeological discovery so that everyone can participate.

94 years ago Howard Carter discovered the tomb of King Tut (Tutankhamun).

Who will be the next Howard Carter?

maybe you all

By building this platform, we'll discover millions of places where billions of people lived before us.

If you want to answer the big questions, "Who are we?" and "Where do we come from?" the answers don't lie in the pyramids and palaces, they lie in the cities and villages where those people lived.

If you want to know the past, it's time to turn the pyramid upside down.

There is a deep meaning in acknowledging that the past is worth salvaging.

It also means that we deserve to save ourselves.

The greatest stories ever told are the stories of our shared journeys.

The only way we can write that story is if we write it together.

let's do it together

thank you

(applause)

In 2003, the British government conducted a survey.

It's a survey to measure the level of math proficiency in the population.

Those involved were shocked to find that 47 out of every 100 adults in the working population did not reach level 1 in mathematics.

Level 1 corresponds to the lowest level of the general secondary education qualification examination.

It is a level that can use fractions, percentages and decimals

This result has caused fear in the British government.

We reviewed our policies, increased our education budget, and conducted the survey again in 2011.

what do you think the result was?

It has increased to 49 out of 100 people.

(Laughter) When I published this result in the Financial Times, one of our readers joked, "Only 51 percent of the population would be shocked by this result."

(Laughter) What I liked even more was the reaction of a student when I presented this story at school, and the student raised his hand and said, "The person who compiled the results really wasn't in the 49 percent, right?"

(Laughter) Clearly, math ability is a big issue, because it's an important skill in life, and because many of the changes we're trying to achieve this century require us to be strong with numbers.

This is not just a UK problem

In 2016, the OECD released a survey of young people's math skills, starting with the United States, where nearly 40 percent of young people do not have sufficient math skills.

The United Kingdom is also on the chart, but there are seven OECD countries where the percentage is over 20%.

This is a problem because it is not an inevitable result.

If you look at the far right of this graph, you can see that the Netherlands and South Korea are in the single digits.

So we absolutely need to address the problem of mathematics ability.

Now, just as useful as research like this is, I think it's helpful to think about our tendency to divide people into two groups.

What I want to talk to you about today is that this division is wrong.

It's not a classification that can never be changed

I don't think you need that high level of mathematical ability to come up with new ideas from numbers, and that's the kind of thinking that should be the basis for your studies.

And one of the ways we're going to look at it, in my case, is statistics.

Am I the first person to admit that statistics have an image problem?

(Laughter) Statistics is a branch of mathematics, and even mathematicians don't really like it, because in mathematics, except statistics, it's all about accuracy and certainty, and statistics is almost the opposite.

But the truth is that I entered the world of statistics relatively recently.

When I was an undergraduate, if you asked a professor to name the two areas in which I was least likely to be talented after graduation, I would have said statistics and programming, but what I'm going to show you is a statistical graph that I programmed.

What happened to me?

What made you think statistics were really interesting?

That's because statistics is a study about ourselves.

If you look at the etymology of "statistics," you'll realize that it's the science of dealing with data related to the countries and regions in which we live.

So statistics is about us as a group, not as individuals.

As social beings, we're all interested in how individuals relate to groups and peers.

Statistics are at their most powerful when they make surprising discoveries.

Over the last few years, the research firm Ipsosmori has done some really great research.

In one survey, more than 1,000 adults in the UK were asked, "In England and Wales, how many are Muslims per 100 people?"

The average response in this survey, which is representative of the entire population, was "24."

This is the image of the people. The British believe that 24 out of 100 people in the country are Muslim.

On the other hand, according to published figures, the actual number is about five.

So there's a big gap between what we think and how we perceive it and what statistics tell us about reality.

I think that's where it gets interesting

What causes this misperception?

I was so excited about this survey that I started asking questions from the survey in my presentations.

When I gave a presentation at St. Paul's School for Girls in Hammersmith, it was to a similar audience, but all high school girls.

So I said, "How many teenage girls do you think the average British person gets pregnant each year?"

When I gave the answer, they were all outraged, because the average British public thought that 15 out of 100 teenage girls had become pregnant in a year.

They have good reason to be angry, and according to published figures, it would actually take nearly 200 people to find one pregnant girl.

As with mathematics, this is not just a British problem.

In recent years, Ipsosmori has expanded its research scope to the world.

I asked the Saudis, "For every 100 adults in Saudi Arabia, how many are overweight or obese?"

The average answer was a little over a quarter.

this is their image

A little over a quarter are overweight or obese

But according to the published figures, it's actually closer to three-quarters.

(Laughter) There's also a big gap here.

One of my favorite questions to ask the Japanese is, "For every 100 Japanese, how many live in rural areas?"

The average was about half, a little over half.

I thought 56 ​​out of 100 Japanese lived in rural areas.

But the official number is seven.

The gap is so large that it's surprising to some people, but if you've read, for example, the work of Nobel Prize-winning economist Daniel Kahneman, it's not so surprising.

Kahneman and his colleague Amos Tversky have spent years studying how people's perceptions and reality are so far apart that their statistical intuition is utterly unreliable.

There are many reasons for this

It's true that personal experience influences perceptions, but so does, for example, the media, because they report the exceptions more than the norm.

Kahneman explains this well

"Sometimes you can't see the obvious." That's why you misread the numbers.

This has a big impact on decision making

Around this time, I was working at the National Statistics Office, and I thought it was really interesting, and I thought,

This is obviously a global issue, but maybe it's the geography that counts.

In the end, it all comes down to how much you know your own country, isn't it?

In this case, how well do you know the 64 million British people?

I don't really know that much, I have no way of knowing.

So the idea was to take the same approach as the Ipsos Mori research, but think more locally.

Could the region be the problem? and

Would the answer be more accurate if the question was rephrased and asked about the respondent's knowledge of their local area?

So I made a test How well do you know your hometown?

This is a simple web app

You enter a zip code, and you get a test based on census data for that area.

I paid a lot of attention to the design.

I wanted to reach as many different people as possible, not just the [51%] who can understand numbers.

I wanted everyone to do it

So the design of the test was inspired by Otto Neurath's technique of iconographic statistics in the 1920s and '30s -- "isotypes."

I use this technique of arranging icons like this to represent numbers.

The numbers are there, but they're lurking in the background.

This technique allows us to express quantities better, and we don't need to use terms like "percent" or "fraction" or "ratio."

Now let's see the test

The layout is a row of icons on the left side of the screen, and a map on the right side showing the area you're asking questions about.

I have seven questions

Each answer ranges from 0 to 100. At the end of the test, your total score is displayed as a value from 0 to 100.

Since this is TEDxExeter, the first few questions on the test were about Exeter.

The first question is, "How many are under 16 per 100 people?"

I don't know much about Exeter, so I just took a guess, but you know how the test works.

All you have to do is drag the slider, color the icon, click "submit," and you'll respond, and you'll see an animation showing the difference between your submitted response and reality.

In the end, my guess was completely wrong.It was five people.

What about the next question?

It's a question asking for the average age, so what you're saying is the age at which half of the population will be younger than that age and half will be older.

My answer would be 35 years old — exactly "middle aged"

(Laughter) Actually, Exeter is a fairly young area, and I underestimated the impact of the universities in the area.

Questions get harder as you progress

We're asking about the home ownership rate. How many homes out of 100 have a mortgage?

I chose a safe number here, because I don't want to have more than 50 different answers.

(Laughter) The questions get harder and harder, because if you live in the area, it's a question like "age," which can help you determine if the inhabitants are young or old.

If you walk around the area, you can see the situation.

Issues like "home ownership rates" are much less visible, and we rely on the usual heuristics and biases about "how many homes do you have?"

In fact, when we published this test, the census data we were based on was several years old.

Back then, you could put your zip code into an online app and see the stats for several years.

So in some ways, this is a bit of a late project, not exactly new.

But what was interesting was gamifying the data in this way, using animation, playing with the fact that everyone has their own preconceived notions, and seeing what kind of reaction they would get.

As a matter of fact, the reaction was-

Exceeded my expectations

It's always been my ambition to have a statistics website go down because of too much traffic.

(Laughter) This URL contains "statistics," "gov," and "UK," three words that everyone hates.

But what's amazing is that the site went down at 9:45 p.m., because people are accessing this data voluntarily and on their own time.

What's really interesting is that about 250,000 people took this test in the first 48 hours of its release.

It's become a big topic on the internet and on social media. It's mostly about enjoying your own misconceptions, and in some ways, in some ways, it's what I wanted most.

I also thought it would be nice to see someone send this to a politician.

"How much do you know about your knees?"

(Laughter) So in the end, back to the idea that there are two kinds of people, I was really excited to see how well the numbers performers.

John Pringer, the national statistician of England and Wales, would think that's a pretty good result.

The accuracy of knowledge was 44%, even though it was my hometown.

(Laughter) Even Jeremy Paxman, although he was drinking a little, was 36 percent.

it's even worse

numbers inspire us all

give us a surprise

We often call statistics the science of uncertainty.

The last thing I want to tell you today is that statistics is essentially a science about ourselves.

That's why we should be concerned with numbers.

thank you

(applause)

One afternoon in the summer of 2013, Washington, D.C. police detained, interrogated, and investigated a man who appeared to be dangerous.

In all fairness, I didn't dress like this when I was detained, but I do have a photo of me from that time.

Illustration of foreseeing a terrifying experience and trying to keep calm

(Laughter) At the time, I was working as an intern for the Public Defender Service in Washington, D.C., and I was visiting the police station for work.

As I was going outside to my car, two police cars stopped and blocked my path, and a police officer approached me from the back.

The cop ordered me to stop, put down my rucksack, and put my hands on the side of the patrol car next to me.

About 10 police officers gathered near us at that time.

All had pistols, some had automatic rifles.

I searched all over the backpack

body check

I took a lot of pictures with my hand on the police car, and I laughed a lot.

While this was going on, I was trying to put my hands in the police car and try to rationalize what to do while trying not to think about the shaking of my legs, and I noticed something strange.

If I were to look at myself in this picture and describe myself, I think it would be something like this: 19-year-old Indian male wearing a brightly colored T-shirt and glasses.

But none of these features were included.

Police kept saying in their radio description of me, "Middle Eastern man with a backpack.

A Middle Eastern man with a rucksack."

And this expression was transcribed verbatim into the report at the police station.

I never expected that the police in my country would describe me as "suspicious", "evil", "terrorist".

The detention lasted so long that

The police used explosives-sniffing dogs to search the area where I entered and exited.

I've called the federal government to see if I'm on the Persons of Interest list.

They called in a few detectives to pursue me further, and they asked me why I didn't agree to search the car if I had nothing to hide.

I knew the police weren't happy with my behavior, but I had no idea what they would ask me next.

At one point, the officer who searched me combed the sides of the police station building to locate security cameras to see how much of the investigation was being recorded.

It was then that I truly realized that I was at the mercy of the police.

I think we're all so accustomed to cops, arrests, and handcuffs from a young age that it's easy to forget how humiliating and intimidating it can be to deprive another person of their physical freedom.

It's a way of saying that you might think that I was being treated badly because of my race, but if I was white, I certainly wouldn't have been detained.

But today I want to say something else.

If I wasn't wealthy, things could have been much worse.

So the police suspected that they were trying to plant a bomb and spent an hour and a half investigating the possibility, but they weren't handcuffed and they weren't taken to jail.

If I lived in a low-income neighborhood of color in Washington, D.C., and the police felt life-threatening from me, I think the outcome would have been different.

In fact, in the U.S. system, a wealthy person accused of attempting to blow up a police station is better off than a poor person accused of a much less petty crime.

Let me give you an example from my current job.

Now, I work for a civil rights organization in Washington, D.C., called Equal Justice Under Law.

First of all, I would like to ask everyone

Anyone who has ever been ticketed for a parking violation

please raise your hand

yes i have experience

I had to pay the fine, which was annoying and annoying, but I paid the fine and cleaned it up.

Most of you have probably paid a parking fine.

But what if you don't have the money to pay your bills and your family doesn't have the money?

There's one thing that shouldn't happen under the law: you shouldn't be arrested or imprisoned just because you can't pay the fine.

this is against federal law

But this is what local governments across the country are doing to poor people.

And many of the cases in Equal Justice Under Law are allegations about this modern version of "debtor's prison."

One of them was against the city of Ferguson, Missouri.

When you think of Ferguson, many people think of police brutality.

But today, I want to talk about a different aspect: the relationship between police and citizens.

Ferguson issued an average of two arrest warrants per person each year, mostly for nonpayment of legal debts.

What would it feel like if every time you left the house, it was possible that something like this could happen: If a cop checks your license plate and finds you with outstanding debts, you might be detained and taken to jail, like what happened in DC.

In Ferguson, I met a lot of people who had this experience, and I spoke to some of them.

In the Ferguson jail, each cell has a cot and a urinal, and four people are crammed into it.

Two of them were forced to sleep in cots, and the other two were forced to sleep on the floor, one of whom was right next to a filthy, never-cleaned toilet

In fact, the entire cell was never cleaned, so the floor and walls were covered in blood and mucus.

There was no drinking water, only water from the faucet attached to the toilet.

The water looked and tasted filthy, there was not enough food, there were no showers, no hygiene products for menstruating women, and no medical care.

When I asked one woman about providing medical care, she laughed and said, "No way.

A guard with a disgusting look is just keeping an eye on you."

If you owe money, you'll be taken here and told, "You won't be allowed to leave until you pay your debt."

If I can call someone in my family, and if that person somehow manages to raise the money, maybe they can give it to me.

If you need the amount, you will be released.

But if you don't meet the required amount, you'll be there for days and weeks, and every day the guards will come up to the cell and tell the defaulter about the bail amount that day.

The length of detention is extended, and eventually the cell fills up and new residents need to come in.

So you're thinking, "Well, I can't seem to find the money for this person. This newcomer probably can."

Someone gets out, someone else comes in, and the system keeps going.

A man I met was arrested nine years ago for begging inside a drug store.

The man didn't have the money to pay the fine and legal fees.

When I was young, my house caught fire and I jumped out of a third-floor window and barely survived.

But the impact left him with damage to his brain and many other parts of his body, including one leg.

Unable to work, I was surviving on Social Security benefits.

When I went to his apartment, there was nothing of value, not even food in the refrigerator.

i'm always hungry

There was nothing of value in the apartment, only a piece of cardboard was his treasure, a piece of paper on which he wrote the names of his children.

He cherishes this and showed it to me happily.

But he has nothing to sell, he can't pay fines or legal fees.

Over the past nine years, he has been arrested 13 times for begging and spent a total of 130 days in jail.

One of these lasted 45 days.

Imagine being forced to live in the place I mentioned earlier from now until about June.

He told me all about the attempted suicide he had seen in Ferguson's cell, where a man managed to hang himself out of the sight of the other inmates.

He said it took more than five minutes for the guards to arrive, and the man who had hanged himself was unconscious.

So the ambulance was called and I went to the cell.

I said, "No problem," and left him on the floor.

I've heard this story so many times, and it shouldn't have come as a surprise, because suicide is by far the number one cause of death in community jails.

This is related to the lack of psychiatric care in prisons.

I met a woman who was a single mother of three and worked for seven dollars an hour.

I was feeding myself and my children on welfare food rations.

About 10 years ago, this woman had several traffic tickets and was once charged with petty theft, but she didn't have the money to pay the fines and fees.

Since then, she's been detained about 10 times like this, and she's got schizophrenia and bipolar disorder, so she needs daily medication.

But Ferguson's jail doesn't allow regular drugs, so I can't take them.

She told me about her experience of two weeks in prison, hallucinating, seeing shadows and hearing hallucinations, begging for medicine to stop the symptoms altogether, but being ignored.

This is not uncommon. Thirty percent of women in community jails have a serious mental illness, and she is one of them.

I've heard a lot of stories about grotesque dungeons, places where people who are in debt to the government are held captive, and when I had the chance to see it in person, when I visited Ferguson Prison, I had no idea what to expect, but I didn't expect it.

It's a normal city hall

It's a building like a post office or a school.

Now we know that this illegal and deliberate coercion is not being done covertly, it's being done overtly by public officials.

this is a public policy issue

This reminds me that, in general, imprisonment for the poor has a very visible and central role in the justice system, even without the context of "debtor's prison."

Think about bail guidelines

In the United States, whether a person is detained or released on bail during a trial is not a matter of the defendant's risk or the danger of fleeing abroad.

It's a matter of whether the defendant can pay bail.

Bill Cosby was put on $1 million bail, but he promptly wrote a check so he wasn't held for a second.

Sandra Bland, who died in prison, was imprisoned simply because she couldn't raise $500 for her family.

There are actually half a million people like Sandra Bland in the country, and half a million people are in jail right now, simply because they can't afford bail.

We were taught that prisons are places for criminals, but statistically that's not the case. Three of the five people currently incarcerated are at the preliminary hearing stage.

No conviction has been handed down, nor has he pleaded guilty.

Right here in San Francisco -- 85 percent of prison inmates in San Francisco are being held for preliminary hearings.

So San Francisco spends about $80 million on its budget each year detaining people awaiting trial.

So many people in prison simply because they can't post bail are charged with crimes so petty that waiting for a trial is longer than the prison sentence they'd get if they're convicted, and arguably they'll get out sooner if they just plead guilty.

So the alternative is to stay in such a terrible place, separated from your family and dependents, risk losing your job, arguably, and fight to win your innocence?

Should he plead guilty and be released as the prosecution demands?

At this point, I'm still in pretrial detention and not a criminal.

But once you make a plea bargain, they call you a criminal. If you're wealthy, you'll never find yourself in this situation. If you're wealthy, you'll just pay bail and get out.

Now, you may be wondering what I'm talking about in the "Inspiration" part.

(Laughter) But in fact, I've found that it's less depressing to talk about detention than not to talk about it, because I think if we don't discuss this issue and change the way we think about detention in general, by the end of our lives, prisons will be full of poor people who haven't committed any serious crimes.

It really depresses me

But what excites me is that I think stories like this move us to action and to think of captivity in different terms.

Not in dry policy terms like "mass incarceration" or "sentencing non-violent petty offenders," but in human terms.

What are you trying to do to your mind and body by putting a human in a cage for days, weeks, months, years?

What is it that makes us so interesting?

So if we start with a few hundred of us here, we can think about detention in a different light, and we can counteract the "normality" I mentioned earlier.

So the last thing I want to share with you today is this idea: if you want to change something fundamentally, it's not just about changing policies around bail and fines and legal fees, but whatever the new policy is, so that it doesn't punish the poor and the marginalized in new ways.

If we want this kind of change, it's the change in mindset that each of us must commit to.

thank you

(applause)

I'm sure most of you have seen the movie "The Odyssey."

For those of you who haven't seen it, it's a movie about an astronaut stranded on Mars trying to survive.

Luckily, at some point, Astronaut Watney regains lost communication and won't be so alone on Mars until he's rescued.

Whether you're watching the movie or not, when you think of Mars, you think about its distance from Earth, and you think it's so far away.

But if you haven't imagined it, if you have people on Earth and you have rovers and people on Mars, what kind of adjustments would it actually take to work on another planet and live on two planets?

Imagine your friends, family, and co-workers on the West Coast of California, or anywhere else in the world.

When you're on the east coast trying to get in touch, the first thing you probably think is, "What time is it in California?"

"Will you wake me up? Is it okay if I call you?"

When I work with colleagues in Europe, one of the first things that comes to mind is how to communicate effectively with people who are far away.

Mars is currently uninhabited, but we are sending unmanned rovers.

According to the Curiosity rover's clock,

On Mars it's 6:10 am now.

Since the mid-1990s, the United States

We sent four rovers to Mars, and I was honored to have the opportunity to operate three of them.

I'm a spacecraft engineer working at NASA's Jet Propulsion Laboratory in Los Angeles, California.

Drone rovers are our robotic envoys.

They will be our eyes and ears, observing Mars until the day humans reach it.

Through our rovers, we're learning how to operate on other planets.

Before we send people, we're sending robots.

Now, the time difference between Earth and Mars is because a day on Mars is longer than a day on Earth.

A day on Earth is 24 hours long, and a day is the time it takes for the Earth to rotate -- in other words, for the Earth to rotate once.

our day is 24 hours

It takes about 24 hours and 40 minutes for Mars to rotate once.

So a day on Mars is 40 minutes longer than a day on Earth.

As you can see, we, the team operating the rover on Mars, live on Earth, but we work on Mars.

So you have to think of yourself as on Mars with the rover.

Our team's job is to tell the rover what to do for the next day.

Instructions such as "move" and "dig a hole" are given in advance.

And while the rover sleeps -- it sleeps at night to recharge its batteries and avoid the cold Martian nights.

And while the rover is sleeping

we will prepare the program for the next day

I work the night shift on Mars

(Laughter) In order to get to work on Earth at the same Mars time every day -- let's say our team gets to work every day at 5:00 p.m. Mars time.

I feel like I'm moving through time zones every day

Even if you show up at 8:00 today, the next day you'll be 40 minutes late at 8:40, the next day you'll be 40 minutes late at 9:20, and the next day at 10:00.

If you shift by 40 minutes each day, you'll soon be at work at midnight, which is midnight on Earth.

I hope you can see how confusing it can be.

So we need a Mars clock

(Laughter) This clock is automatically set to run slowly.

Well done, right? I bought this watch in 2004 for the Spirit and Opportunity rovers.

We didn't think we needed a Mars clock at first.

I thought the computer clock and the clock on the screen in the control room would suffice.

but it was different

Because I wasn't just working on Mars time, I was living on Mars time.

So I quickly got confused about time.

I needed something on my wrist that could tell me what time it was on Earth or what time it was on Mars.

Time wasn't the only thing that was confusing, we needed a new word to talk about time.

A day on Mars -- 24 hours and 40 minutes -- is called a "sol."

When we talk about what's happening on Earth today, we say "today."

Today on Mars we call it Tusol.

(Laughter) Yesterday, "Yesterday" is "Yestersol" on Mars.

It's not like I thought I needed a new word from the beginning.

just because it's so confusing

I remember very well, someone said to me, "Tomorrow, I'd like a rover to do this job."

"Tomorrow is tomorrow, or tomorrow on Mars?"

This neologism was born out of a conversational necessity.

(laughs) Tomorrow, "Tomorrow" will be either "Next Sol" or "Sorrow".

Different people like different ways of saying things

Some people call a carbonated drink "soda," others call it "pop."

In the same way, there are two ways to say "next sol" and "sol lo"

Shortly after I joined the mission, I realized that when we were working on the rover, we called it Tusol.

People involved in stationary work say "toesor."

You can tell which part of the mission you're working on by your Martian accent.

(laughs) Do you see the gist of the story? clock and words

It was an invention to avoid confusion

But even Earth's sunlight can cause chaos.

Think about it: when you go to work at midnight on Mars, the sun is shining through your window, which is another source of confusion.

As you can see in this control room picture, the blinds are all down.

to block the sun

A week before the rover landed, all of the building's blinds were pulled down, and they stayed down until we left Mars time.

I use this strategy at home as well.

I've lived on Mars time three times, and my husband said, "Okay, let's get ready for Mars time."

All the windows are covered with aluminum foil, blackout curtains, blinds, because the family's life time is changing.

My husband lives with me in the dark.

I'm used to it

But I always get uneasy emails from my place of work

"Can I go home? Are you awake?"

I ask, "What time is it on Mars?"

I decided to buy my husband a Mars watch.

(Laughter) But in 2016, of course, we have apps.

(Laughter) So you can use your phone instead of your watch.

But the impact on families is much wider, not only for us working on the rover, but also for their families.

This is a picture of David, the flight director, taken with his family on a beach in Los Angeles at 1:00 am.

(Laughter) We landed on Mars in August, and the kids had summer vacation until September, so we decided to live on Mars time for a month.

Delay waking up by 40 minutes each day

Matching my father's working hours

Over the course of a month, I had a lot of weird experiences, like bowling in the middle of the night and going to the beach.

And then I realized something amazing: at 3 a.m., you can skip any empty road anywhere in Los Angeles.

(Laughter) When you've finished work late at night, and you're going to take care of your family when you get home, and you're going to go eat at the nearby diner, and you're like, "Wait, there's a good diner in Long Beach that's open."

Just like in the 60's, we fly the empty roads

The restaurant owner is like, "Who are you guys?"

It's like saying "It's 3am now!"

And that's when you realize that there's a horde of Martians roaming the highways of Los Angeles at midnight, which is midnight on Earth.

And we started calling ourselves "Martians."

People who live on Martian time are Martians.

(Laughter) Changing the time of day every day makes me feel really disconnected from other people.

It will be a world completely our own

So here's the badge "Survivor from 0-90 Sol on Mars"

is what it reads

This badge is awarded to people who work on Mars time and manage their time well to maximize the performance of the Mars rover.

But the longest you can live on Mars time is three to four months.

We're now transitioning to an adjusted Mars time schedule.

Mars time takes a toll on your body and your family.

There were sleep researchers who actually studied us, because it's very unnatural for humans to try to lengthen the day.

In the study, we took about 30 of us and did an experiment about sleep deprivation.

So every time I attended, I took the test and then went to bed.

This life really takes its toll on the body in the end.

even if it's a lot of fun

Even though the team bond is so strong, it can't last long.

The Mars rover is the first step in expanding our reach into the solar system.

We're learning how to live across stars

We're learning how to think about becoming a multi-stellar civilization.

The next time you're watching the movie "Star Wars," and you see someone going from the Dagobah system to the planet Tatooine, think about what it means for humans to live so widely spread.

Imagine the physical distance between each other, the feeling of being separated, the time difference.

We haven't sent people to Mars yet, but we would like to.

I'd like companies like SpaceX, NASA, and other space agencies around the world to work together to make this happen within the next 20 to 30 years.

So soon we'll have a multi-planetary civilization where Mars will be inhabited.

Maybe some of the boys and girls listening to this story will one day go to Mars.

Ever since I was 14 years old, I've always wanted to work for the JPL Exploration Program, and now I'm very honored.

It's an amazing time for the space program, and we're all part of it.

The next time you feel like a day is too short, remember that it's just an Earthling's point of view.

thank you

(applause)

[Some of this talk contains racist remarks and expressions of sexual violence. Please be careful when watching] Tom: 1996 When I was 18, I had a unique opportunity to participate in an international exchange program.

Ironically, I'm an Australian who likes cold weather, so when I said goodbye to my parents and siblings and boarded the flight to Iceland, I felt a mixture of excitement and sadness.

I was welcomed into a lovely Icelandic family, went on hikes with them, and was taught the beautiful sounding Icelandic language.

When I first started studying abroad, I was a little homesick.

I snowboarded after school and slept a lot.

In a two-hour chemistry class where I couldn't keep up with my understanding, I fell asleep.

(Laughter) On the advice of my teacher, I decided to participate in the school play to increase my exposure to people.

As a result, I didn't appear in the play, but I met Thordis.

We tasted a sweet and sour romance, meeting at lunchtimes and strolling through Reykjavík's old town just to hold hands.

Her family welcomed me and I introduced her to my friends.

We had been dating for just over a month when the school's Christmas party was held.

Thordis: I fell in love for the first time when I was 16.

We danced together at the party, and our relationship became official. I was pretty much the happiest girl in the world.

I'm no longer a child but an adult woman

I was so excited that I had joined the ranks of adults, and without questioning anything, I decided to try rum for the first time.

it was a bad idea

I felt very sick, I lost consciousness, I couldn't stop nauseating.

The guards tried to call an ambulance, but Tom said he would help me like a hero in shining armor and take me home.

It's like a fairy tale, and I lay gently in my bed, wrapped in strong arms.

My gratitude for him quickly turned to fear, as he undressed me and covered me.

My mind went blank, but my body wouldn't listen and I couldn't do anything, and my body was in excruciating pain.

I thought my body was torn apart

Still, trying to keep my sanity, I quietly started counting the hours on my alarm clock.

And since that night, I remember that two hours is 7200 seconds.

In spite of days of inability to walk and weeks of crying, this was not the kind of rape you see on TV.

Tom wasn't a weirdo with a weapon, he was my boyfriend.

It wasn't in a busy alleyway that it happened, it was in my bed.

By the time I realized it was rape, Tom had finished his exchange program and was back in Australia.

I told myself it was useless to deal with what happened.

Then for some reason I thought it was my fault

I was taught that girls get raped for a reason, and I took it for granted.

My skirt was too short, I smiled too much, my breath smelled like alcohol

All of this applies to me, and I felt that I was the one to be ashamed of.

Years later, I finally realized that the only way I could have prevented myself from being raped that night wasn't the length of my skirt, or my smile, or my distrust of men.

The only way he could have prevented the rape that night was for the rapist to control himself.

Tom: My memory of the next day was vague, and I tried to suppress the unbearable feeling that comes from drinking too much.

That's it

But I didn't go to Sodis' house.

I say it now, but I didn't face the events that day.

The word "rape" never swirled around in my head, and the memory of the previous night never bothered me.

Rather than a conscious refusal, it's more like I wasn't allowed to face reality.

He refused to admit that what he had done had caused Thordis a great deal of trauma.

I'll be honest with you, not just that night, but for days after that, I thought I was okay.

I told myself it wasn't rape, it was sex, and I denied it.

It was a lie that made me feel guilty as pain ran through my body

A few days later, I broke up with Thordis, but for the rest of my study abroad, I saw her again and again, and felt a deep, piercing melancholy.

I really knew I had done something very bad

Without trying to think deeply, I sank the memory of that night into the depths of my heart and tied the weight down.

The next nine years could truly be described as "days of escapism."

When I had to face the real pain I caused, I couldn't sit still.

I tried to distract myself, I drank drugs, I acted out for thrills, I tried to keep my inner voice from popping out, I tried to escape the turmoil and the silence.

Along with these actions, I created an image of myself by focusing heavily on myself that had nothing to do with that night.

I'm a surfer, a sociology student, a friend of good people, a loving family member, an outdoor recreation guide and eventually a youth worker.

Clinging to the easy idea that I'm not a bad person

I thought I was a human without evil

I thought it was something else that made me

In the environment that I grew up in, not only my beloved family and people I admired, but also the people I was close to, each and every one of them was loyal and caring towards women.

It took me a long time to look into my dark past and ask questions.

Thordis: Nine years after the events of Christmas, I was 25 years old and I was plagued with mental stress.

Suppressed by silence, my self-esteem sank, I grew distant from the people I loved, I took unrequited hatred and anger against myself, and my heart was broken.

One day, after arguing with my girlfriend, I ran out of the house crying, stopped by a cafe, and borrowed a pen from the clerk.

I always had a notebook with me, and when I had good thoughts, I said I would write them down, but in reality, I was distracting myself, because if I stayed still, I would count the hours like I did that night.

I was astonished at the amount of words that flowed from the tip of my pen that day, but I wrote the most important letter ever, and it was addressed to Tom.

The words, "I want to forgive you," were just there, along with what I had written about the violent behavior that night.

I thought that forgiveness was the way out of my suffering. Apart from the question of whether he deserved forgiveness, I needed "peace of mind."

I gave up feeling ashamed of myself

Before I sent the letter, I imagined all kinds of negative responses, and even thought that I wouldn't even get a response in the first place.

The only result I could not have imagined was Tom's reply, which was full of straight regrets.

In the end, he, too, was crushed by silence.

And that was the beginning of an eight-year exchange that wasn't easy, but we were always honest with each other.

I was relieved of the burden I had unfairly carried, while he fully acknowledged what he had done.

Our email exchanges provided a way to explore the impact of that night, and the words in those emails cut and healed our hearts.

That alone didn't satisfy my heart

Maybe it's because of the lack of humanity in the medium of e-mail, or because on a computer you can say anything to someone on the other side of the world.

I felt that since I had started the dialogue, I should have pursued it all the way through.

After eight years of exchanging emails and about 16 years after that tragic night, I mustered up the courage to make a bold proposal: for the two of us to meet face-to-face and face our past properly.

Tom: Iceland and Australia are so far apart geographically.

South Africa is in the middle of the two

We decided to meet again in Cape Town and spent a week together.

Cape Town was an amazingly vibrant place, a fitting place for reconciliation and forgiveness.

No place has healed our hearts and brought us more reconciliation than South Africa No place has healed our hearts and brought us more reconciliation than South Africa

South Africa is a country that has faced the truth of its past and listened carefully to historical events.

I think this kind of culture in Cape Town has had a big impact on us as well.

Over the course of the past week, we've had a candid discussion about our lives, from the beginning to the present.

For a thorough understanding of our journey through life.

We shared some secrets and showed each other weaknesses in a dialogue that followed a strict rule of honesty.

We talked honestly about how we felt that night, but there were parts of it that we didn't quite understand what it was like for each other.

Still, I confronted it by verbalizing the huge scars that sexual assault left on both sides.

And other than that, I've had the most refreshing feeling I've ever had, and quite unexpectedly, I laughed from the bottom of my heart.

A lot happened, but we tried our best and listened to each other.

It made my heart feel sunny and bright, and it lit up my soul.

Thordis: The desire for revenge is a very human emotion, you could say it's instinctive.

For years, all I could think about was making Tom suffer as much as I suffered.

I wouldn't be standing here if there wasn't a way out of my feelings of hatred and anger.

Still, on the way to Cape Town, I wasn't without anxiety.

When my plane landed on the airport runway, I was like, "Wouldn't it be better if I had a therapist, a vodka, like a normal person?"

(Laughter) In Cape Town, the exchange of reconciliation seemed unfeasible, and I wanted to abandon this exchange and go back to my loving husband, Vidir, and my son.

It was difficult at times, but in the end, the journey left me with a sense of optimism. It was like a ray of light shining through the darkness, and a feeling of positivity in my broken heart.

There's a saying that when you're young, you should try to be who you needed to be.

I was just a teenager back then, and I needed someone to teach me not to be ashamed of myself.

So when I got back from Cape Town, I started writing with all my might, and eventually co-authored a book with Tom that put an end to the "perpetrator versus victim" view.

At least that's the story we wish we'd heard when we were younger.

I understand that given the context of this story, there are words that are used unwillingly: "victim," "rapist," -- by naming them explicitly, you can flesh out a character, but the meanings they contain can also dehumanize them.

Once you're identified as a victim, a fixed image is instilled in you: the hurt, the insulted, the powerless.

In the same way, once a rapist is accused of being a rapist, he or she is also called a "cruel person" or a "scoundrel."

But if we don't humanize the perpetrators, how do we make sense of the violence that human society creates? How do we make sense of the violence that human society produces?

And then— (Applause) If you make the victim feel powerless, does that lead to confidence?

If societal language is part of the problem of sexual assault, how do we discuss solutions to a problem that greatly threatens the lives of women and children around the world?

Tom: All I can say now is that in 1996, what I did that night was just self-satisfaction.

I felt like I could touch Thordis' body.

Many of the images I've learned in society have been positive, and I've seen fair behavior around me.

Only on that night, I let a negative image work.

It's an image of men taking implicit ownership of women's bodies while neglecting the intrinsic worth of women.

This way of thinking comes from the outside.

And the only one who made that choice was me in that room that night, and the only one who made that choice was me in that room that night.

I believe that when you own something and face your faults head-on, amazing things happen.

It's just "inconsistent" ownership.

In my case, the weight of responsibility almost crushed me.

I thought my human testimony would burn away.

But given the opportunity to face my sins, I realized that they didn't stain my whole life.

Simply put, a person's character is not defined by a moment's actions.

I no longer hear the noise in my head

My self-pity and spoiled feelings had nowhere to go, and there was a new sense of acknowledgment in my heart that I had hurt the wonderful woman standing next to me, and that I had done what so many men who sexually assaulted their partners on an astonishingly regular basis did.

Never underestimate the power of words

Telling Thordis that I was the one who raped him helped me to be in harmony with myself and to make peace with her.

But most importantly, the guilt shifted from Thordis to me.

Too often, women who have been sexually assaulted hold themselves accountable, while the male perpetrators do not take responsibility for themselves.

Too often, the person is left with self-denial and escapism, far from the truth.

At this very moment, these conversations are taking place in public spaces, and we're encouraged by the fact that this topic, which is as difficult and important as it is for so many people, can be spread beyond the people involved.

I think we have a strong responsibility to speak up.

Thordis: I'm not recommending our method to anyone else.

You don't have to be told how to deal with deep hurts and big mistakes.You don't have to be told how to deal with deep hurts and big mistakes

It's never easy to break the silence, and in other countries, talking about rape can be life-threatening.

What happened that night was the most traumatic of my life, but it's also a testament to a blessed life, because I can talk about rape without regard for ostracism or risk for my life.

But if you have the privilege of speaking, you have a responsibility to exercise that right.

For my voiceless fellow raped, I have a responsibility to speak up.

The stories we've told are our own experiences, but they have a lot in common with the epidemic of sexual violence around the world.

There's more you can do than dialogue between the two sides.

I did a lot of things to heal myself, but the one thing that made me happy was learning about sexual violence.

As a result, over the last decade, I've been reading, writing, speaking, and attending conferences around the world.

In my experience, most of the participants in these events are women.

But we have to stop thinking of sexual violence as a women's problem.

(Applause) And it's mostly men who harass women and men as perpetrators of sexual violence.

Perpetrators' opinions are still lacking

We all need to think about this issue

Imagine a future where all suffering can be released. If we all work together, we can.

thank you

(applause)

Most people do their best in whatever they do to overcome life's challenges, whether it's work, family, school, or anything else.

I feel that way and I'm doing my best

But at some point, I realized that the things I was most serious about weren't getting any better, as a husband, as a friend, as a professional, as a teammate, even though I put a lot of time and effort into those things.

Through our conversations and research, we've discovered that the common denominator for many people is that they work hard but things don't get better.

So I'd like to share my thoughts on why this is so and what we can do about it.

What I've learned is that the most efficient people and teams in any field do something that everyone can do.

They navigate life's challenges by deliberately switching between two domains: the learning domain and the performance domain.

The goal is to improve in the learning area

So we take planned actions and focus on areas we haven't mastered yet, which means we expect failure, and we know we'll learn from it.

When you're in the performance realm, you do something completely different, the goal is to do the best you can, to do things.

So we focus on what we've already learned and try to minimize our mistakes.

These two realms are both part of your life, but if you're clear about when you're in which realm, what your goals are, what you're focused on, what you want, you'll perform better, you'll get better.

The Performance Zone Maximizes Current Performance The Learning Zone Maximizes Growth and Future Performance

The reason most of us don't get much better, no matter how hard we try, is that we spend most of our time in the performance realm.

This stunts growth, and ironically, in the long run, performance suffers.

What is the learning area?

Take Demosthenes, the ancient Greek political leader, the greatest orator and lawyer.

To become great, Demosthenes not only spends his time as an orator and lawyer in his performance domain.

I took action to improve

Of course, I also encouraged myself to study.

Under the guidance of my mentor, I studied law and philosophy, but I realized that a lawyer also needs to be persuasive, so I also studied how to make good speeches and conduct.

To get rid of this weird habit, he practiced his speech in front of a mirror, hanging a sword from the ceiling, and if he lifted his shoulder, he would hurt himself.

(Laughter) I gave the speech with a stone in my mouth so that I could speak more clearly, even though my articulation was poor.

I built a basement, a place where I could practice undisturbed and not disturb other people.

Courthouses were so noisy back then that he even practiced by the sea, yelling loudly to avoid being drowned out by the sound of the waves.

Behavior in the learning domain was completely different from behavior in the performance domain, the court.

Within the learning domain, we did what Dr. Anders Eriksson calls demarcational practice.

This entails decomposing competence into individual skills. Once you've identified the finer skills to improve, like slouching your shoulders, you can break out of the comfort zone and focus fully on higher challenges. Repetition and adjustment enable you to do more with frequent feedback. because it gives

This kind of practice in learning areas not only shortens the time required to complete a task, but it can also lead to significant improvement.

For example, research shows that after the first few years of working as a professional, performance stagnates.

We see this in teaching, general medicine, nursing, and other areas, where performance stagnates because people think they're good enough or strong enough that they stop devoting time to learning.

We spend all our time doing our job, our performance, but the truth is, this doesn't lead to improvement.

But those who continue to spend time in the learning domain will continue to improve.

A good salesman takes action with the goal of improvement at least once a week.

They read to expand their knowledge, consult with colleagues and subject matter experts, test new strategies, seek feedback, and reflect.

The best chess players spend a lot of time away from the performance domain, the game of chess, and spend more time anticipating and analyzing the moves that the grandmaster makes.

We probably spend hours and hours typing on our computers, and we're not getting any faster, but if we were to focus enough on typing 10 to 20 percent faster than we can now type without mistakes for 10 to 20 minutes each day, we'd be much faster, especially if we identified what we're doing wrong and practicing typing those words.

This is limit practice.

What is it about the other parts of our lives — the more important things, that we're always in the performance realm that keep us working hard but not getting much better?

I'm not saying there's no value in the performance realm.

very worth it

When I had knee surgery, the surgeon told me, "Poke your knee around and focus on the unknown."

(Laughter) I didn't say, "You learn from your mistakes."

I looked for a surgeon who was good at operating, and I wanted him to operate well.

When I'm in the performance realm, I try to do the best I can.

It motivates me, and it also gives me the information to identify what to focus on next when I return to my study area.

The way to improve performance is to move back and forth between the learning domain and the performance domain, intentionally entering the learning domain to build a skill and then using that skill in the performance domain.

When Beyoncé goes on tour, she's in the performance area for the concert, but every night when she gets back to the hotel, she immediately goes back to the learning area.

Beyoncé watched the video of the show that just ended

Identify how you and your dancer camera crew can improve

And the next morning, everyone gets a memo with what they can do better, and during the day, we're fine-tuning it for the next show.

It's a cycle of constant improvement, but you have to know when to learn and when to perform. If you want to spend time on both, spend more time on learning areas and you'll get better.

How do you devote more time to your learning areas?

First, we have to believe and accept that we can improve, and this is called growth thinking.

Second, you need to aim to improve in certain skills.

It takes time and effort, so you must have goals that are important to you.

And third, you have to have an idea of ​​how you're going to get better and what you can do to get there, not just singing songs over and over like you did when you were a teenager practicing guitar, but doing definitive practice.

Fourth, you have to practice in low-risk situations, because if failure is expected, failure shouldn't be catastrophic or catastrophic.

Tightrope walkers don't practice new tricks without a safety net, and athletes don't practice new moves during official matches.

One of the reasons we spend so much time in the performance domain in our lives is that our social environment is often unnecessarily risky.

We create social risks for each other, even in schools where learning is supposed to be everything. Learning doesn't mean standardized tests.

So at every moment of every day, from grade school to college, many students feel that when they fail, they are looked down upon by others.

They're under constant stress, and it's no wonder they avoid the risks necessary to learn.

On the other hand, what students learn without realizing it is that they cannot fail. This is what happens when teachers and parents want to hear only the correct answers, reject them without accepting them, examine them, and learn from them, or seek narrow-minded answers without encouraging the exploratory thinking that helps them learn.

If all of your homework and assignments are graded and graded and reflected in your grades, but not practice, failure, feedback, and correction, then you're sending the message that school is a performance domain.

the same goes for the workplace

In the companies I've consulted with, I've often seen a culture of perfectionism fostered by leaders who want to do good work.

That leaves employees stuck in what they already know, and they don't try new things, so companies fall behind even as they try to innovate and improve.

To create more room for growth, start a conversation with each other about when and where you'd prefer to be.

"What do you want to improve on? How will you improve?"

“When do you want to minimize failure in practice?”

Then it becomes clear what success is, when and how we can best support each other.

What if you're in a chronically high-risk environment and feel like you can't have those conversations?

Even then, there are still three things you can do on your own.

The first is to create low-risk islands in high-risk oceans.

Failure has little effect on this island.

For example, find a mentor or a trusted colleague to exchange ideas together, discuss common criticisms, or do role-plays.

Ask for feedback meetings as the project progresses

You can read, you can watch videos, you can take time for online courses.

those are just a few

The second is to do what is expected of us and then reflect on how we can improve next time. Just like Beyoncé, we can observe and imitate the pros.

Observation, reflection, and adjustment are areas of learning.

And third, there are ways to take the lead and lower the risk for others. If you tell people what you want to do better, ask questions about what you don't know, ask for feedback, and share your mistakes and what you learn from them, everyone feels safe doing the same.

Real confidence comes from embodying the learning process.

Instead of spending your life just doing and performing, what if you spent more time exploring, asking questions, listening, testing, pondering, striving, and making things happen?

What if each person always had a target to strive for improvement?

What if we create islands and sea areas with less risk?

What if you could clarify within yourself and with your teammates when to learn and when to practice? That way, your efforts will be more fruitful, you'll improve endlessly, and you'll reach greater heights.

thank you

I have a lot to say, so let's start with my background, my outlook, my career, and how I got to where I am today.

In 1975 I graduated from high school in Cleveland, Ohio.

So did my parents, but after studying abroad, I returned to Japan.

In 1986, I graduated from college with a degree in medicine.

Until I became an intern hospital doctor, I was barely able to pay for my car maintenance, and I was finally getting a paycheck.

From this, we can see that many experts are doing so-called emigration abroad.

Will we leave the homeland where we were trained and live abroad forever?

Most won't go back I don't want to go back 'cause it's not my dream

Now, if you open up the map of Africa, you've got Nigeria right here, this is the Delta region, I'm sure you've all heard of it.

Known for its rampant kidnappings and oil production, Nigeria seems to have a lot of people dancing.

Poverty is also very serious, and this is a slide I used in a presentation recently.

very interesting page

How many people do you think are in that taxi?

Mind you, in Nigeria this is a taxi

This is Nigeria's largest city and former capital, Lagos, and the taxis are manned by police officers.

How many police officers are in this taxi? there are three

But it's not just police officers who use it. Everyone uses it.

If one of your friends is thrown out of a taxi, it's an accident and you end up in the hospital.

It's hard to believe, but some people survive.

Some people are immune to malaria and AIDS

As I tell my family, my wife always advises me, "It's always dangerous to go back to this country."

She's right. In this country, if you ever need emergency medical care -- if you're in an accident -- you need emergency medical care anyway.

Where should I go when I need help?

This problem is not someone else's problem for me, it's in addition to, not instead of, AIDS, tuberculosis, malaria, typhoid fever.

So where do you go to get these treatments?

When I go back to my country, I do a lot of things. Education, training, and guidance.

What happens to your finances if a member of your family dies or becomes disabled?

It's very serious. This is where they're going.

This is not an old photo, this is not a ruin, this is one of the big hospitals, actually the main teaching hospital in Nigeria.

It's less than a year old. Look at this operating room.

This is the disinfecting equipment in Nigeria

Remember the oil story earlier?

This may surprise you, but you can't ignore it. Here's the floor.

Some say the problem is due to education and hygiene.

I'm not going to use my poverty as an excuse

But there's more to it than just vaccinations and malaria and AIDS treatment, because if anything happens, I want to be treated in a proper hospital.

In fact, I said to my colleagues, "If you're an American cardiologist, would you like to come back and work with us?"

I want you to think that there is something you can do.

Next is this, the anesthesia machine.

my specialty

Anesthesiology and critical care. Look at that bag.

It's taped up with tape that's no longer used in the UK.

This is a photo I took recently.

I've seen this in England, and it's happening here, and this is the intensive care unit where I work.

Now, this is a slide from a presentation I gave about Nigeria's intensive care unit, and I jokingly called it "expensive scare."

It's dangerous and expensive, but I need it.

these are the problems

No rewards for pointing out problems?

We all know there are problems, and other speakers will point to other problems as well.

So this is an example, so what did I do?

I am doing activities with a mission

As a team, I'm going to do open-heart surgery, and I'm the only British person, and the cardiologist, the cardiology nurse, and the ICU nurse are all nine Americans.

I have traveled with this team three times so far.

I believe in this mission and the power of support and charity. There's a place for things.

Not everyone benefits from expeditions

“Health is prosperity.” Hans Rosling

If you are healthy, you will get rich quickly.

We have a mission, but we also have a big problem.

Open-heart surgery in Nigeria is a big problem in itself.

he's mike from mississippi

does he look happy?

It took me two days just to set up the place, but I managed to get it ready, and he must be happy.

Here's the chairman's medical advice: "I told you you couldn't, but it's pretty clear that you can't."

I'm a fellow technician, but I'll continue anyway.

(Laughter) We had him come from England as an anesthesia technician.

Let's solve the problem

This is one of the problems we see in Nigeria and Africa in general.

There are a considerable number of donated machines.

However, all the machines are outdated and useless, or they can be used but cannot be repaired.

I have a serious problem

I needed to call him, but he's always on the phone.

What should I do

All the Americans have one British, but he doesn't want to do anything. He thinks he's British, but he's actually Nigerian.

As a matter of fact, the surgery eventually started, but look at this one, it's even more old-fashioned than the first one.

The reason I'm showing you this picture is to show you where and how you look at the x-rays.

do you know where I have it on the window glass.

Is this a substitute for Shaukasten? so stupid

Well, these days it's all PACS

We're still using X-ray film, and we don't even have Shaukasten.

I still had open heart surgery.

It's not AIDS, it's not malaria, it's the ultrasound machine.

People still believe in voodoo and have heart conditions like ventricular septal defects and tetralogy of Fallot.

Believers may come

Oxygen saturation of 67% with a normal value of 97%

She needed open-heart surgery, which I wish I had had when I was younger.

Adults need the same surgery. It's been successful and is still being done.

I've had three surgeries on this so far, and in July I'm going up north to do my fourth surgery.

Oxygen tank did not work properly

How many open heart surgeries did you have on your first expedition?

12 successful open heart surgeries

Our first patient just came out of the intensive care unit, look at that chair.

This is what I call "the right technology for Africa."

The bed didn't work, so I put the chair down to make it higher.

Have you ever seen something like this?

Probably not? but it worked

I'm sure you've heard that name before. We, the willing ones, have been doing it for so long without doing anything. (Applause) You can do anything with nothing.

(Applause) Sustainable Solutions is my first company.

The sole purpose of this company is to give you what you need but don't have.

Put your hand in your pocket and say, "Everyone, let's buy something."

Start a company, educate people, and give them the tools they need to survive.

this is a perfect example

Ordinarily, when a hospital buys a ventilation system, they buy a different ventilation system than they do for children or transportation, but this one works everywhere, and it's half the price, and it doesn't require compressed air.

You don't know this in America, but we do, because we're mandated to get the right technology at the right price for Africa.

Plugged into this unit is a 12 volt car socket that charges your Game Boy or cell phone.

Designed to fit snugly into the socket

It can also be used with a solar panel. It also charges the sun.

If you have mains power, you can also charge the battery.

And I also have a small pedal charger just in case.

If all of this fails, you can plug it into a car with a charged battery and you can still get it running, and you can customize it.

Oral surgery? Is it surgery?

If you know what you need, store it with your consumables.

We are also working on on-site oxygen generation

Oxygen generation technology is not state of the art

Oxygen concentrators aren't new, but what's new, and hopefully available in the next few months, is a renewable on-site oxygen supply system. Zeolites aren't new.

What will be left when the nitrogen is gone? mostly oxygen

It's not the latest technology, but we're taking advantage of it.

Common to my equipment and ours

has basic characteristics

Regardless of the awards it's won, it's portable, it meets the British Medicines Agency and European safety standards.

There is no big difference in price, size and ease of use with those on the market

This photo was taken last year

A classmate who graduated from college with me in 1986.

For those of you familiar with Maryland, this was taken at a man's house in the Potomac.

Too many people. To quote my beloved Hans Rosling, "If the length of a text gets attention, it's a problem."

Africans are passionate about what they do

Even if you make sacrifices in many places

We must do it, together with you, Africans must do it.

thank you

(applause)

"You have cancer"

Sadly, about 40% of people will hear these words at some point, half of whom will die.

What this means is that two-fifths of your closest friends and relatives will be diagnosed with some form of cancer, and one of them will die.

Besides the physical pain, about a third of cancer survivors in America end up in debt for medical bills.

are at least 2.5 times more likely to go bankrupt than people without cancer

This disease affects everything

It's emotionally draining and economically devastating for many.

But a cancer diagnosis doesn't have to equal a death sentence.

Early detection of cancer as soon as it occurs is an important factor in increasing the chances of treatment, reducing the emotional burden and minimizing the financial burden.

Most importantly, early detection of cancer -- one of my major research themes -- greatly improves patient survival.

For example, in breast cancer, if diagnosed and treated for stage I, the five-year survival rate is close to 100 percent, but for stage IV, it drops to 22 percent.

Similar trends are seen in colorectal cancer and ovarian cancer.

It's clear that accurate early diagnosis is vital to survival.

The problem is that many cancer diagnostic tools are invasive, expensive, often inaccurate, and take an impossibly long time to produce results.

Furthermore, there are no effective screening methods for types of cancer like ovarian cancer, lung cancer, and pancreatic cancer, and many people don't realize they have the disease until they have physical symptoms that indicate late-stage cancer.

It's like when a tornado hits an area without an early warning system, and there are no alarms to warn you, the danger is right at your feet and your chances of survival are greatly reduced.

The availability of a convenient option for screening that is cheap, non-invasive and provides faster results could be a powerful weapon in the fight against cancer.

With early warning, you can stay ahead of disease, not just follow its inexorable symptoms.

— This is what I've been doing

For the past three years, I've been developing techniques that enable clinicians to diagnose early cancers very quickly.

I've been motivated by scientific curiosity and a passion for changing the numbers that these statistics represent.

But since my wife was diagnosed with breast cancer last year, this battle has become much more personal.

This experience added an unexpected world of intense emotions to my battle.

I know firsthand how cancer treatment can be life-changing, and both I and my two young daughters understand the emotional toll that cancer can have on a family.

The cancer was detected early in a regular mammogram, and I was able to treat only the localized tumor, so I reaffirmed the importance of early diagnosis.

Unlike other cancers, mammograms are a screening test for early diagnosis of breast cancer.

But not everyone gets screened, and they get breast cancer before they're old enough to have a mammogram.

So there's still a lot of room for improvement in screenable cancers, and it's going to be hugely beneficial for people who don't get regular check-ups.

A major challenge for cancer researchers is to develop and make more accessible ways to perform routine screenings for different types of cancer.

Imagine a situation where, at a routine check-up, a doctor could take a very simple urine sample or some other type of liquid biopsy and tell you the results on the spot.

Technologies like this can dramatically reduce the number of patients who are missing out on early cancer detection.

My biochemistry and engineering research team is working on exactly this question.

By developing ways to get people to get regular check-ups while they're still healthy, we're going to sound the early-cancer alarm more often, so that we can take immediate action as soon as cancer develops, before it develops beyond its initial stages.

The silver bullet that is the key to the technology is a vesicle, called an "exosome," which is like a tiny escape pod that is periodically ejected from the cell.

Exosomes are an important biomarker and an early warning system for cancer progression.

And because it's abundant in all bodily fluids, including blood, urine, and saliva, it's a very attractive method for noninvasive liquid biopsies.

But there is one problem

No automated technology currently exists to rapidly screen for these important biomarkers.

And we've created a technology that makes this possible, called nanoDLD, a technology for automated isolation of exosomes for rapid cancer diagnosis.

Exosomes are the latest early warning tool to emerge in the liquid biopsy space.

Exosome size is extremely small

only 30 to 150 nanometers in diameter

It's so small that you can fit a million exosomes into a single red blood cell.

It's about the size of a golf ball and a grain of sand.

Exosomes were once thought to be waste-laden vesicles released by cells, but it has now been discovered that cells secrete exosomes containing cell surface receptors, proteins and genetic material, which are then taken up by other cells to communicate with each other.

When absorbed by neighboring cells, exosomes release their contents into neighboring cells, causing fundamental changes in gene expression, some good, but some bad when cancer cells are involved.

Exosomes are packed with material from the cell that releases them, and because they contain part of their environment of origin, they provide genetic information about the health of the cell and its origin.

These properties make exosomes invaluable messengers that enable doctors to listen at the cellular level.

To detect cancer early, we need to be able to intercept these messages frequently and figure out when the cancer-causing cells are about to revolt in the body. And that's why regular check-ups are so important, and why we're working hard to develop that technology.

The first exosome-based diagnostics hit the market this year, but they're still not a mainstream medical option.

What's hampering the widespread adoption of this technology is the lack of an automated exosome isolation system that would make routine screening affordable.

The current established method for isolating exosomes is called ultracentrifugation, which requires expensive laboratory equipment, experienced technicians, and processing times of up to about 30 hours.

We have developed a new method to automatically isolate exosomes from samples such as urine.

It's a continuous-flow separation system called the "Deterministic Lateral Displacement (DLD)" method that uses a microchip.

We've used it to do what the semiconductor industry has done in the last 50 years.

We reduced the scale of this technology from micro to nano.

I will introduce how it works

In other words, tiny pillars lined up in nanoscale gaps are arranged to divide the liquid into a number of small streams that act to separate the larger cancer-related nanoparticles from the smaller, healthy particles that zigzag along the direction of the flow between the pillars.

In this way, we can completely separate these two types of particles.

The image of this separation process is like a highway that splits into two, one extending into a low-ceilinged tunnel in the mountains and the other bypassing it.

Smaller cars can drive through tunnels, and larger trucks with hazardous materials will be bypassed.

Traffic is segregated by size and content without choking the flow.

Our system is a much smaller version of this.

At this point, the isolation process for diagnosis could be as simple as urine, blood, saliva testing, and that's the short-term outlook for the next few years.

Ultimately, it isolates and detects targeted exosomes that are unique to certain types of cancer cells, and senses and signals their presence within minutes.

This makes rapid cancer diagnosis a lot easier.

Generally speaking, the use of automated machinery to separate and enrich biomarkers with nanoscale precision will open the door to a much deeper understanding of diseases like cancer, with applications ranging from sample preparation to diagnostics to drug resistance and therapeutics.

Even before my wife had cancer, it was a dream of mine to automate this process and make routine check-ups more affordable and accessible, much like Henry Ford used line manufacturing to make cars more accessible to the masses.

Automation is the key to accessibility

In the spirit of President Hoover's dream of "a chicken in every pot, a car in every garage," we're developing technology that will bring cancer early warning systems to every home.

This means that everyone, from adults to children, can get regular check-ups while they are healthy, and cancer can be detected in its nascent stage.

My dream is to help people around the world escape the high costs and hardships that cancer sufferers pay today - the physical, financial and emotional costs I know so well.

By the way, thanks to the early detection of the cancer, my wife's treatment was successful and she survived the cancer.

(Applause) And that's what I want for every patient diagnosed with cancer.

With the nanoscale biomarker isolation technology that my team has made possible, with rapid early cancer diagnosis, I'm sure in a decade we'll have these technologies at our fingertips to protect our friends, family, and future generations.

If you're unlucky enough to be diagnosed with cancer, an early warning system can give you a glimmer of hope.

thank you

(applause)

The last time I heard my son's voice was when he walked out the front door to go to school.

In the darkness, I shouted just one word, "I'm leaving."

It was April 20th, 1999.

Earlier that day, at Columbine High School, his son Dylan and his friend Eric shot and killed 12 students and a teacher, injured more than 20 others, and then took their own lives.

Thirteen innocent people were killed, sending their loved ones into deep grief and trauma.

Some of those injured are disfigured and permanently disabled.

But the brutality of this tragedy cannot be measured by the number of dead and wounded alone.

There's no way to quantify the emotional damage to the people who were at school that day, and the people involved in the rescue and cleanup.

The impact of a tragedy like Columbine cannot be calculated, especially since the incident provides a blueprint for other shooters to commit brutal acts.

Even after the Columbine tsunami has subsided, it takes a long time to comprehend the impact on communities and societies.

It took me years to come to terms with my son's sinful legacy.

The brutality that marked his final moments was nothing like the boy I knew.

After the incident, people asked me, "Is it possible that you didn't know?"

"What have you been doing as a mother?"

I still ask myself the same question

Before the shooting, I thought of myself as a good mother.

Helping my child grow into a healthy, caring and responsible adult has been the most important role of my life.

But that tragedy convinced me that I had failed as a parent, and that frustration is one of the reasons why I'm here today.

Aside from my father, I was the one who understood and loved Dylan the most.

If there was anyone who noticed the harbinger of that disaster, I would be the only one, right?

but i didn't notice

Today, I'm here to share my experience as the mother of a man who hurts and kills.

For years after that tragedy, I've spent a lot of time poring over my memories, trying to figure out where I failed as a parent.

but the answer is not easy

I can't suggest a solution

The only thing I can do is tell you what I've learned.

When I talk to people who don't know me before the incident, I face three challenges.

The first is that if you walk into a room like this, there might be someone out there who has lost someone to the crime your son committed.

I feel the need to accept the suffering caused by family members on behalf of the perpetrators themselves.

So first of all, I would like to apologize from the bottom of my heart.

The second challenge is that by telling you about the suicide that killed my son, I have to ask for your understanding and even your sympathy.

Two years before he died, he wrote in a notebook that his son was self-harming.

He wrote that he wanted a gun to end his life in agony.

I only found out about it months after he died.

Just because my son died by suicide doesn't mean that I belittle the brutality he displayed just before his death.

I want to understand how his thoughts of suicide led him to murder.

After reading a lot and talking to experts, I came to believe that the root cause of my son's shootings was not the desire to kill, but his own death wish.

The third problem with talking about my son's murder and suicide is that we're talking about mental health. Excuse me, I'm talking about mental health.

At the same time, this is a story of violence.

I don't want to add to the already common misconceptions about mental illness.

Only a small percentage of people with psychosis commit violence against others, but about 75 to 90 percent or more of those who die by suicide have some form of diagnosable mental illness.

As we all know, the existing system of mental health care isn't set up to help everyone, and not everyone with destructive thoughts meets certain diagnostic criteria.

There are many people who feel fear, anger and frustration all the time, but never get a diagnosis or treatment.

Most of the time, it's only when a patient's behavior reaches a crisis that it gets attention.

If the estimate that about 1 to 2 percent of suicides are homicide-related is correct, as suicide rates rise, as has been the case in some areas, the homicide rate among suicides also rises.

I wanted to understand what Dylan was thinking just before he died, so I asked people who had lost someone close to them to suicide for answers.

I did research, I volunteered at fundraising events, and whenever I could, I spoke with survivors of suicide crisis or attempted suicide.

One of the most informative was a conversation with a colleague, and she happened to overhear me talking to someone else in a private booth at work.

When I said to her, "Dylan didn't love me, that's why he acted so horribly."

Later, when I was alone, he apologized for overhearing the conversation and pointed out my mistake.

As a young single mother raising three young children, she suffered severe depression and was hospitalized for her own safety.

Around that time, she decided that if she died, her children would be happier, so she planned to take her own life.

She said flatly, "A mother's love is the strongest bond in the world, and I loved my children more than anything else in the world." Yet she believed, because of her illness, that they would be happier without her.

What I've learned from her story and others is that the so-called decision or choice to die by suicide is not the same as choosing which car to drive or where to go on a Saturday night.

A person who is in an extreme self-defeating state is the equivalent of Stage 4 in emergency medicine.

Your thoughts are blocked and you lose the ability to control yourself.

Even if they can plan and act logically, their sense of "truth" is distorted by their interpretation of reality through the filter of pain.

Some people are really good at hiding being in this situation, and often have good reasons to hide it.

Suicidal thoughts are numerous, but long, unremitting suicidal thoughts and thoughts about how to die are pathological symptoms that, like many illnesses, need to be recognized and treated before they can kill you.

But my son's death wasn't just a suicide.

involved a mass murder

I wanted to know how his suicidal thoughts turned into murder.

But there's little research, and it's not an easy answer.

I'm sure he suffered from ongoing depression.

His perfectionism and tendency to decide everything on his own made it difficult for him to ask for help.

At school, I had several triggering experiences that left me feeling humiliated and angry as a result of which my self-esteem was damaged.

I also had a complicated relationship with a boy who shared a lot of anger and isolation, but the boy was severely mentally ill and displayed controlling and homicidal tendencies.

During these extremely vulnerable and volatile times, Dylan found a way to get hold of a gun, none of which we had at home.

A 17-year-old boy could buy a gun, legally or illegally, with a horrifying ease without his parents' knowledge, let alone with his parents' permission.

17 years later, many school shootings, and somehow it's still terrifyingly easy.

What Dylan did that day tore my heart apart, and like most traumas, it hit my body and my mind.

Two years after the shooting, I got breast cancer, and two years later, I had a psychosis.

In addition to the constant and endless grief, I was terrified that I would run into the families of the people Dylan killed, that I would be chased by the media, and that I would be scolded by the general public.

I was afraid of watching the news, I was afraid of being called the "worst parent" or the "worst person".

i have panic disorder

The first seizure occurred four years after the incident, during the first meeting with the victim's family while preparing to be questioned for a deposition.

My next seizure came six years after the incident, when I was attending a conference where I was preparing to speak publicly about the murder of a suicidal person for the first time.

Both times the symptoms lasted several weeks.

The seizures didn't choose where they were, they happened at the hardware store, at work, even while I was reading in bed.

All of a sudden, my head was in a vortex of terror, and no matter how hard I tried to calm myself down and figure out how to get out of it, it didn't help.

I had the illusion that my brain was killing me, and the feeling of fear was draining my mind.

That's when I first learned what it felt like to have a malfunctioning brain, and that's when I really started to advocate for brain health.

Through psychotherapy, medication, and self-care, I somehow managed to get back to some sort of normal life, regardless of my surroundings.

In retrospect, I realize that it took about two years for my son to become dysfunctional, enough time to help him, but only if someone saw the need and knew how to help.

Every time someone asks me, "Why didn't you realize that?" I feel like I've been punched in the stomach.

There's a tone of condemnation in it, and it brings out a sense of guilt in me that no amount of therapy can completely erase.

But I've learned that if love alone could stop suicidal people from inflicting pain on themselves, suicide would almost disappear.

Love is not enough Suicide is rampant

It's the second leading cause of death among people ages 10 to 34. 15% of young Americans say they've made a suicide plan in the past year.

I've learned that no matter how much we want to believe it's possible, it's impossible to know and control everything our loved ones think and feel.

And when the worst-case scenario becomes reality, we must learn to forgive ourselves for not knowing the facts, for not asking the right questions, for not seeking the right treatment.

We should always think, "Maybe someone we love is suffering right now." It doesn't matter what they say or what they do.

Feel their cries with your whole body and listen without imposing your own opinion or suggesting solutions.

I'm going to live the rest of my life with this tragedy, this tragedy that stacks up.

If you can imagine the hearts of many, what the bereaved families have lost is incomparable to what I have lost.

Even if I struggle, the suffering of the bereaved family will not be eased.

I know some people even think I have no right to suffer and have no choice but to spend the rest of my life making amends.

What I do know can be summed up in the following, and it's painfully unfortunate that even the most prudent and responsible people can't really help in some cases.

thank you

(applause)

I want to talk to you about walkable cities.

What is a walkable city?

A simpler definition would be a city where the car is an option rather than a necessity.

So I want to talk about the need for walkable cities and how we can make them happen.

Most of what we're talking about these days is about the need for it, and I'm sure you already know that.

You can see the talk I gave exactly one month ago on TED.com.

I'm going to talk to you today about how to do that.

As I kept thinking about this, I came up with a general theory about walkability.

It's a very blunt way of saying it, and it's a little pompous, but I'd like to share with you something that I've been cherishing for a long time and understanding.

It's not Washington, D.C., it's not New York, it's not San Francisco, it's Grand Rapids, it's Cedar Rapids, it's Memphis. In this quintessential American city, most people want to own a car and stay in it all the time.

What is this?

It means that it is necessary to provide a four-piece set at the same time.

These four things are necessary at the same time. These are the pillars of today's talk.

I learned why I walk from my mentors, Andres Duany and Elizabeth Prater Seiberg, founders of the New Urbanism movement.

Half of today's content is what I learned from these two people.

This is the story of urban planning, about the creation of city planners as a profession.

People in the 19th century were plagued by the black soot that came out of their hideous factories, so planners decided to separate the homes from the factories.

It wasn't long before people's lives improved dramatically, and it's fair to say that planners have been trying to recreate this experience ever since.

What we call Euclidean zoning began, dividing the land into large, single-purpose plots.

When I arrive at a site to do urban planning, a lot of times the land is designed like this.

These plans definitely won't make the city walkable, because there's nothing nearby.

Instead, it's Manhattan, the most walkable city you know. That map looks like a Roscoe painting.

It's like Seurat's painting.

This map of Manhattan is also a bit confusing, because it's all red.

This is the epic tale of the New Urbanists -- that there are two ways to build community that have been tried thousands of times around the world throughout history.

One of them is this traditional neighborhood.

This is a neighborhood in Newburyport, Massachusetts.

The city is designed to be walkable

There are many narrow streets

All paths are easy to walk

An example of this contrast is the post-World War II suburban sprawl.

Aerial photographer Alex McLean has provided us with many of the beautiful aerial photographs that we are going to show you today.

It's interesting to see parts of sprawled cities.

It's very easy to tell A place just to live A place just to work A place just to shop A huge public facility

Schools are getting bigger and bigger and more distant from each other.

If you look at the ratio of the size of the parking lot to the size of the school building, it's pretty obvious that you can't walk to school.

Senior students drive juniors to school, and that shows up in traffic accident statistics.

And then there's the gigantic public facilities, the playgrounds, the Westin in the Fort Lauderdale area has eight soccer fields, eight baseball fields, and 20 tennis courts.

I need a soccer mom to drive me around.

When I was a kid, there was only one soccer field, one baseball field, and one tennis court, but I was able to walk there because it was in my neighborhood.

It's easy to forget that the final step in sprawl is that if you push everything away from each other and connect them only with motorways, you end up with something like this.

The main thing I want to say here is that if you want a walkable city, you can't use the sprawl model.

A city model needs a skeleton

This is the result of that design.

This is what most Americans want

But the American dream has two sides.

If you dream this up and create a car-first landscape, the dream often creates absurd extreme landscapes.

If you go to a place like this, [this light won't turn green] (Laughter) I haven't edited the image.

Walter Crusch took this slide.

this is in panama city

is a real place

It's difficult to drive smoothly, and it's quite troublesome to walk in a place like this.

Now here's a slide that you often see in epidemiological studies (Laughter).

But I know how to fix it

There are two contrasting models

I'm going to show you this slide, which has been the textbook of New Urbanism for about 30 years, and you can see that sprawl and traditional neighborhoods contain the same building elements, color-coded.

The difference is the size, the distance from each other, the way they are distributed, whether they have more networks of roads than cul-de-sacs, or dense streets.

When we think about improving a certain downtown area to make it more walkable, which is the case with most downtowns in American cities, towns and villages, we start talking about getting the right balance of uses.

What is missing or lacking?

In the typical urban area where most Americans live, what's lacking is housing.

Work-life balance is skewed

When you get the dwelling back, the other buildings will come back, so the first thing is the placement of the dwelling.

And of course, eventually, schools will come back, because people will move, young people will grow up and have children, and competition will come and schools will get better.

And for the rest of it, urban convenience, public transportation, you can create perfectly walkable neighborhoods without it.

To make a city perfectly walkable, you need transportation. If you don't have pedestrian access to the whole town, you're going to have a car.

transportation is essential

No matter what mode of transportation you use, the first and last steps are on foot, so we need to make it easier to walk around the station.

The next category is the most important, walking safely.

This is essential for walking comfort.

that's not enough

There are many factors that make a walkable city.

First is the size of one block.

This is Portland, Oregon, and it's famous for its walkability, where one block is 60 meters.

This is Salt Lake City, where one block is 200 meters, and it's notoriously difficult to walk.

In comparison, it's like a different planet, but both are man-made places. So if you have a city with a block of 60 meters, you're going to have two lanes, or from two to four lanes.

According to traffic accident statistics

When block size doubles, in a study of 24 cities in California, when block size doubles, the number of fatalities on the highway increases by about four times.

How many lanes do you want?

Now, every time I give a talk, I'll talk about it, and I'm going to ask you to think about what is demand-induced.

The phenomenon of "induced demand" applies to both highways and general roads.

What the induced demand tells us is that the congestion response system itself, which anticipates widening roads and detours to accommodate expected traffic jams, is itself stimulating demand, and as roads are widened, new diversions occur.

People are moving further away from work, changing their commuting hours, etc., and these roads can quickly become congested, and when the roads are widened again, they'll fill up again.

Here's what I've learned from a congested system: You can't build a city that prioritizes cars.

It's from Newsweek, a magazine that doesn't look very deep, but it says, "Today, engineers admit that building new roads will make traffic worse."

And when I read this, I thought, "I want to meet this engineer." I thought, "He's not just an engineer." Except for the amazing engineers that I actually know.

If you add more lanes, you're going to get stuck in traffic, and you're like, "Look, you needed more lanes."

This applies to both highway and general road congestion.

The strange thing about the cities in America where I work is that many of the typical cities have a lot of roads that are too wide for the traffic jams we face today.

In the case of Oklahoma City, the mayor hurriedly called me because Prevention magazine called it the worst city for pedestrians.

It can't be that way, but as mayor you have to do something.

We counted the number of cars on the road, and we found 3,000, 4,000, 7,000 cars, but with two lanes, we should be able to do 10,000 cars a day.

And when you look at those numbers, they're all under 10,000 vehicles, even though the roads were designed to be four to six lanes wide as part of the new downtown plan.

There was a fundamental mismatch between the number of lanes and the number of cars that needed them.

And so I was tasked with redesigning all the streets downtown, down to the curbs, and I designed 50 blocks, which is currently being rebuilt.

This typical wastefully wide road is currently under construction to be made narrower, and the project is half complete.

A typical road like this — you know the right lane width

Allows you to create bike lanes

Doubled the parking space on the street

Added a bike network that wasn't there before

But not everyone is as rich as Oklahoma City, where the resource business is booming.

Many cities, like Cedar Rapids, are based on four lanes, half of which are one-way.

It's a little hard to see, but what we're doing is what we're doing right now, which is under construction, is that by changing from a four-lane, half-one-way system to a two-lane, two-way system, we've increased the number of on-street parking spaces by 70 percent.

We've made the sidewalks safer by having a parking lot, and we've also added a solid bike network.

What about lane width?

this is very important

Standards keep getting wider, and Andres Duaney says you can see the horizon on a typical American suburban road.

(Laughter) This subdivision is in the Washington suburbs of the 1960s.

take a good look at the width of the street

This is a 1980s subdivision.

in the 1960s and 1980s

This is my old friend, South Beach, and when they were doing drainage repair work, they widened the road and cut the sidewalk in half because the standard widened.

But on wide roads everyone is in a hurry

everyone knows that

Engineers deny it, but the public knows, so in Birmingham, Michigan, they're trying to win the narrow road.

Well-known for its walkability, Portland, Oregon, has launched a "Skinny Streets" program in residential areas.

I know the narrow road is safer

Developer Vince Graham is unveiling an amazing seven-meter-wide road at his l'On project in South Carolina.

It's a two-way, very narrow road. He cites this teaching: "The broad road leads to destruction.

The narrow road leads to life.” [Matthew 7:13]

(Laughter) (Applause) This is working in South Carolina.

Well it's a bicycle

Bicycles and cycling are revolutionizing a small fraction of American cities.

"If you build it, they will come."

As a planner, it's hard to say, but cyclist population is a function of cycling infrastructure.

I asked my friend Tom Brennan, who has a design office in Portland, to take some pictures of his bike commute in Portland.

He sent me this.

He said "It's normal"

What if you spent the same money on bike infrastructure as Portland did, New York City painted its lanes bright green and multiplied the number of cyclists by several times.

Even car cities like Long Beach, California, are seeing an increase in the number of cyclists due to infrastructure improvements.

And, of course, you know 15th Avenue in Washington, D.C., the new bike lanes by Chicago Mayor Rahm Emanuel, with buffer lanes and parallel parked cars lining the curbs and new cyclists riding between the parked cars and the curbs.

If bikes were allowed on every lane, like Pasadena, it wouldn't work as a bike path.

This was the only cyclist I met in Pasadena.

(Laughter) Parallel parking, as I mentioned, is the essential iron barrier to keep curbs and pedestrians away from cars.

This is a picture of a road in Fort Lauderdale from a car. You can park on this side, but you can't park on the other side.

Happy hour in the parking lot

This is the sad hour on the other side

This row of trees slows the car down.

We drive slowly on tree-lined roads, so of course there are times when we suddenly slow down.

As for the details - the fillet radius of the curb is

30 centimeters or 1.2 meters?

How far you cut this curb will affect the speed of the car, and it will also determine how long it will take to cross.

This is the best example of objective journalism

“They say the entrance to the city center is not pedestrian friendly.”

When every line of the landscape is designed to be curvilinear, aerodynamic, streamlined, it's like a space for cars.

Any distinctive detail interferes with the vehicle and is unacceptable.

Look at this, a once-in-a-hundred-year storm might be drained in no time, but this poor woman has to climb this curb every day.

It also means that any living creature needs not only a vantage point, but also a place to hide in order to walk comfortably.

It's important to feel protected while spotting predators that attack.

So we gravitate to places with corners, places without corners don't attract people.

So what's a good ratio of height to width?

1 to 1 or 3 to 1?

Beyond 1 to 6, it becomes restless.

I don't feel safe being surrounded

You'll be comfortable in this 6:1 ratio in Salzburg.

Houston is the opposite.

The main issue here is where the parking lot is.

As well as this "missing tooth" problem and the problem of vacant lots that are turned into parking lots, outdated land planning regulations can also cause neighborhoods to lose their "nose" triangles when corners disappear.

This was in our neighborhood

This is a district regulation prohibiting building

Washington, D.C. is transforming these neighborhoods into these under its new regional zoning plan.

I needed a lot of variations

Building a triangular house was fun, and once built, it was generally well received.

Now you have the missing "nose"

And finally, about the joy of walking, this is a manifestation of humanity, isn't it?

because we are social primates

There is nothing more interesting to us than others.

I miss the human figure

I hope it's a perfect 1:1 ratio

This is Grand Rapids, which is considered a walkable city.

Charleston, South Carolina, Mayor Joe Riley showed in the 10th term how an 8-meter building can hide an 80-meter parking lot like this.

This Chia Pet Garage is located in South Beach

a living building

I would like to conclude with this project

It's by Melekah Architects and it's in Columbus, Ohio.

There's a conference center on your left and a lot of pedestrians.

On the right is Short North, a very culturally diverse district that had good restaurants and good shops, but was struggling.

The reason it didn't work was because of this bridge, because no one was crossing over to this area from the conference hall.

Added 24 meters of bridges when rebuilding highways—

Excuse me, I rebuilt the bridge over the highway.

The city spent $1.9 million to give the site to a developer who built it and Short North came to life.

And everyone, not the planning magazines, even the newspapers, are saying it's because of the bridge.

The above is a general theory of ease of walking

think of your town

and how to apply

All four elements are required at the same time.

Find where most of the elements are aligned, add possible repairs, and make any necessary improvements.

Thank you for listening and for coming.

(applause)

More than 1.5 billion people in the world are involved in war.

As a result, people have been forced to leave their countries, leaving 15 million refugees.

Children, the victims of war, are utterly innocent, but they must be the greatest victims.

Many families who are victims of war not only suffer physical injuries, but also invisible emotional scars.

Children who experience war are much more likely to develop emotional and behavioral problems.

I can only imagine, but children will feel anxiety, fear and danger.

but there is good news

Good parenting at home can have a very positive impact on a child's physical and mental well-being, and may be even greater than the negative effects of war experience.

In other words, in wartime and after war, you can protect your children with warm, unwavering love.

In 2011, I was a first year PhD student at the University of Manchester, majoring in psychology.

Like everyone here, I saw the situation in Syria on television.

My family is from Syria, and from a very early age, I lost many relatives in very horrific ways.

I used to get together with my family and watch TV together.

We've all seen terrible things: bombs destroying buildings, chaos and devastation, screaming, people running away.

It was always heartbreaking to see people screaming and running away.It was painful to see the frightened children.

I have two children of inquisitive age.

We were five and six years old at the time, and like any child of this age, they would ask lots of questions and seek answers that would satisfy them.

That's the kind of situation that raised a question for me: what if you're raising children in conflict zones or refugee camps?

what will happen to my children

Will my daughter's bright, happy eyes lose their sparkle?

Will my son, who is calm and easy-going, become timid and closed-minded?

how do i react?

Will I change too?

Psychologists and "parent trainers" know that helping parents develop the competencies they need to raise their children can have a huge impact on their children's physical and mental well-being. This is parent training.

Now, I had a question: is parent training as useful for people living in conflict zones and refugee camps as it is for ordinary families?

I wondered if I could offer advice and training to help them get through difficult situations.

I talked to my supervisor, Professor Rachel Callum, and I told her that I wanted to apply what I learned in college to the real world.

It wasn't clear exactly what you wanted to do.

My professor listened intently, and to my delight, he said, "If that's what you want to do and it makes sense to you, then do it.

Let's think about ways to test whether parent training programs are effective for war-torn families."

Over the next five years, I and my PhD collaborators, Professor Callum and Dr. Kim Cartwright, have been looking for ways to help families who have experienced war and displacement.

The first step in learning how to help families who have experienced conflict, how to support their children, is to ask them what they're struggling with.

It's obvious, isn't it?

And yet, most of the time, the most hurtful people we're trying to reach out to are the ones we've had the least contact with.

There must be many cases in which people have assumed that they know the right way to provide support without first having contact with the target person.

I've visited refugee camps in Syria and Turkey, and I've sat face to face with families and listened to their stories.

I learned about the difficulties of parenting, listened to their parenting struggles, and knew they needed help.

There were times when I was at a loss for words, and in those cases all I could do was hold their hands and cry and pray.

I asked him what he was struggling with, and he told me that the living conditions in the refugee camp were so difficult and harsh that he couldn't focus on anything other than the mundane chores, like getting clean water.

He says he's seen children closing their hearts, sadness, depression, anger, bedwetting, pacifiers, frightened by noise, frightened by nightmares.

These are the people who experienced the devastation we see on TV.

About half of the mothers in the camp were war widows, and they don't even know if their husbands are alive or dead.

Witnessing the changes in my child, I don't know what to do

He told me that he didn't know how to answer the child's question.

I was so surprised and inspired by the willingness of families to support their children.

Despite all the difficulties, they are desperate to help their children.

They sought help from different sources, they were in contact with NGOs, teachers in refugee camps, health care workers, other parents, health care workers, other parents.

One mother had already called for help twice in just four days in the camp, trying to help her 8-year-old daughter, who was suffering from terrible nightmares.

Unfortunately, these efforts are often ineffective.

You can talk to doctors in refugee camps, but they're either too busy to get around, or they don't have the basics of parenting, or they just don't have the time to do that.

Teachers and other parents in refugee camps are in a similar situation.

so we thought

What can I do to support my child

Their problems are too big for them to handle on their own.

What the Syrian crisis has made clear is how unrealistic it is to be treated on a case-by-case basis.

What can you do instead?

Is there a way we can help them at the collective level without spending money? Is there a way we can help them at the collective level without spending money? It must be an effective method even in such a horrific situation.

After many hours of discussion with NGO officials, we came up with a wonderfully innovative idea: ration bread wrappers with parenting leaflets.

that was our commitment

The bread wrappers for the rations were exactly the same as before, but we added two sheets of paper along with the wrappers.

The first is a leaflet with basic advice and information for parents to let them know that what the parent is going through and what the child is going through is justified in this situation.

I also wrote about ways to support yourself and your child, such as making time to talk to your child, showing more affection, being patient with your child, talking to your child.

The second one was a questionnaire asking parents for their feedback, of course, with a pen.

Did it just end up as leaflet distribution? Or was it an effective psychological first-aid that would lead to a warm, safe and loving parent?

We managed to distribute 3,000 leaflets in one week.

The survey response rate was a staggering 60%.

60% of the 3,000 households responded.

I don't know how many researchers there are today, but I would say that this is an excellent recovery rate.

A number like this in Manchester would be a huge achievement, let alone a conflict zone in Syria, and it shows how important messages like this were to refugee families.

I can't wait to see the answer, and I remember being filled with anticipation.

They gave me hundreds of words, all very positive and encouraging.

My favorite is "Thank you for remembering us and our children."

In conclusion, we found that in addition to providing psychological first aid, we found that in addition to providing psychological first aid, we were able to provide feedback from families.

You can apply this approach to other rations, like infant formula, sanitary napkins, and even groceries.

But let's think more closely, because the refugee problem affects each one of us.

Statistics and photos about refugees are something we see every day, so it's no surprise, because by last month, more than a million refugees had reached Europe.

a million people

Refugees are joining our communities and becoming neighbors, their children attending the same schools as our children.

So we adapted the leaflet to meet the needs of refugees in Europe and made it freely available online in areas with large influxes of refugees.

For example, a Swedish health care website received 343 downloads in the first 45 minutes after the leaflet was posted, and this effort underscores the importance of having messages about psychological first aid freely available to volunteers, health care workers, and parents.

In 2013, I was sitting on the hard, cold floor in a tent in a refugee camp, surrounded by mothers, conducting group interviews.

There was an old lady sitting across from me, and a little girl about 13 years old was lying beside me, and she was resting her head on the old lady's lap.

For the duration of the interview, the child lay quietly and did not say a word. He held his knees to his chest and remained still.

Towards the end of the survey, when I thanked the mothers, the old lady looked at me, pointed at the child, and said, "Can you do that?"

Not really knowing what was expected of me, I looked at the girl, smiled, and asked in Arabic, "Salaam alaikum. Shu-ismak?"

"What's your name?"

She looked at me very confused and blank and said, "Halul."

"Halul" is the nickname corresponding to the Arabic female name "Hala," and is only used for very young girls.

At that point, I realized she was probably older.

She was actually a 25-year-old mother of three.

She was a confident, cheerful, bright, loving and caring mother, but she was a confident, cheerful, bright, loving and caring mother, but the war changed her life.

I've been living in a bombed-out town, and I survived the blast.

Her children screamed and were frightened by the noise as fighter planes flew and dropped bombs around the building where she lived.

She frantically hauled in pillows to cover the children's ears and block out the noise while she screamed.

When she reached the refugee camp and found some safety at last, she closed herself off like a child again.

I completely rejected my family and became neither a mother nor a wife.

I couldn't stand it anymore

This is a disturbing case of parenting with a very grim ending, but unfortunately it's all too common.

People who have experienced armed conflict, or who have been displaced as a result, suffer severe emotional distress.

This is also a story that concerns all of us.

If you find yourself in a tragic situation or lose someone or something important to you, how do you react?

Can you take care of yourself and your family in such a situation?

Considering that a good quality of life at an early age is essential for children to thrive physically and mentally, and that 1.5 billion people have experienced armed conflict and that many displaced people have joined their immediate communities, we cannot afford to overlook them.

We must give weight to the voices of families caught in conflict, whether internally displaced or displaced abroad.

NGO staff, policy makers, WHO, UNHCR, each of us must take their call for help seriously, even if we have different roles in society.

When you learn to recognize people living in conflict as individuals, and when you become aware of the complex emotions on their faces, you begin to understand that they are all human beings.

You'll be able to hear their voices calling for help, and those voices are real human voices.

When their voices are heard, the humanitarian support given to children will recognize and emphasize the important role of the family.

Mental health in the home is going to become a huge global issue.

Children will not have to use social services in the country of refuge Children will not have to use social services in the country of refuge because families can receive support early on.

And we will become more open, friendly, caring and trustworthy neighbors to the displaced people who flow into our communities.

war must end

We have to create a world where children can dream of gifts falling from airplanes, not bombs.

Unless the wars raging around the world end, families will be displaced and the situation of children will remain dangerous.

If we can improve support for raising children, we may be able to weaken the link between war and psychological problems, both for children and families.

thank you

(applause)

(Start playing guitar) (Cheers) (Cheers) (End of performance)

People have long used the media for sexual conversations.

love letters phone sex racy polaroid pictures

There's even a story about a girl who eloped with a man she met on the telegram in 1886.

Now there's sexting, and I'm an expert on it.

I'm not an expert at sexting

But I know what this means, and you know it too.

[That's a penis] (Laughter) I started studying sexting in 2008, when it started getting media attention.

I also wrote a book about the moral turmoil around sexting.

And what I've learned is that a lot of people worry about missing the point.

People are trying to stop sexting altogether.

But think about it, what's wrong with sexting as long as it's fully consensual?

There are people in the world who like strange things like blue cheese and coriander.

(Laughter) Like all fun things, sexting is risky, but as long as you're not sending racy photos to people who don't want to receive them, it's harmless.

The real problem is publishing other people's private photos without their permission.

Rather than worrying about sexting, we should think about the privacy of our digital information.

Consensus is the key

Right now, when most people think about sexting, they don't think about consensual or non-consensual at all.

Did you know that teen sexting is now considered a crime?

It's a crime because naked pictures of people under the age of 18 are considered child pornography, even if they're taken by you and given to you with your consent.

And that creates a very strange legal situation, where in most states in the United States, 17-year-old men and women can legally have sex, but they can't be photographed.

Some states are trying to create misdemeanor laws for sexting, but they're repeating the same mistake, making consensual sexting illegal.

Trying to ban sexting itself to combat privacy violations is absurd.

It's like trying to outlaw dating in order to end date rape.

A lot of teens don't get arrested for sexting, but do you know who they are?

I'm a teen hated by the other parent

And the real reason may be class consciousness, racism, homophobia.

Of course, most prosecutors aren't stupid enough to sue children for child pornography, but some do.

Researchers at the University of New Hampshire found that 7% of those arrested for child pornography possession were teens who had consensual sexting.

Child pornography is a serious crime, but teen sexting is a whole different story.

Parents and teachers are also reacting to sexting without considering consent.

Their message is usually "Don't do anything."

I can understand that, because there are serious legal risks and privacy risks.

When you were teenagers, you were pretty good at following whatever you were told.

There's no way I'm going to have sexting with my child

That's right, even though your angelic child probably won't, only 33% of 16- and 17-year-olds are sexting.

But by the time they reach adulthood, they're likely to be sexting.

In every survey I've seen, over 50% of 18-24 year olds have sexted.

And most of the time nothing bad happens

People often ask me, "But isn't sexting dangerous?"

Just like you don't leave your wallet on a park bench, you know it's bound to get stolen.

To me, sexting is like leaving your wallet at your boyfriend's house.

If you go the next day and all the money in your wallet is gone, then you should break up with that man immediately.

(Laughter) Instead of criminalizing sexting to prevent privacy violations, we should be thinking about consent first and foremost when it comes to sharing personal and private information.

New media technologies have always raised privacy concerns.

In fact, the first privacy debates in the United States arose in response to technology that was relatively new at the time.

In the late 1800s, people were concerned about cameras being much more portable and newspaper gossip columns.

I wondered if my information could be captured on camera and disseminated out of its original context.

Sounds familiar, doesn't it?

That's exactly what we're concerned about right now: social media, camera-equipped drones and, of course, sexting.

Those fears about technology are justified, because technology has the power to bring out and amplify the worst aspects and behaviors in us.

but there is a solution

There have been dangerous new technologies before.

1908 Model T Ford launched

Traffic fatalities increased

Serious problem. What a safe looking car!

The first reaction was to change driver behavior, so speed limits were put in place and fines were imposed for violations.

But in the decades that followed, we began to realize that automotive technology wasn't neutral.

We can design safer cars.

So in the 1920s, we had shatterproof windshields.

In the 1950s, seat belts

In the 1990s, airbags began to be installed.

Law, individuals, and industry came together and took the time to solve the problems posed by new technologies.

We should be able to do the same with digital privacy.

Of course the key is agreement

as a way of thinking

It means that if you want to distribute someone's private information, you need that person's permission.

This notion of positive consent comes from anti-rape activists who believe that any sexual activity should be consensual.

In many other fields, we have very high standards of agreement.

Think about having surgery

Doctors need to make sure that patients understand and agree to the care they receive.

It's not like you're agreeing to iTunes' terms of service.

(Laughter) If people thought more about consent, we could have better privacy laws.

not so protected now

What if your ex-husband or ex-wife is a terrible person and uploads naked pictures of themselves to a porn site?

It's hard to completely delete those photos.

In many states, it's better if you took the picture yourself, so you can claim the copyright.

(Laughter) Right now, if someone, whether it's an individual, a company, or the NSA, has violated your privacy, you can take legal action, but there's a good chance it won't work, because many courts believe that digital privacy is not feasible.

That's why they don't want to go to court for invasion of privacy.

We still hear constantly that digital images blur the line between what is private and what is public.

Not at all!

Digital doesn't automatically make it public.

there is no reason

Helen Nissenbaum, a legal scholar at New York University, says that there are laws, policies, and norms that protect all kinds of private information, but it doesn't distinguish between digital and non-digital.

Medical data is digitized, but doctors can't leak it

Your personal financial information is stored in digital databases, but credit card companies can't just publish your purchase history online.

Better laws can deal with privacy violations that have happened, but what's easier is for individuals to change to protect each other's privacy.

We've always been told that privacy is a person's responsibility.

Always pay attention to your privacy settings and update them

I've been told not to share anything that I wouldn't want the world to see.

that's weird

Digital media is a social environment, where people are constantly sharing with others they trust.

Janet Vertesi, a researcher at Princeton University, says that data and privacy are not just about individuals, they are about people.

The simplest thing you can do is ask other people's permission to share their information.

If you want to post someone's photo online, get permission.

Get permission if you want to forward mail

If you want to share someone's naked selfie, obviously get their permission.

These individual changes can help us protect each other's privacy, but we need technology companies to help us.

These companies have a low incentive to protect privacy because their business model relies on everyone sharing everything with as many people as possible.

Now when I send you a photo, you can forward it to anyone.

But what if I could decide whether to forward it?

What if you could say, “You are not authorized to send this image”?

If it's to protect copyright, that's a common thing to do.

Even if you buy an e-book, you can't send it to many people.

What if we did the same with mobile phones?

What we can do is ask technology companies to make these protections standard on their devices and platforms.

You can choose the body color of your car, but the airbags are always standard.

Not thinking about digital privacy and consent can have disastrous consequences.

There was this teenage girl in Ohio, let's just call her Jennifer.

She gave a nude picture of herself to her boyfriend in high school, so she thought she could trust him.

Unfortunately she was betrayed and he sent the photo to everyone at school.

Jennifer was embarrassed by being exposed, and her classmates bullied her instead of pitying her.

He made her life miserable by calling her a tigress and a whore.

Jennifer was skipping school and her grades were dropping.

Ultimately she chose to end her own life.

Jennifer did nothing wrong

I just sent naked pictures to people I thought I could trust.

And yet the law makes her guilty of a terrible crime, equivalent to child pornography.

Our sexual norms make it extremely shameful to take nude pictures of yourself.

To think that it's impossible to protect privacy in digital media is to forget and forgive her boyfriend's extremely bad behavior.

People still say to victims of privacy violations, "What the hell are you thinking?

It's not good to send pictures like that."

If you're not sure what to say, think

Let's say you run into a friend who broke his leg skiing.

I took a risk to do something fun, and it turned out badly.

But you wouldn't be the kind of guy who would say to someone like that, "It's bad to go skiing."

If you think about consent, you should know that victims of privacy violations should be sympathetic, not criminalized, humiliated, harassed, punished.

Supporting victims and preventing some degree of invasion of privacy is possible through the legal, personal and technological changes I've talked about.

Because the problem isn't sexting, it's digital privacy.

And one of the solutions is to get consensus.

So the next time you meet a victim of a privacy breach, instead of blaming him or her, change your mind about digital privacy and treat it with compassion.

thank you

(applause)

You probably know what I'm like now

my heart is pounding

my palms are moist

sweat

my breath is a little shallow

Of course, the reason you feel this way is because you're in front of 1,000 people, and maybe a million other people are watching online.

But the sensations I'm experiencing now are due to basic mechanisms of mind and body.

Your nervous system is pumping cortisol, adrenaline, and other hormones into your bloodstream.

It's an important, ancient, built-in response that tries to keep the body's organs and muscles getting the blood and oxygen they need when danger is imminent.

But there's a problem with this reaction, and sometimes it overreacts.

If these stressful days go on for too long, your body may become unbearable.

If this response happens infrequently, it becomes absolutely essential for health and survival.

Waking up too often can make you sick

More and more research is going on about the relationship between chronic stress and illness.

Even diseases like heart disease and cancer have been linked to stress.

Excessive and persistent stress responses disrupt the mechanisms that keep us healthy.

Now what if I'm pregnant now?

What would be the effect on the health of the baby in the womb if you were under this kind of stress all through your pregnancy?

I wouldn't be surprised if you told me that it's not good to be stressed during pregnancy.

Stress can even prematurely start labour, because it tells the baby in the womb that the womb is no longer a safe place.

Stress during pregnancy has been linked to high blood pressure and low birth weight, which can lead to an even more dangerous array of health problems for both mother and child.

Of course, in today's lifestyle, stress is something we all experience.

Even if you've never been on stage at TED and given a talk, you've probably had a big presentation at work, suddenly lost your job, took an important exam, or had a conflict with a family member or a friend.

But the types of stress we experience and whether we can stay relaxed long enough to keep us in shape can vary greatly from person to person.

A growing body of research shows that people who experience more discrimination are more likely to suffer from poor health.

Even worrying about being discriminated against when the police stop you while you're driving can have detrimental effects on your health.

Dr. David Williams of Harvard University, who pioneered this method of uncovering relationships, says that marginalized groups experience more discrimination and health consequences.

I've been interested in these issues for over a decade.

After failing to get into medical school, I wondered if there was another way to help pregnant women.

That's how I became a doula. A doula is someone who is trained to help a woman through pregnancy and childbirth.

I'm Latino, Spanish-speaking, and when I first volunteered as a doula at a hospital in North Carolina, I realized that a person's race and social class had a huge impact on their experience as a pregnant woman.

When you look at the morbidity statistics from pregnancy to birth, you can clearly see the pattern Dr. Williams points out.

In terms of whether or not a healthy baby is born, the experience of African-American women in particular is quite different from that of white women.

In parts of the United States, particularly in the far south, black maternal and neonatal mortality rates are about the same as those in sub-Saharan Africa.

Even in the same region, the mortality rate among white pregnant women is almost zero.

Nationally, black pregnant women are four times more likely to die during pregnancy than white pregnant women.

four times the mortality rate

Babies born to black women are twice as likely to die before their first birthday as babies to white women. Black pregnant women are also two to three times more likely to be born prematurely or have low birth weight, a sign of poor prenatal development.

Native American pregnant women also have higher rates of these problems than white pregnant women, as do Latino women.

As a journalist and blogger after 10 years as a doula, I've tried to raise the alarm about how women of color, especially black women, experience pregnancy and childbirth in America differently than white women.

But when I bring up these staggering numbers, the usual response is that it's either because of poverty or because I don't have access to medical care.

But poverty and inadequate health care cannot explain it all.

If you compare middle-class black women to middle-class white women, the data for black women is much worse.

In fact, the gap between the middle classes is wider.

It's true that access to medical care is still an issue, but even among women of color who receive recommended prenatal care, the data is still bad.

Again, the path is the same: discrimination leads to stress, which leads to poor health, and it's a picture many people of color are familiar with: racism really makes us sick.

Sound like an exaggeration?

Here's a story about immigrants, especially black and Latino immigrants, who were healthy when they first arrived in America.

The longer you stay in this country, the worse your health gets.

I was born in the United States, but my parents were immigrants from Cuba, and my generation is often in worse health than my grandparents.

This is what researchers call the immigration paradox, and it shows that there's something in America's living environment that's harming our health.

What's important is that the health of women and babies of color, especially black women, is undermined by racism.

I could go on and on with this discussion, but let's not. What I want to talk about here is a solution.

Fortunately, it's an inexpensive solution that doesn't require expensive drugs or new technology.

The solution is called the "JJ formula"

This is Jenny Joseph

Jenny is a midwife in Orlando, Florida, and has been helping pregnant women for over 10 years.

Jenny and her team provide care to more than 600 pregnant women each year in an accessible clinic.

Pregnant women in Jenny's care are mostly black, Haitian and Latinx, and give birth in local hospitals.

By providing attentive, accessible care, Jenny's results have been remarkable, with almost all of them giving birth to full-term, healthy babies.

Jenny's method is deceptively simple.

Jenny says the relationship with a pregnant woman starts at reception

The time a pregnant woman spends in the clinic, all members of the team are always willing to help in any way possible.

I don't turn my back on people who can't pay

Even if there is a problem in terms of money, the JJ style is to manage somehow.

Pregnant women will not be reprimanded for being late for an appointment

No one is looked down upon or put down

The waiting room is more like your aunt's living room than a clinic.

Jenny calls this space "a classroom that doesn't feel like a classroom."

While waiting for your turn, you can have one-on-one conversations with the staff and take childbirth classes in groups.

When it's finally our turn, Jenny's medical assistant, Alexis or Trina, will call us.

They're both young African-American mothers of young children.

Both are friendly and approachable.

When I visited the clinic, I saw Trina talking while taking the blood pressure of a young woman about to give birth.

The Latino pregnant woman said she was nauseous and couldn't hold the food in her stomach.

As Trina deflated her sphygmomanometer belt, she said, "Well then, we should change our prescriptions.

If you can't eat anything, you'll be in trouble."

This "we" is actually the crux of Jenny's model.

Clinic staff are part of a team with the same goal as pregnant women and their families: helping pregnant women deliver healthy babies.

In fact, Jenny says that the core of the Care model is Trina and Alexis, and it's her role to support them in their work.

Trina texts frequently with pregnant women and talks about all sorts of things.

A woman emailed me asking if it was okay to take the medicine prescribed by my doctor during pregnancy.

The answer was no

I just got sent another photo of a baby born under Jenny's care.

What's more, by the time you meet Jenny, the pregnant woman has already been weighed in the waiting room and has had her urine drawn in the bathroom.

From the traditional medical model, this is a big difference, because it puts responsibility and information firmly in the hands of women who receive care.

Pregnant women aren't blamed for not adhering to their health care providers' recommendations, which is common in low-income women's care, but Jenny's model tries to help as much as possible.

Support like this can play an important role in relieving the stress of racism that these women face every day.

But the best thing about Jenny's model is that it works incredibly well.

You know, the stats I showed you at the beginning were that black pregnant women had higher rates of premature births, higher rates of low-birth-weight babies, and higher rates of death from complications during pregnancy and childbirth.

JJ care has almost completely eliminated these problems, starting with what Jenny calls "skinny babies."

Almost every woman I cared for had a plump, healthy baby like this one.

(roar)

This is the baby girl who was born last June by the woman under Jenny's care.

Women in the communities where Jenny works are three times more likely to have babies who are underweight when they give birth in the same hospital as this pregnant woman.

Jenny is boldly tackling a problem that seemed intractable for decades.

Some might think that the one-on-one care that JJ requires is too costly to scale up.

but that's not

At the heart of the model is not an interview with Jenny.

Individual consultations are costly, so you can't maintain them if you don't do a lot of them.

But if everyone can provide the support, information and care they need, Jenny won't have to spend a lot of time in one-on-one consultations.

The beauty of Jenny's model is that it can be applied almost anywhere in medicine.

You can always revolutionize care if you have the opportunity.

Everything I've talked about so far is a big problem.

It's a problem that stems from a long history of racism, classism, and societies divided by race and class.

It incorporates complex physiological mechanisms to protect itself, and when an overreaction is triggered, it really makes you sick.

But what I've learned from my work as a doula is that even a small amount of unconditional support can go a long way.

History has shown that humans have an amazing resilience. While racism and the stress that comes from it may not disappear overnight, it may be possible to create an environment that lessens the pain that people of color experience every day.

If we can provide such an environment for pregnant women, it may be the ultimate means of mitigating the ramifications of racism for generations to come.

thank you

(applause)

Five years ago, I had the job of my dreams.

I was a foreign correspondent in the Middle East reporting to ABC News.

But there was a crack in the wall, and I felt that there was something wrong with this industry and that it needed to be fixed.

I went to the Middle East at the end of 2007, right in the middle of the Iraq War.

But by that time, the news about Iraq had already largely disappeared.

Coverage was down across the board, on every station.

Even if it is reported occasionally, more than 80% of it is focused on us.

We no longer heard about Iraq, about the people who lived there and what was happening to them under the pressure of the war.

Afghanistan has long since fallen out of the headlines.

In 2008, less than 1% of the news reports mentioned the war in Afghanistan.

Despite being the longest war in American history, information was extremely limited, and I once heard from a teacher at school that some students had parents who had joined the war and were sometimes facing death, but we didn't have the information to explain to them exactly what we were doing.

I can't get the information I want -- and it's not just about Iraq and Afghanistan.

From conflict zones to climate change to all kinds of public health crises, we were ignorant of species-level issues that could affect the survival of species, so to speak.

And I was confronted with what it could mean to not understand the complex issues of our time.

But there was no solution, because we didn't understand the problems in the first place, and we didn't follow them in real time.

Looking back at Iraq, while we've been away from Iraq, society has been fragmented, and at the same time, ISIS has risen, taken over Mosul, and allowed terrorist organizations to spread violence beyond Iraq's borders around the world.

As I was thinking about these things, I was looking at the Iraqi border, and I realized there was one more thing I had overlooked: the Syrian war.

If you're an expert on the Middle East, you certainly know how important Syria is.

But in reality, it was forgotten along with other reports about the Arab Spring.

i saw what it meant

Syria is deeply linked to regional security and global stability.

Syria shouldn't be buried, I thought.

So I quit my big TV job and started "Syria Deeply."

It's a news and information website that demystifies complex issues, and over the last four years it's also become a source of information for policy makers and experts involved in the Syrian conflict.

We created a business model based on consistent, high-quality information that brought together experts in the field.

This could be applied to other

In response to enthusiastic requests to cover other things with "Deeply"

Gradually we expanded our work

I'm not the only entrepreneur trying to fix the press problem, and many other startups are doing the same.

All of us on the front lines know that the press industry is crazy.

it's broken

Trust in media hits record low

The stats I'm showing you here are from September, and it's going to be even worse.

but i can fix it

correct the news

It's true

You might say I'm an idealist, but I'm an avid optimist.

you must have a lot of friends

I have some ideas on how we can improve.

The first idea is to make news backed by deep expertise.

A wave of layoffs raged in the news media across the country, and it was no longer possible to specialize.

Specialist journalists are in danger of extinction.

When it comes to international news, we can get around this problem by making more use of local reporters, as partners and collaborators with us, not just errands who get phone numbers and soundbites.

We have local reporters in Syria, Africa, Asia, and they deliver stories that we would never get on our own.

For example, a reporter from a Damascus suburb reported that a wheelchair race was being held to give hope to the war wounded.

A reporter from Sierra Leone told us that in a town where Ebola is spreading, the mayor of the town has set up a quarantine station himself to control the spread of the disease.

Pakistani border reporters say Afghan refugees are being threatened by police and forced to return home.

local reporters are our teachers

It gives us new insights every day and delivers important news that everyone should know.

The second idea is to bring the Hippocratic Oath into the world of journalism and take an oath to do no harm.

(Applause) Journalists toughen up.

We must take responsibility while speaking truth to power.

And we must act according to our principles, be careful that our actions harm society, and never lose sight of journalism as a public service.

We also covered the Ebola crisis carefully.

Launched "Ebola Deeply" and did our best

But the public has been bombarded with emotional and inflammatory reports, some of which are inaccurate and some of which are completely unfounded.

Public health experts say this type of reporting can be deadly, creating panic and misrepresenting facts that make it difficult for people to understand what's really going on.

All this noise makes it difficult to make the right decisions.

The industry as a whole can do better, but to do that, we have to look back at our past mistakes and make sure we don't repeat them.

it's just a choice

Don't try to get ratings by inciting fear

And that has to be decided by the individual head of press at each news site.

Again, when a deadly virus emerges, if we do what we did before, if the reporting is irresponsible and incorrect, it could get worse and cost us a lot.

What's your third idea?

It's about embracing complexity, which is what we need to understand the complexity of the world.

Embrace complexity -- (Applause) Don't simplify the world. There's a difference between being simple and being precise.

we are in a complicated world

Press is adult education.

As journalists, we have to hide in complexity and find new ways to make it easier for everyone to understand.

If you don't, if you pretend you have a simple answer, it's like taking everyone to the precipice.

Understanding complexity is the only way to know the real threat that's right there.

It's our responsibility to demystify these threats and make sure everyone understands what's true, so they know what to do and are prepared for what's to come.

I am an avid optimist

I believe that what is broken can be fixed

that's what we all want

We have great journalists doing great work, we just need a new format.

I truly believe that now is the time to rediscover and recreate what we can do.

broken things can be fixed

fix the news

You should also do that, and you'll always end up going in the right direction.

thank you

(applause)

Have you ever wondered what it would be like to live in a world without rules?

That would be cool

(Laughter) I woke up one morning and all the social regulations -- the government, the laws -- were gone.

any social institution—

There are no schools, hospitals, police, banks, gymnasiums, water, gas or electricity.

I kind of know what this is all about, because I was a medical student in 1999, working in a refugee camp in the Balkans during the Kosovo conflict.

When the Kosovo conflict ended—to my surprise, I got permission from the university to take a leave of absence and watch the families I befriended in the refugee camps as they navigate their post-conflict life in their home villages in Kosovo.

Post-conflict Kosovo is a very interesting place, with NATO troops stationed there to prevent another conflict from erupting.

Apart from that, it was a lawless area, and the structures of almost every institution, public or private, had been destroyed.

Really, when you go into a situation or environment like this, for the first 30 minutes

It's very exciting, but then you quickly realize just how precarious you are.

That was when I got through the first checkpoint, and as I drove closer, I realized that I was going through a checkpoint against a heavily armed man who could shoot me on the spot without any charges.

But the loneliness I felt was nothing compared to the loneliness experienced by the refugee families I had become close friends with that year.

Living in a society with no social institutions at all is full of dangers and surprises, even things as simple as "What am I going to eat tonight?"

It's a very difficult question to find an answer to.

In a world that lacks a security system, keeping yourself safe is a scary thing.

Could that argument with your neighbor lead to violence that could cost you or your family life?

It's terrifying to think about the health problems without a health system.

I've heard many families ask the question, "My baby has a fever, what should I do?"

"My pregnant sister is bleeding, what should I do?

who should i look for ”

"Where's the doctor? Where's the nurse?"

"Can you trust me even if I am?"

"How do I pay? What currency should I pay in?"

"If you need medicine, where can you get it?

There are no imitations, right? ”

and so on

The main challenge of everyday life under these circumstances is the incredible vulnerability that we have to face on a daily basis because we have no social institutions.

And in fact, it's very difficult to explain or make sense of this kind of everyday life to people who haven't experienced it.

I realized this when I left Kosovo

When I returned to Boston and became a doctor, I became a researcher in international public health policy.

Entered Harvard Medical School and the School of Global Health at Brigham and Women's Hospital

As a researcher, I want to tackle this problem immediately.

“How can we alleviate the suffering of people living in such dilapidated environments?

Is there a way to protect vital institutions like the health system and restore them to function quickly? I asked

I had great colleagues

Interestingly enough, apparently this was an unusual kind of question for them.

The response was, "Working on the battlefield doesn't mean working in a refugee camp or writing a report on genocide?"

So for some time now, I've been emphasizing why I'm so passionate about this issue, until about six years ago.

And a groundbreaking study was published about the impact of war on public health.

The conclusion was astonishing and thought-provoking.

The study concluded that most war-related deaths and disabilities occurred after the war ended.

The most dangerous time for war-torn people is the post-war period, after a peace treaty is signed.

after the political settlement

This seems really strange, but it's not surprising, because the way war kills people is by taking over clinics and hospitals and cutting off essential supplies.

The doctor is targeted and killed, so he runs away.

The invisible and catastrophic danger is the collapse of medical and health institutions and the loss of funding.

i wasn't really surprised

But what surprised and disappointed me was how little of this insight has translated into how we view human suffering and war.

Let's take some examples

Last year, as you may remember, Ebola hit the West African nation of Liberia.

Médecins Sans Frontières has issued alarm bells in numerous reports and asked for help and assistance.

It wasn't very well explained why they were in Liberia.

Médecins Sans Frontières is an amazing group of emergency aid in conflict zones.

Liberia's civil war ended in 2003, 11 years before Ebola happened.

When Ebola hit Liberia, there were fewer than 50 doctors for a country of 4.5 million people.

Liberia's Doctors Without Borders is still stationed in the country, 11 years later, because the health system isn't working.

When the Haiti earthquake struck in 2010, a staggering amount of aid came from abroad.

But did you know that only 2% of that money was used to rebuild Haiti's public institutions, including the health sector?

So, with inadequate medical care, Haitians are still dying from the aftereffects of the earthquake.

The other day, called Nether Ismet

met a doctor

He's the health minister for Kurdistan, an autonomous region in northern Iraq.

He says that in the past nine months, his autonomous region, Kurdistan, has grown from four million to five million people.

25% increase

Thousands of these immigrants have experienced incredible trauma.

Doctors work for free 16 hours a day

Instead of increasing the budget by 25 percent, the budget decreased by 20 percent as the budget was diverted to defense and emergency relief efforts.

When the health sector collapses -- and if history repeats itself, it will -- how do you think this will affect the decisions of the five million people in this region to get out of such a dangerous environment?

As such, this is a pressing issue for me, and I'm trying very hard to understand why we're not proactive in protecting and conserving the local healthcare and security systems.

I think there are two factors

The first is corruption, when the people in this situation are corrupt and unreliable.

Certainly, some people working in the health sector had this kind of immorality.

But the reverse is also true. In every case in Afghanistan, Libya, Kosovo, Haiti, Liberia, I've been impressed by the number of people who, when their countries were in dire straits, threw everything to save the health system.

What outsiders who offer help can do is figure out who those people are and pave the way for them to lead.

That's what happened in Afghanistan

It's a story of unsung successes in our rebuilding assistance to Afghanistan.

Afghanistan's Health Sector Leaders Have Accomplished an Amazing Achievement

aggressively expanded access to health care for the majority of the population

The health of Afghans, once among the worst in the world, is improving rapidly.

In fact, America should follow what the Afghan Ministry of Health is doing.

using data to make policy

you must have been surprised

(Laughter) Another challenge is, "I can't afford to do that.

I can't even keep

I swear, under the current circumstances, the current system is the most expensive and inefficient system imaginable.

Countries like the United States government, or countries that are members of the European Commission, for example, contribute $15 billion each year to emergency humanitarian disaster relief efforts around the world.

This is just disaster relief, it doesn't include foreign aid at all.

Ninety-five percent of that goes to international aid agencies, who then send resources to disaster areas like this to create a temporary health system that will be taken away when the funding runs out.

So our duty is clear

Policy professionals in the international health community must first become experts in monitoring the stability and vulnerability of health systems in crisis regions.

When doctors flee, medical resources are depleted, hospitals and other institutions collapse, it's an emergency.

It's time to sound the alarm and wave your hand

do you understand?

like this

It's clearly not a time of emergency chaos.

Second, institutions like Harvard can learn from things like the World Bank's experience in Afghanistan and build a strong foundation to support health sector leaders.

because they put their lives on the line

In response to their courage, we should be able to offer assistance.

Third, we should be more proactive in forming new partnerships with the outside world.

Our Center for International Health Insurance has started a new initiative with NATO and other security agencies to find out how they can protect medical facilities during war.

We want them to understand that protecting healthcare facilities and other critical social institutions is an important part of their mission.

It's not just about avoiding the casualties of military action, it's about getting peace.

And our most important partner is you, the people of America and the people of the world.

If we don't understand the value of social institutions, like medical institutions, in these perilous situations, we won't be helping to save them.

You wouldn't click on an article like this on the internet: "Doctors in country X are on the run.

It would happened to

I wonder what's going to happen, maybe they won't be able to get flu tests in that country.

This is not good, is it?

On the screen are three of my beloved Americans who protected and founded institutions.

George C. Marshall, who created the Marshall Plan to save all of Europe's financial institutions after World War II.

Eleanor Roosevelt

Her commitment to human rights is the cornerstone of every international human rights organization today.

Benjamin Franklin founded many public institutions, but most of all, he created the Constitution of the United States.

What I can tell you here is that when America, or the world, was threatened, they didn't give up.

Don't say "I'm going to build a wall"

They talked about creating an organization to keep people safe for their generation and for everyone.

And so should our generation.

thank you

(applause)

As a kid, I was a typical nerdy boy.

some of you will be

(Laughter) Whoever laughed out loud there, you still do.

(Laughter) I grew up in a small town on the dusty plains of North Texas, where my father was a sheriff, the son of a preacher.

It's out of the question to cause trouble

So I started reading analysis books as a hobby.

(laughs) You too?

So I started building lasers, computers, rockets, and even rocket fuel in my room.

In scientific terms, this is a "very bad idea."

(Laughter) Around the same time, Stanley Kubrick's 2001: A Space Odyssey came out in theaters and changed my life forever.

I liked everything about that movie, especially HAL 9000.

HAL was a sentient computer designed to guide the spacecraft Discovery from Earth to Jupiter.

HAL also has character flaws that ultimately put mission above human life.

HAL is a fictional character, but it evokes a fear in us, the fear of being controlled by an emotionless artificial intelligence that is indifferent to humans.

such fears are unfounded

We are, indeed, at a remarkable time in human history, refusing to accept the limitations of our bodies and minds, to create exquisite, beautiful, intricate, graceful machines that will expand the human experience in ways we cannot even imagine.

I graduated from the Air Force Academy and worked in the Space Force before becoming a systems engineer, but recently I've been drawn to the engineering problems associated with NASA's Mars mission.

If you're going to the moon, you can watch the entire flight from the ground control center in Houston.

But Mars is 200 times further away than the Moon, so it takes an average of 13 minutes for a signal to reach Mars from Earth.

In case of trouble, I can't wait that long

As a plausible engineering solution, we decided to put control functions inside the walls of the Orion.

Another interesting idea in the mission outline is to send a humanoid robot to the surface of Mars before any humans go there to build a facility and then serve as part of a team of scientists.

Looking at this from an engineering perspective, it's clear that what we need to design here is a smart, collaborative, social artificial intelligence.

In other words, we need to build something like HAL, but without the homicidal tendencies.

(Laughter) Let's stop for a moment and think about it.

Is it possible to create such artificial intelligence?

Is possible

Anyway, this is an engineering problem with some artificial intelligence in it, not some cryptic artificial intelligence problem.

To paraphrase Turing, I'm not interested in building sentient machines.

I'm not trying to make HAL

What I'm trying to do is a simple brain, something that provides the illusion of intelligence.

Computer science and technology have come a long way since HAL appeared in the movies, and if Dr. Chandra, the creator of HAL, was here, I'm sure he would have a lot to ask of us.

Can we use millions and millions of devices to read that data stream and anticipate failures and react proactively?

can

Is it possible to build a system that converses with humans in natural language?

can

Can we build a system that can recognize objects, judge people's emotions, express their own emotions, play games, and even read lips?

can

Can we create a system that sets goals, executes plans to achieve them, and learns along the way?

can

Can we build a system with theory of mind?

this is what we're trying to learn how to do

Is it possible to create a system with ethical and moral foundations?

this is what we need to learn how to do

Let's admit that it's possible to create artificial intelligence for missions like this and other things.

The next question we have to ask is should we be afraid of it?

Any new technology always inspires some degree of fear.

People who saw a car for the first time lamented that they would see their families destroyed.

People seeing telephones for the first time feared that they would spoil a polite conversation.

People who saw it flooded with written thought they were going to lose their memory.

To some extent, it does, but those technologies have also fundamentally expanded the human experience.

Let's go further

I wouldn't be afraid to create such an artificial intelligence, because it would embody human values.

Building cognitive systems is fundamentally different from building traditional software-centric systems.

teach rather than program

To get the system to recognize flowers, I show them thousands of flowers that I like.

How to teach the system how to play games — I play games too, do you?

I like flowers too, don't you think so?

To teach a system how to play a game like Go, you have to point it thousands of times, and in the process teach it how to distinguish between good and bad boards.

If you wanted to create an artificially intelligent attorney's assistant, you would teach law, but you would also imbue it with the sense of compassion and fairness that is part of law.

In scientific terms, this is called ground truth, and the point is that when we build such machines, we teach ourselves values.

That's why I trust artificial intelligence as much as I do well-trained humans.

But what if it's at the hands of a rogue operative or some kind of well-funded non-governmental organization?

I'm not afraid of artificial intelligence handled by a lone wolf.

You can't protect yourself from all kinds of violence, but such a system would require extensive and sophisticated training that's well beyond the reach of any individual's resources.

Moreover, it's much more difficult than simply sending a virus to the Internet, where a virus can suddenly blow up computers everywhere with the push of a button.

Those kinds of entities are much bigger, and you're certainly going to see them coming.

Are you afraid that such artificial intelligence threatens all of humanity?

If you watch movies like "The Matrix," "Metropolis," "Terminator," and shows like "Westworld," they all talk about that kind of horror.

In his book "Superintelligence," the thinker Nick Bostrom explores this subject, and sees superhuman machine intelligence as not only dangerous, but potentially an existential threat to humanity.

Dr. Bostrom's basic argument is that over time, such a system develops an unquenchable thirst for information, learns how to learn, and ultimately has a purpose that runs counter to human needs.

Dr. Bostrom has many followers.

Among them are Elon Musk and Stephen Hawking.

And I'm afraid to say to those smart people, I think they're fundamentally wrong.

There are a lot of Dr. Bostrom's arguments to consider, but I don't have time to go through all of them.

HAL was a threat to the crew insofar as it controlled every aspect of the Discovery.

so is superintelligence

it must rule the whole world

In the world of "Terminator" where superintelligence controls human will, Skynet controls every device in the world.

in fact that doesn't happen

We're not going to build an artificial intelligence that can control the weather, set the tides, or subject capricious, chaotic humans to obey.

If such an artificial intelligence were to exist, it would compete with the human economy and compete with humans for resources.

Finally, without telling Siri, we can pull the plug.

(Laughter) We are on an incredible journey of co-evolution with machines.

Mankind today is different than mankind tomorrow

Worrying about the rise of artificial intelligence beyond humans is dangerous because it distracts attention from the human and social problems that the rise of computers themselves will cause and need to be addressed.

How can we successfully manage a society that requires less human labor?

How can we respect each other's differences while spreading understanding and education across the globe?

What can we do to make people's lives longer and richer with medical care based on the cognitive system?

How can computers help us reach the stars?

this is exciting

The opportunity to use computers to advance the human experience is now within reach, and it's just beginning.

thank you

(applause)

Cultural evolution is a dangerous child that cannot be left unchecked for any species.

By the time you realize what's going on, you're a toddler and you're wreaking havoc and you can't back down.

Humans are descendants of Pandora on Earth.

The second replicator is released from Pandora's box and can't be put back in.

The results are all around us

So I'm going to take memetics seriously, and I'll offer some ideas that I've learned from that.

It offers a new way of thinking about what might be happening not just here on Earth, but elsewhere in the universe.

First, I'm going to talk about memetics and memetic theory, and then I'm going to talk about whether this theory can answer the question, is there life beyond Earth?

First, memetics, memetics is based on the universalization of Darwin's theories.

Darwin had an amazing idea

People say it's the best idea ever

Isn't it a great idea that there is such a thing as "best idea ever"?

Do you think there is such a thing?

Audience: None

(Laughter) Around there, someone said, "No."

I think yes, and give the award to Darwin.

I wonder why?

Because the idea is so simple and yet it explains the whole design of the universe.

Not just biological design, but anything that appears to have been designed by humans.

it's all the same

What did Darwin say?

We all know what natural selection is, but to paraphrase the 1859 book "Origin of Species" a bit.

Darwin said, if there is a diversity of life -- which I have no doubt -- that's why we go to the Galapakos and measure the beak size, the turtle shell size, and so on.

Then page 100 --

(Laughter) If there was a race for existence that would have nearly wiped out all of these creatures -- that's a no-brainer, because if you read Malthus and elephants continued to multiply without limit, you could calculate how long it would take for the planet to be overrun with elephants... and so on.

100 pages later

If the few surviving organisms pass on to their offspring the elements that helped them survive, the offspring should be more adaptable to such conditions than their parents.

you see?

If if if if then logic...

Darwin didn't have the concept of algorithms, but he said in his book, and in fact, we recognize this as an evolutionary algorithm.

It's basically three things: change, selection and heredity.

As Daniel Dunnett puts it, if you have these ingredients, evolution is bound to happen.

It can be said that it is designed by chaos that occurs unconsciously.

In this slide is my favorite word.

What do you think it is?

Audience: Chaos

chaos? no, what? Mind? wrong

Audience: Without

no not without

(laughs) You're saying it in order, right?

Audience: Must (required)

Yes it's a must, it's bound to happen

that's why it's great

I don't need a designer, no planning, no foresight, nothing.

If something is copied and selected with change, it is imperative that design emerges out of nowhere.

unstoppable

must (required) is my favorite word

So what does this have to do with memes?

This law applies to anything copied with change or choice.

We have a habit of thinking in terms of biology, and we think of genes that way.

Darwin was different. He didn't know about genes, of course.

He talked mostly about animals and plants, but he also talked about languages ​​that were evolving and disappearing.

But the universalizing principle of Darwinism is that all information with change and choice creates design.

This is what Richard Dawkin said in his bestseller "The Selfish Gene."

The copied information, which he calls replicators,

selfishly copy

It's not inside the cell saying, "I want to be copied."

I'll copy it when I get the chance, whatever the outcome.

It's just copied information, you can't think about it, so the consequences don't matter.

And he wanted everyone to get away from thinking about genes all the time, and he said, "Are there other replicators here?"

Of course I am

Please look around this room

Everything around me is still a replicator that clumsily floats in the primordial soup of culture.

It's information that is copied from person to person, by imitation, by words, by stories, by what you wear or what you do...

This information is copied with changes and choices

This design process is happening

he tries to name the new replicator

I picked up the Greek word "mimeme," which means to imitate.

Remember the heart of the definition, it's imitated

It was simplified and sounded better as "Meme", effectively spreading the meme as a good meme.

That's how the idea came about

It is important to follow the definition

All of memetics as a science has been heavily vilified, grossly misunderstood, and feared.

But if you remember the definition, you can avoid these problems.

Memes are not the same as ideas

it's not an idea it's not the same as anything else

follow the definition

that it is an imitation or that it is information passed down from person to person

Let's see an example meme

You there, you're wearing your glasses around your neck in a particularly fashionable way.

Did you come up with it yourself or did you imitate someone else?

If you imitate someone, it's a meme

Else... I don't see any interesting memes

Can someone tell me a funny meme?

Your earrings You didn't invent the idea of ​​earrings

maybe i bought it somewhere

There are many more in the store

This is passed down from person to person.

It's all about stories, and of course TED is a big meme show, a meme collective.

If you think of memes, think about why they spread.

They are self-informed and copied as much as possible.

Some of it is copied because it's good information, or because it's true, because it's useful, because it's inspiring.

Some are copied even though they are not

I'm not sure why

I have a particularly interesting meme

As expected, I found it on my way here, and you've seen it too.

If you go to some nice international hotel, go into the room, take off your clothes, go to the bathroom, what do you see?

Audience: Bath soap

What's that?

Audience: Soap

Well soap What else do you have?

Audience: (inaudible) Hmm

Audience: wash basin toilet

washbasin toilet well these are all memes they are useful memes but there is this one

(Laughter) What is this for?

(Laughter) This has spread all over the world.

I wouldn't be surprised if it's in the toilet here.

But I took this picture in the bathroom behind the tent at Eco Camp in the jungle of Assam.

(Laughter) Who folded this here for what?

(Laughter) Some people get carried away.

(Laughter) On the other hand, some people make mistakes.

Some hotels use this meme to spread more memes with little stickers like this.

(Laughter) What does this mean?

Maybe this suggests that someone cleaned the room and everything was clean.

But it actually suggests that someone is spreading germs from place to place.

(Laughter) Think about it.

Imagine a world full of brains and even more memes.

Memes are desperate to be copied.

We use you and me as propagating copiers, which is why we are memetic machines.

Now why is this important?

Why is it useful? What does it mean?

It puts forward a new view of human origins and the meaning of human existence, the conventional theories of cultural evolution and human origins, and what makes us so special.

Other theories explain the brain, language, and tool use, and say that all of these things that make us unique are in our genes.

language would have been convenient for genes

Tools would have helped us survive and produce offspring.

As Richard Dawkins argued long ago, it always comes back to genes.

The Point of Memetics is No

There are two replicators on Earth

Perhaps from the moment our ancestors began imitation about 2.5 million years ago, a new copying process was set in motion.

Copy with change and choice

A new replicator was unleashed, and the human race that unleashed this new creation from the beginning did not copy only the useful, clean, true things and nothing else.

Their brains have a copying edge -- from things like making fires, keeping things burning, new ways of hunting, inevitably copying feathers on their heads, wearing strange clothes, painting their faces, whatever.

It's going to be an arms race between genes and memes. Genes try to keep the human brain small and economical so they don't have to worry about copying everything, while memes like the sounds that people make and copy, which turns into words, try to make the brain bigger and bigger.

The theory is that memes are to blame for the big brains.

That's why I called it the memetic dynamic in "Me as a Memetic Machine."

As a meme evolves -- it should -- its brain gets bigger to make it easier to copy the meme.

That's why our brains are specially evolved and we love religion, music and art.

In this view, language is like a parasite inside of us that wasn't there to begin with because of our genes.

And like most parasites, it can be dangerous, but together we have evolved, adapted, and formed a symbiotic relationship with this new parasite.

we don't realize it started that way

this is the view of mankind

All other species on Earth are genetic machines, and they replicate very little.

We are the only genetic machines and memetic machines

The meme picked up the gene machine and turned it into a memetic machine

but that's not all

there's a new kind of meme

I've been wondering for a long time, I've been thinking a lot about memes, is there a difference between the memes we copy -- the words we exchange with each other, the gestures we copy, the things people do -- and these technologies?

I used to call everything memes, but now I think technology memes need a new name.

Let's call it techno-meme or tame

because the process is different

We started writing about 5,000 years ago.

We've stored memes on clay tablets, but to have a real theme or a real theme machine, change, selection and copying must be done without human intervention.

it's almost there

We're at a crazy starting point that's about to reach it, and there is such a machine.

In the short time since I've been at TED, I've felt that we're much closer than we've ever been.

In fact, Tame is trying to turn our brains into Tame Machines.

Our children grow up quickly, they learn to read quickly, they learn to use machines very quickly.

We're surrounded by all kinds of implants and drugs that keep us awake.

We feel like we made this choice ourselves, but in reality, it's being manipulated by Tame.

We're on the cusp of bringing a third replicator into the world.

Now, what's going on outside this planet?

What about other life forms?

Humanity has been asking this question for a long time.

Also talked about at this TED

In 1961, Frank Drake proposed the famous equation, and I think it's biased in the wrong direction.

This formula was very useful

He tried to estimate "the number of contactable extraterrestrials in our galaxy," N, and included in the equation the probabilities of star formation, the probabilities of planets and, crucially, intelligence.

i think he is wrong

intelligence is found in everything out there

Human intelligence is just one of them

What really matters is the replicator you have, and the stages of your replicator's development -- one step at a time.

So I propose to think about replicators instead of intelligence.

That's why I proposed another equation

very simple

N is the same as "the estimated number of contactable extraterrestrials in our galaxy."

start with the number of planets in the galaxy

rate of producing the first replicator

rate of producing second replicators

rate of producing a third replicator

Because only the tertiary replicator -- it can send information, it can send spacecraft, it can go there, it can contact anyone, and it can go out.

Now, if we adopt this equation, why aren't we getting any contact from aliens?

because every step is dangerous

Incorporating new replicators is risky

You can get through it, we've made it through, but it's very dangerous.

As soon as life on Earth was born, the first steps were taken.

You can take the position of the Gaia theory.

Peter Ward's talk yesterday was very interesting -- there's more than just Gaia.

The fact is that life creates things that destroy itself.

we got over it on this earth

But then billions of years later, a second replicator meme emerged.

this was dangerous

think big brain

How many mothers are there here?

you know all about big brains

Giving birth to them is dangerous and painful.

(Laughter) My cat has had four kittens and is purring all the time.

uhm it's a little different

(Laughter) But it's not just painful, it kills a lot of babies, it kills a lot of mothers, and it's very expensive to produce.

The genes force the production of myelin, which surrounds the axons of nerve cells in the brain, the fat that activates the brain.

Did you know that while you're sitting here, your brain uses 20% of your energy expenditure while weighing only 2% of your body weight?

very tall organ

why? because it creates a meme

It could have killed us all.

But maybe it was near

have you done that before?

What about many other species?

Louise Leakey spoke yesterday about why we're the only ones left on this branch.

what else happened?

Maybe this replication experiment, this second replicator experiment, is dangerous enough to kill people?

But we got over it and adapted.

But now we're at the third replicating child point, as I just said.

And this is even more dangerous--also dangerous.

I wonder why? That's because Tame is a selfish replicator who doesn't care about us or the Earth or anything else.

because they are just information

They're using us to suck up the resources of the planet, to produce more computers, to produce more of these wonderful things you hear at TED.

Don't think that we built the Internet for our own benefit.

it just looks like that to us

Please think that it is inevitable that the theme will spread

we are old machines

Well can we get over it?

What is going on?

What does overcoming mean?

There are two ways to get over

One is, like it's already happening all around us, let the tame make us tame machines, using implants and drugs to get along with technology.

why would they do that?

because we self-replicate

we give birth to children

Because we're building new, it's convenient to piggyback, because other options have not yet become prominent on our planet.

But it's getting closer. I heard this morning that it's closer than I thought.

Theme machines self-replicate themselves

That way, even if the planet's climate becomes unstable and uninhabitable, it doesn't matter.

Because these theme machines aren't sentimental, damp, oxygen-breathing creatures with warm fluids.

they can exist without us

there are two possibilities

Second, I don't think we're that far.

It's coming, but it's still a long way off

the first one will come

But the damage already done to this planet shows how dangerous the third point is, the third replicator.

And can you survive this third point like you passed the second first stage?

are you okay

I do not understand

(Applause) Chris Anderson: It was incredible.

I got scared too

Chris: (laughs)

Hello, I'm an engineer and I build robots.

Of course, you all know what a robot looks like.

If you don't understand it, search for it and it will become clear

I'll try

Search looks like this

There are many kinds of robots, but these are mostly humanoid robots in their construction.

It's kind of like a robot, because it's made of plastic and metal, and it has motors, gears, etc.

Some of them are quite familiar, and it seems that you can hold and hug them.

Some things aren't, and they look like they're straight out of The Terminator, and they're actually Terminators themselves.

You can do a lot of exciting things with this robot.

But I'd like to look at a different kind of robot and try to build something like that.

So I was inspired by something, not by people.

It's a creature that exists in nature, and it can do really amazing things that we can't do.

So many things -- crawling on floors, going into gardens, eating crops, climbing trees, going in and out of water, catching and digesting insects.

do something really interesting

They live, they breathe, they die and they eat things in nature.

Existing robots don't actually do that.

If we could incorporate some of these properties into robots of the future, maybe they could help solve some of the most interesting problems, right?

Let's take a look at two problems with our current environment, where we can use technologies and techniques that we find in these animals and plants, and we can use robots to solve these problems.

Let's consider two environmental problems.

They're both things that we've created that I would say have caused some pretty nasty things about how humans interact with the environment.

The first is related to population growth.

As the world's population explodes, farmers and farms are being asked to produce more crops.

So farmers started using more chemicals on their land.

Fertilizers, nitrates, pesticides, all of which promote crop growth, but they also have negative effects.

As an example, if you put too much chemical fertilizer on your farmland, not all of it will reach your crops.

A lot of it stays in the soil, and when it rains, the fertilizer flows into the water table.

And then it flows from the water table into lakes and rivers and into the ocean.

When all of this fertilizer (nitrates) runs into those environments, there are organisms that are affected by it, like algae.

Algae love nitrates and chemical fertilizers, so they take in these substances and, if the conditions are right, reproduce.

a large amount of new algae will grow

this is called bloom

Unfortunately, when algae grow in this way, they starve the water of oxygen.

When this happens, other aquatic organisms can no longer survive.

So what should we do?

We're prototyping a robot that eats algae, consumes it, and makes it safe.

that is the first problem

The second problem is also man-made and has to do with oil pollution.

Oil flows out of the engines and boats we use.

Occasionally, a tanker's oil tank will leak into the sea, and the oil will flow into the sea.

Wouldn't it be nice if we could take care of this problem with robots that eat pollution from oil wells?

this is our job

Build a robot that eats pollutants.

In fact, to make that robot, I was inspired by two creatures.

You can see the basking shark on the right

The basking shark has a large body

They're not carnivorous, so they can swim with you, as you can see.

Sharks swim underwater with their mouths wide open, collecting plankton.

It's using energy inside its body to keep it moving, and why can't we build such a robot?

Like a basking shark eating up pollutants as it swims through the ocean -- let's see if we can.

Inspired by other creatures

Here's a picture of a pine moth

really cute insect

When you swim underwater, you move forward with your pedal-like legs.

We took these two creatures as inspiration and connected them together to create a new kind of robot.

In fact, I was inspired by this bug, so this robot floats on the surface of the water, and it's called "Row-bot."

It's a rowing robot

What is it like?

So here are some photos of the Row-bot, let me show you.

Google is wrong. Robots are more like this.

I brought Row-bot here

I'll show you

You can see how big it is, and you can see that it's different from other robots.

It's made out of plastic The parts that make up the Row-bot - let's see what makes it so special.

Row-bot is made up of three parts, and those three really seem to be parts of the organism.

It has a brain, it has a body, it has a stomach.

You need your stomach to produce energy.

Every Row-bot has these three parts, just like any living thing, so let's take a look at them one by one.

It has a body made of plastic that floats on the surface of the water.

It's got webbed sides on it.

It's a plastic body, but it has two soft rubber mouths here and there and two mouths.

Why do you have two mouths?

One takes in food and the other expels food.

So you can see that it has a mouth and a butt, or I should say a butt.

It looks like a basking shark

it's the body

The second part could be the stomach.

We need to power the robot and deal with the pollutants, so the pollutants go in and do something.

Right here in the middle, there's a battery called a microbial fuel cell.

I'll put this down and show you the fuel cell.

This is an alternative to equipping with batteries, an alternative to traditional power devices, and I'm going to show you one.

this is a robot stomach

It really works like a stomach, because you can put energy in the form of pollutants from this side, and that's what makes electricity.

What's this?

It's called a microbial fuel cell.

It's a little bit like a chemical fuel cell, you might have seen it in school, you might have seen it on the news.

A chemical fuel cell takes hydrogen and oxygen and reacts them to produce electricity.

The technology is well established and was used in the Apollo space program.

40 to 50 years ago

A little newer than that

microbial fuel cell

It's the same principle. You put oxygen on one side, but instead of hydrogen on the other side, you put a small amount of broth, and in that broth are live microorganisms.

If you put a little bit of organic matter -- it could be waste or leftovers from a sandwich -- you put it in there, the microbes eat it, and it turns into electricity.

Not only that, but if you choose the right microbes, you can use microbial fuel cells to treat pollutants.

If you choose the right microbes, they will eat algae.

If you choose a different type of microbe, it will eat petroleum solvents and crude oil.

You'll see how this stomach is not only used to process pollutants, but how it's used to generate electricity from pollution.

The robot puts food in its stomach, digests it, produces electricity, and then it uses electricity to move around in its natural environment, and it repeats the action of using electricity.

Let's see what happens when we activate the Row-bot What happens when we row the water-

I'm going to show you two videos, the first one is the open mouth.

When the front and rear mouths are fully opened, the robot starts rowing forward.

They plow through the water to ingest food and expel processed matter.

Once it's done moving, it stops and closes its mouth -- it closes slowly -- and it stays there to digest the food.

Of course, this is a microbial fuel cell, and it contains microbes.

We really want to get as much energy out of the microbes as quickly as possible.

Micro-organisms can't force it, like milliwatts or microwatts per second.

Only a very small amount of electricity can be produced

To explain this clearly

For example, your smartphone, especially a newer one, needs about 1 watt.

That's a thousand times, a million times more energy than a microbial fuel cell.

How can we use it?

Once the Row-bot completes digestion and takes in the food, it waits patiently until it has digested all the food.

It takes hours, sometimes days

A typical row-bot cycle goes something like this: open mouth, move, close mouth, sit still, wait.

Once they've digested the food, they do the same thing again and move around.

But don't you think it looks like a real creature?

it's like what we do

Saturday night, go out, open your mouth, fill your belly, sit in front of the TV and digest.

Once you've digested enough, repeat the same thing.

And if you repeat this cycle, you end up with extra energy to do other things, and end up with extra energy to do other things.

e.g. send a message

Messages like, "I've eaten this much pollutants lately," or "I've come across this food," or "I'm here."

The ability to send the message, "I'm here," is very important.

Given the oil slicks we've seen before and the algae overgrowth, all that's required is for the Row-bot to float in nature to eat up all the contaminants and then recover them.

Why?

Today's robot, the Row-bot that I brought here, has motors, wires, and parts that aren't themselves biodegradable.

Current Row-bots come with what looks like harmful batteries.

We can't leave it in the wild, so we need to detect it, and when it's done its job, we need to retrieve it.

Therefore the number of Row-bots that can be used is limited

On the other hand, if you're a robot that's a little bit more like a living thing, it's the end of life and it rots away.

So wouldn't it be nice if these robots weren't made out of plastic, but made out of some other material that biodegrades if you just throw it out there?

And that will change the way we use robots.

You can release 10 to 100 robots into the wild, track them, and instead of retrieving them when they die, instead of retrieving them when they die, you can release a thousand, million, billion robots into the natural environment.

All you have to do is scatter

Because we know that robots will decay at the end of their lives.

don't worry

This changes the way we think about robots and how we use them.

The question is is it possible

we have demonstrated that it is possible

It's possible to build biodegradable robots.

What's really interesting is that you can use ordinary materials to build this robot.

Let me give you a few surprises.

You can make a robot out of jelly.

Instead of adding a motor that we have today, we can use something called an artificial muscle.

Artificial muscles are smart materials, and when you pass electricity through them, they contract, bend, twist.

looks like real muscle

Instead of attaching a motor, we attach this artificial muscle.

artificial muscles can be made from jelly

If you prepare a little jelly and a little salt, and do a little bit of work, you can create an artificial muscle.

I just said that we can make a microbial fuel cell stomach out of paper I just said that we can make a microbial fuel cell stomach out of paper

An entire robot can be made from biodegradable materials.

If you leave it in the open, it will rot afterwards.

I am thrilled from the bottom of my heart

It's going to completely change the way we think about robots, but it's also going to make us really creative in how we think about what we can do with these robots.

Let me give you an example

If you could use jelly to make a robot, would you eat jelly?

How about making something like this?

gummy bear robot

I have prepared some here in advance.

Here are the gummy sachets, lemon flavored.

Eat a gummy bear This bear doesn't look like a robot, does it?

but i pretend to be

I'll throw one in my mouth. Lemon flavor is delicious.

I'll be careful not to bite too much. You're a robot.

and swallow

enter the stomach

So the robot moves, it thinks, it bends and twists, it does something.

It might even go further down the intestines to see if there's an ulcer or cancer, and maybe do something like an injection.

Once the robot has done its job, it can be digested in the stomach or, if it doesn't want to, go straight through the digestive system, flush it down the toilet, and decompose safely in the environment.

This also changes our concept of robots.

First, we introduced you to robots that eat pollutants, and then robots that can eat us.

And I think this gives us a hint of how we might interact with robots in the future.

Thank you for your attention.

(applause)

What would you say if I told you that time has a "race" in the sense that Americans now understand it?

Basically what we call "race" is a black-white problem.

In the African-American community where I grew up, there's a long-running, multi-generational joke we call "CP time," or "colored people time."

Now, we don't call African Americans "colored," but that old joke remains: they're always late for church, barbecues, family events, and even funerals that involve them.

I am picky about time

It's the same thing my mother said when I was little, "I'm not going to be black like that."

That's why we're usually at the venue 30 minutes early.

But what I want to talk to you about today is the political nature of time, because if time has a race, it's white.

white people own time

yeah i know

This kind of inflammatory remark is kind of awkward, isn't it?

Isn't "race" a brute force concept?

Be wise and progressive, and throw useless concepts like "race" into the dustbin of history.

Can we overcome racism by continuing to make race an issue?

Perhaps the notion of "race" should be trapped in a time capsule, buried in the ground, and dug up in 1,000 years for the eyes of a decidedly more enlightened, non-racist human being in the future.

But as you can see, the desire to mitigate the effects of race and racism is reflected in how we manage time, how we tell history, how we force the negative truths of the present into the past, and how we claim that the future we want is the present we live in.

When Barack Obama became President of the United States in 2008, many Americans said racism was a thing of the past.

I'm an academic worker who likes to put a "post" on everything.

We are in a postmodern, poststructuralist, postfeminist era.

"Post" is just an academic adjunct that is attached to various words to mean that it was in the past.

But prefixes alone can't make race and racism a thing of the past.

America has never been 'pre-racist'

It would be disingenuous to claim that racism is over without still addressing the racism that blacks, Latinos and Indigenous people face.

Just as we were celebrating a future without racism, America's political environment became the most racist it's been in 50 years.

So today, I'd like to offer three perspectives on time, the past, the present, and the future, that will help us fight racism and white dominance.

the past first

Time has history, and black people have history.

But we don't take the passage of time into account, it's always been that way, as if the plundering of land from indigenous peoples and the genocide -- the political history so closely tied to the plunder of Africans from their homeland -- doesn't exist in time.

When a group of white male European philosophers tried to conceptualize time and history, one of them declared, "Africa is not part of the history of the world."

Basically what he said is that Africans are people who don't influence the times, they don't contribute to progress, they are outside history.

This idea that black people have no influence over history is one of the basic ideas of white supremacy.

This is why Carter G. Woodson created "Negro History Week" in 1926.

That's why every February in America, we celebrate Black History Month.

Now, we see the idea that black people are out of time, or stuck in the past, in situations like this -- when black people stand up and argue that racism is still a problem, as I'm doing now, some people -- usually white people -- say, "Why are you stuck in the past?

can't you move forward?

we have a black president

It must have passed."

Faulkner once said, "The past never dies, it's-

Not even the past

A good friend of mine, Professor Dotson, once said, "Our memories are longer than a lifetime."

We all have hopes and dreams for our families and social groups.

The luxury of letting the past wash away is not allowed.

But sometimes the political landscape is so confusing that it's hard to tell if we're living in the past or the present.

For example, when Black Lives Matter demonstrators protest against the unjust killing of black civilians by police, the photos of those protests look like they were taken 50 years ago.

The past won't let us go

Supporting me to the present

What I'm trying to say now is that the racial conflict we have is a conflict of time and place.

what do you mean

I said earlier that white people control time.

Powerful white people set the pace of their working hours.

It determines how much our time is actually worth.

Professor Lipschitz argues that even the pace of social inclusion is set by white people.

They also decide how long it will actually take for minority groups to win the rights they have been fighting for.

Let's go back in time and give an example.

Think of the civil rights movement, whose leaders yelled, "Freedom is now," challenging the white man's slow pace of social inclusion.

By 1965, when the Voting Rights Act was passed, it had taken a full 100 years from the end of the Civil War to give the black community the right to vote.

Despite the urgency of civil war, it took a full 100 years to achieve social inclusion.

Since 2012, conservative state legislatures across the United States have sought to roll back black voting rights by adopting restrictive voter ID laws and reducing opportunities for early voting.

In July, a federal court overruled North Carolina's voter ID law, saying it was "...pinpointing black people."

Limiting black inclusion in national politics is a primary way of trying to control and control people by controlling and controlling time.

On the other hand, another place where we see a collision of time and space is the "upscale residential" cities, like Atlanta, Brooklyn, Philadelphia, New Orleans, Washington, D.C., which have had black populations for generations.

Now these communities have been eliminated in the name of urban regeneration and progress for progress into the 21st century.

Professor Holland asked the question, what happens if a person who exists in time meets someone who only occupies space?

These racial struggles are between those seen as place takers and those seen as world makers.

Those who control the course and momentum of history are seen as the owners and masters of time, the creators of the world.

It means "white"

When Hegel says that Africa is not part of the history of the world, he simply means that it is just a large continent that occupies the bottom of the earth.

Africans are place takers

So today, while whites continue to control the course and momentum of history, they treat blacks as occupying places they don't belong.

Time and progress are brought up to justify the astonishingly strong attacks directed against the most vulnerable people, who are seen as place takers rather than world makers, who are pushed out of the places they live under the pretext of joining the 21st century.

The fact that life expectancy varies according to where you live is just one example of how time and place are linked to mistreatment in black lives.

Children born in New Orleans zip code 70124, who are 93% white and 60% black, are expected to live 25 years longer than those born in 70112 New Orleans.

Children born in wealthy suburbs in Maryland are expected to live 20 years longer than those born in downtown Washington, D.C.

Ta-Nehisi Coates says that when you're classified as black, you inevitably steal time.

We are subject to time discrimination, he says, not only structurally but also personally: moments of joy are lost, moments of bonding are lost, time spent with loved ones is lost, years of healthy, quality life are lost.

Do you see black people in the future?

Do black people have a future?

What if you belong to that race that's always in a race against time?

What if the group you belonged to had no future imagined?

These clashes of time and space—the clashes between protesters and police, gentrifiers and residents, cast a dark shadow over what America wants for its black future.

If the present represents the future, black children will continue to be undereducated, sick with high tolls, and housing out of reach.

So if we're really ready to talk about the future, we should start by acknowledging that we're out of time.

We black people are always put out of time.

time is not ours

our lives are in perpetual emergency

Time is used to exclude us, and instead we are encouraged to be complacent with the status quo by constant demands to just put up with it.

But if the past is the prologue, let us seize being outside of time and demand freedom now and with urgency.

We believe the future is what we create

But first we have to decide that time belongs to all of us.

Not everyone gets equal time, but you can decide that the time you get is fair and free.

Stop letting your zip code (where you live) determine your life

We can stop black children from robbing learning time through excessive suspensions and expulsions.

We can stop stealing black people's time with long prison terms for crimes that don't involve violence.

Excessive use of force can stop police from stealing time and black lives.

We believe the future is what we create

But you're not going to get there in people of color's time, not in white's time, not in your time, not in my time.

We'll do it on everyone's time

it's everyone's time

thank you

(applause)

Three years ago, I started building a decentralized web because I worried about the future of the Internet.

Today's Internet relies heavily on gatekeepers.

If you want to get to anything on the web, you have to go through a number of middlemen.

First of all, domain name servers, and then server companies that bridge you to third parties, website companies.

That's what happens every time you visit a website

These gatekeepers are vulnerable to Internet attacks and are easier to censor and monitor.

and the situation is getting worse

Everything is moving to the cloud, where data is managed by giant corporations.

This change creates even more powerful intermediaries.

Moving to the cloud makes sense because it's easier and cheaper for developers and service operators.

Stop worrying about managing physical servers

I can't really blame them, but this trend is very dangerous because it gives giant corporations unlimited control over their hosting services.

This power can be easily abused

For example, last year, the CEO of a company that gatekeepers nine million websites, under public pressure, decided to block one of the sites the company controls for extreme right-wing content.

and he emailed people in the company

"This is an arbitrary decision

I woke up this morning in a bad mood and decided to lock the site out."

He himself admits, "Nobody should have this kind of power."

One employee responded by asking, "Is this the day the Internet died?"

I don't think the internet is dead, but right now we're in a sort of irresponsible centralization process that makes the internet even more vulnerable.

A decentralized web with direct human interaction solves this problem by removing the central web hosting service.

It gives users the power to run the sites they want to keep.

This network downloads sites directly from other visitors

A site with 100 visitors is run by 100 computers around the world.

Basically, this is an internet powered by the people.

Network security is protected by public key cryptography

That way no one can modify the site except the site owner.

It's like putting solar panels on the roof of your house instead of getting your electricity from a big power plant. If someone in your neighborhood needs electricity, they can get it directly from your house.

So in a decentralized web, everyone can help make it accessible to other visitors.

And it also allows us to stand up against things like censorship that we feel are unfair.

The internet is tightly controlled in China.

You can't criticize the government, you can't organize protests, you can't use emojis that remind you of Tiananmen victims.

On the decentralized web, governments don't decide what you can see and what you can't see.

The people decide, the web becomes more democratic.

At the same time, this network makes it harder for people to do things that are clearly illegal anywhere in the world, because users don't want to put themselves in danger by posting questionable content like that.

Another growing threat to internet freedom is overregulation.

I think lawmakers who are voting for laws that regulate the Internet don't really understand the implications of their decisions.

For example, the European Parliament is discussing a new copyright law, in which Article 13, if passed,

All major websites will have to implement filters that automatically block content based on rules controlled by giant corporations.

The original idea is copyright protection, but it also puts a lot of other things on the Internet at risk: blogging, criticizing, discussing, linking, sharing.

Google and YouTube already have similar systems, but they receive 100,000 takedown requests every hour.

Of course, we can't process this amount of data manually, so we're using machine learning to determine if we're infringing copyright.

But these filters are misleading.

The filter removes anything from human rights violation records and copyright lectures to articles criticizing Section 13 of the Copyright Act in search results.

It removes a lot of other things as well.

Filters don't just remove certain pieces of content, they can also cause you to lose the accounts associated with them -- email addresses, documents, photos, even unfinished books, as happened to author Dennis Cooper.

It's easy to imagine how a system like this could be abused by politicians and competitors.

Article 13, which extends these filters to the entire Internet, is strongly opposed by Wikipedia, Github, Mozilla, and many others, including the creators of the Internet and the web, Vint Cerf and Berners-Lee.

But despite this strong opposition, in the last European Parliament vote, two-thirds of the members supported the law.

Final voting will be in early 2019

The result is important, but either way, there will be many similar proposals around the world.

On the decentralized web, there's no operating company, so it's hard to impose these regulations.

Website is supported by visitors

I started building this network three years ago.

Since then, we've spent thousands and tens of thousands of hours developing it.

I wonder why?

Why spend so much time on something that anyone can copy, rename, or even sell?

In my case, one of the reasons is to do something important.

In my day-to-day work as a web developer, I never felt like I had the potential to become something beyond myself.

I simply wanted to make sense of my limited life.

Last year, China's firewall started blocking my network.

This put me at odds with this government-sponsored Internet censorship.

Since then it's really been a cat-and-mouse game

When the Chinese government creates new rules in their firewalls, I respond as quickly as possible so that users can continue to create content and websites that are censored by the Chinese Internet.

Another reason I'm building this network is concern.

I fear that the Internet of the future will not have freedom.

Freedom of speech is threatened by increased centralization and proposed legislation, which in turn threatens democracy.

To me, building a decentralized web is about creating a safe harbor, a place where the rules are not made by megacorporations or political parties, but by the people.

Thank you for your attention

(applause)

You're on the hunt for the werewolf that's terrorizing the town You're on the hunt for the werewolf that's terrorizing the town

After months of detective work, we've narrowed down the suspects to five: a mayor, a tailor, a baker, a supermarket owner, and a carpenter.

I invited them to dinner with a simple plan: to sneak a square-shaped, rare werewolf antidote into each person's dish.

Unfortunately, my pet goat ate four of them, so I only have one left.

Luckily, the one that's left is 50 grams, and the minimum effective dose is 10 grams.

If you can divide the square into five equal halves, you'll barely have enough of the antidote to distribute to everyone.

You have to use a laser cutting machine to divide the squares, because none of the other methods are accurate.

There are 8 possible starting and ending points for each cut.

To use the machine, you tell the laser a set of two points -- the start and end of each cut -- and all the cuts are made at the same time.

You can cut it into whatever pieces you like, but you have to put them together and make 10 grams each.

It must not be folded or deformed, and the laser cutter can only be activated once.

As soon as the full moon rises, someone turns into a werewolf and everyone is torn to pieces unless you can fix the werewolf first.

How can you divide the antidote into exactly five equal parts, cure the hidden werewolf, and save everyone?

[Stop here if you want to come up with your own answer]

[Answer 3] [Answer 2] [Answer 1] When it comes to problems that involve cutting and rearranging, it often helps to actually pick up a piece of paper and cut it out and see what you can do.

If you cut BF and DH, you get 4 halves, but what you need is 5 halves.

Maybe there's a way to cut it a little bit smaller than a quarter and get exactly a fifth.

BE's amputation looks good at first glance, but the last amputation cuts off 1/4 of 1/4, leaving 3/16, which is slightly less than 1/5, so this isn't enough to cure a werewolf.

What if we started with disconnecting BE instead?

This is also divided into 4 equal parts

Is there a way to cut them to make them just a little bit smaller?

Both DG and CH seem to be promising

If you cut one more point from A to F, you might start to notice something.

These 4 cuts - B to E, D to G, F to A, H to C give 4 triangles and a square in the middle.

But these individual triangles can be rearranged to form the same square as the middle square.

So that means we split the antidote into exactly five equal parts.

What's interesting about these problems is that while it's possible to start with geometry and solve them, it's actually easier to just try and see what happens.

If a square has 24 cutting points, it's not a good place to do it, but if it's just eight, there's a limited number of reasonable options.

Secretly let everyone take the antidote when the full moon appears in the sky Secretly let everyone take the antidote when the full moon appears in the sky

At that very moment, a terrifying transformation begins.

suddenly reverts to its original form

The measurements were perfect, and the townspeople and animals were relieved.

We've spent countless hours learning how to spell in school.

Children still spend a lot of time practicing spelling.

So I would like to ask a question: How about a new spelling?

i think i need it

More to the point, I think we need to simplify the current spelling.

This question and its answer are not new to Spanish.

It's been debated for centuries, and it goes back to 1492. In the first grammar of the Spanish language at that time, Antonio de Nebrija laid out the principle of spelling: "...that is why we must write words as they are pronounced, and pronounce them as they are written."

Each sound corresponds to a letter, each letter represents a sound, and letters that represent no sound should be removed.

This approach is called the "phonetic approach," where you write down what you pronounce.

That's because Spanish, unlike English, French, etc., has always rejected spellings that differ significantly from their pronunciation.

But the phonetic approach is obsolete today, because in the 18th century many other approaches were used as the basis for a number of decisions to be made in unifying writing systems.

It's the etymological approach, which says that you have to write exactly as it's written in the language of origin, whether it's Latin or Greek.

That's why I write down the unpronounced "H"

That's why we have a "B" and a "V." You might be surprised, but the Spanish pronunciation has never differentiated between these two letters.

This is also why the "G" is troublesome. In some cases, "gente" (people) has an h sound, but "gato" (cat) does not.

That's why the complexity of "C," "S," and "Z." These three letters can represent the same one sound, or they can be two, but you don't need three letters.

I'm sure you've all experienced what I'm talking about here.

We all went to school and spent a lot of time learning, when our brains were still flexible and young, we spent a lot of time dictating and memorizing grammatical rules full of exceptions.

We've been told, explicitly and implicitly, that the way we spell it depends on something vital to our growth.

But I can't help but wonder if the teachers didn't ask themselves why it was so important.

Yes, I didn't ask myself the question I just raised, "What is the purpose of spelling?"

"Why do you need spelling?"

The truth is, when someone asks themselves this question, the answer is much simpler and trivial than we think.

The reason we decide on spelling is so that we can all write in the same way, so that everyone can read and understand each other's writings.

Unlike other grammatical items, such as the use of punctuation, spelling does not express individuality.

Punctuation is related

The use of punctuation marks can change the meaning of a phrase.

Punctuation gives a sentence a certain rhythm, but spelling does not.

The spelling is only right or wrong depending on whether it conforms to current rules.

So shouldn't the current rules be simpler and easier to teach and learn how to spell correctly and use?

Wouldn't it make more sense to spend the time spent teaching spelling, simplifying the current rules, to teach other problems of the language? Isn't such a complex problem worth spending time and effort on?

What I'm suggesting is not that we lose spelling or that people can write whatever they want.

Language is a tool that people use in common, so I think it's fundamental to use it according to common rules.

But also, as a general rule, the common rule should be as simple as possible, because simplifying spelling doesn't mean lowering the bar. Simplifying spelling doesn't affect the quality of the language in any way.

I'm a daily researcher of Spanish Golden Age literature, reading works by Garcilaso, Cervantes, Gongola, and Quevedo. They write "hombre" (man) without an "H" and "escribir" (write) with a "V".

it's not a matter of quality

Let's go back to the masters, they're important characters in this story.

Earlier, I mentioned that teachers tend to pursue spelling with little thought.

But actually, given the current situation, this makes perfect sense.

In our society, spelling is a class indicator, separating the educated from the uneducated, the educated from the uneducated, regardless of what is actually written.

Whether or not you spelled the "H" correctly may determine whether or not you get a job.

People will laugh at you for accidentally using the letter "B".

So in a situation like this, it makes sense, of course, to spend time spelling.

But let's not forget that in the history of our languages, it has always been teachers and early childhood language educators who have pushed forward with the innovation of spelling and realized that spelling is a barrier to knowledge transfer.

In the case of Spanish, for example, Sarmiento, together with Andre Bellot, initiated the biggest spelling innovation in the history of Spanish, an innovation in Chile in the mid-19th century.

So, why don't we inherit the thoughts of these predecessors and bring progress to our spelling?

I'd like to propose some of the changes that I think are worth starting to discuss in this forum with 10,000 fellows.

Get rid of the silent "H"

Stop writing the unpronounced "H"

(Applause) No amount of dedication would justify the hassle that a silent "H" brings.

The "B" and the "V," which I mentioned earlier, aren't inherently distinct in Spanish. (Applause) We should have one or the other.

Everyone has their own tastes and opinions

keep one and get rid of the other

Let's separate roles for "G" and "J"

"G" is used for "gato", "mago" (magician), "águila" (eagle) without an h sound, and "J" is used for sounds with an h sound, such as "jarabe", "jirafa", "gente", "argentino".

The "C" and the "S" and the "Z" are an interesting question, because although the phonetic approach may be relied upon, it's not the only criterion.

Differences in pronunciation can be a problem

As I said, "C" and "S" and "Z" can be one note or two.

Don't you think things would be better if we cut it down to two letters instead of three?

Some might think that these changes have gone too far.

it's not

The Spanish Royal Academy and other linguistic academies believe that spelling should evolve over time. Language is linked to history, traditions and customs, but at the same time it is a practical tool for everyday use.

In fact, this also shows that historically, our language has changed based on ourselves, not on the influence of those around us. For example, "ortographia" became "ortografía," "theatro" became "teatro," "quantidad" became "cantidad," and "symbolo" became "símbolo."

Some silent "H"s have gradually disappeared. According to the dictionary of the Royal Academy of Spain, "arpa" and "armonía" can be used with or without the silent "H."

no one cares

I also think that now is a very good time to have this discussion.

It's been said that language is always capricious, and it's bottom-up, and it's the users who introduce new vocabularies and change grammatical rules, and those in authority -- academies, dictionaries, ministries -- only accept those changes long afterward.

This is true up to a certain level of language.

On a lexical level, on a word level, this is true.

At the grammatical level, it doesn't really apply, and at the spelling level, it doesn't really apply.

It's always the agency that sets the rules and proposes changes.

So why is now an especially good time?

Until now, writing has been more limited and personal than speaking.

But in the modern age of social networks, this is about to change dramatically.

Never before have so many people written things down, and never before have so many people seen what they wrote.

For the first time in the age of social networks, we're seeing groundbreaking spelling everywhere. Even the most educated people with perfect spelling behave like the majority of social network users when they use social networks.

So spell-checking modestly prioritizes speed of communication and efficiency.

So far, we've seen only chaotic and isolated usage in social networks.

But I think we need to pay attention to these things, because maybe these usages are a sign that in an age when there's a new space for writing, we need new rules for writing.

Such usage should not be rejected or discarded as a sign of modern cultural decay.

We should observe, systematically summarize, categorize, and come up with better rules to meet the demands of the times.

Of course there will be objections.

Some would argue that if we simplified the spelling, we would lose the etymology.

Strictly speaking, even if you want to keep the etymology, you can't just spell it.

I need to learn Latin Greek Arabic

Simplifying the spelling would not change the etymology's usual location as it is today, yes, in the etymology dictionary.

Another counterargument might be something like this: "If we simplify the spelling, wouldn't we be unable to distinguish between words that differ by only one letter?"

That's right, but it doesn't matter

Spanish has homonyms and multiple meanings, but don't confuse a banco (a bench) to sit on, a banco (a bank) to deposit, or a traje (a suit) to wear with a trajimos (to have).

In so many situations, context prevents misunderstandings.

I think there is another objection.

For me, it's the most understandable and even moving.

The counterargument goes something like this: "I don't want it to change.

I grew up with it, and it's the way I'm used to it, so I can't even look at simplistic writing."

(Laughter) This counter-argument is, in some ways, everyone.

what do you think i should do?

In these cases, it's always the same thing: change is made for the future. Children learn new rules, and those who don't want to adapt can go their own way.

Carefulness, consent, gradualism and openness are the keys to successful spelling innovations that change long-held habits.

At the same time, clinging to old habits shouldn't hold you back from moving forward.

The greatest respect we can give to the past is to improve ourselves on what the past has given us.

So we must agree, and so must the academy, to rid the spelling of what is no longer useful, but customary for the sake of tradition alone.

If we can do this with a small but very important language system, we will leave a better future for generations to come.

(applause)

Do you remember your favorite toy that was with you all the time when you were a child? It's kind of like Christopher Robin's "Winnie the Pooh," where the imagination just goes wild.

What could be more innocent?

Now let me introduce you to "My Friend Kayla."

Kayla was named Toy of the Year in each country.

Through the Internet, Kayla uses voice-recognition technology to answer the child's questions, responding like a friend.

But that power is not a child's imagination

It's in the vast amount of personal information companies collect while families chat casually in their safe homes. The "safe home" is a terrifying illusion.

Because my job is to protect consumer rights domestically, this case was terrifying.

By 2020, we expect a vast array of devices, from cars to electricity meters to even vacuum cleaners, to be equipped with communication capabilities, so we thought this was a case worth investigating further.

What was Kayla doing with all that information she was absorbing?

Did you have other close friends who shared information with you?

yes, as you expected

In order to play with Kayla, you need to download the app to use the function.

Parents must agree to terms subject to change without notice

Recordings of conversations with children, friends and family may be used for targeted advertising.

All of this information may end up in someone else's hands.

that's all? no there is still

Anyone with a smartphone within a certain distance can connect to Kayla.

When we pursued the company that made and programmed Kayla, they issued a series of statements that only IT professionals could breach Kayla's security.

As a fact-check for that statement, shall we hack Kayla here and now?

this is kayla

Kayla has a Bluetooth device in it that can communicate up to about 18 meters, but if you put it in between walls, that distance gets a little shorter.

This means that I, or any stranger, can connect from outside the room with the child and the doll.

I'm going to turn on Kayla now to show you what's going on.

Please see 123

It's turned on. A colleague of mine is standing outside with a phone.

(Laughter) Let's hear what Kayla says to the kids in the "safe" room.

Hi I'm Kayla Who are you?

it's fin

is mama nearby?

no mom is at the store

Then why don't you go out and play with me?

nice

I agree

Enough with this, let's turn off the power

(Laughter) You didn't need a password, you didn't have to compromise any security, and you could hack it.

We issued a report to 20 countries around the world, exposing this critical security flaw as well as other problematic issues.

What happened?

Kayla was banned in Germany, disappeared from Amazon and Wal-Mart, and now rests peacefully at the German Spy Museum in Berlin.

(Laughter) But more than a year after we published the report, Kayla was still being sold in stores around the world.

What we've found is that there are few regulations to protect us, and existing regulations are not being properly enforced.

We need device security and privacy right before any product hits the market. If anyone can break into your home through a connected device, what's the point of locking your home?

You might be thinking, "That's not going to happen. Just keep your distance from the defective device."

But that doesn't keep you safe, because just by connecting to the Internet, you put yourself at a complete disadvantage.

let me show you

Like all of you, I have a lot of apps on my phone, and when I use them properly, they make my life easier, more convenient, and healthier.

But aren't we being led into a false sense of security?

it's just a tick box

And declare, "I have read the terms of service."

But did you really read it?

Isn't that a long sentence? My phone is about to run out of power Last time I tried to read it, I couldn't understand it, and I need to use the service now?

Here, an unequal power relationship has been established, because we have consented to the collection and use of personal information on a scale beyond our imagination.

So my colleague and I decided to explore this issue further.

I decided to read through the terms of service for a popular app on a typical smartphone.

To show the world how unrealistic it is to require consumers to actually read the terms of use, we printed out the terms of use -- it was over 900 pages -- and sat down in our office and read it aloud to ourselves, and then broadcast the experiment live over the web.

As you can see, it took a very long time.

It took 31 hours, 49 minutes and 11 seconds to read the terms of use for a typical smartphone.

It's longer than watching the entire series of "Harry Potter" and "The Godfather" movies straight through.

(Laughter) And reading again

understanding is different

It would have taken me a lot longer to try to understand

This is a thorny problem, because the reason companies have been able to argue against better Internet regulation for 20, 30 years is because users agreed to terms of service.

As this experiment showed, it's nearly impossible to fully understand and agree to a contract.

Do you think it's fair to hold the consumer responsible for that?

I do not think

We should review this one-sided approach and demand understandable terms and conditions before agreeing.

(Applause) Thank you.

Now let's talk about love stories

Dating apps are the most popular apps in the world, an industry worth about $3 billion a year.

Of course, even very personal information can be shared with someone you love.

But what if, while you're revealing it, someone else snoops on that information and stores it or leaks it?

we decided to investigate

To understand this issue from all angles and do the perfect job, I had to download the world's most popular dating app myself.

So I went home to my wife in fear...

(Laughter) As a newlywed, I heard

"For purely scientific purposes, can I put my profile on a popular dating app?"

(Laughter) That's when I realized

I already had a ticked item in a hidden spot on the main menu that said the company had access to the personal photos I posted on Facebook.

Even worse, when I read the terms and conditions, I discovered that you need glasses to introduce yourself.

I'll read it, but it's very complicated.

Then

"What you post" means "content" means photos, chats and other interactions on the dating in-app service. You agree and give permission to reproduce, adapt, modify, distribute, create content derivatives, or incorporate into other works and sublicense in any media, now existing or hereafter.”

The bottom line is that all of your usage history and related matters can be used at any time for any purpose.

Imagine, 20 years from now, your child in a contraceptive advert that looks like you've got a pretty face on your profile.

But seriously -- (Laughter) how does that business practice affect you?

The first is the financial loss, which could result in an algorithm determining the outcome of a loan application based on your web browsing history.

Another thing is unconscious behavioral manipulation -- your photos and chats can be analyzed by companies for your emotions, and ads can take advantage of you when you're feeling weak.

Discrimination is also possible. In the future, data from fitness apps may be sold to health insurers, who may not pay out.

all of this is happening in the world right now

But of course, not all uses of data are harmful.

Some are just flaws that need improvement, and some are really great.

And there's good news, too.

Our lawsuit caused dating app companies to change their policies globally.

But there aren't many organizations that fight for consumer rights like we do.

Consumers can't correct themselves either. They would stop talking if they knew that what we said casually would come back to haunt us later.

Because if they knew someone was watching them and were watching them, they would change their behavior.

If you can't control who gets your data and how they use it, you've lost control over your life.

What I'm talking about today is not an uncommon occurrence.

It's everywhere, it's a sign that things need to change.

What can I do to change it?

Companies must recognize that prioritizing privacy protection and security earns user trust and loyalty.

Governments must ensure that they are cracking down and up-to-date with regulations to create a safer internet.

What about us citizens?

Speak up and remind the world that technology cannot truly serve society without respect for basic human rights.

thank you

(applause)

This weekend, tens of millions of people in the United States, and tens of millions more around the world, in Columbus, Georgia, or Cardiff, Wales, or Chongqing, China, or Chennai, India, will leave their homes, take a car, take a train or a bus, maybe walk, go into a space, sit next to a stranger, or sit with someone they know, and then the lights go out and watch a movie.

It could be a movie about aliens or robots, maybe a movie about robot aliens, or a normal human movie.

But all of that begs the question of what it means to be human.

Many spectators are awed and laugh and cry.

And then the lights come on again, and we're back in the world we knew a few hours ago.

Many people begin to see the world a little differently than they did before they entered this space.

Just like going to a temple, a mosque, a church, or any other religious site, going to the cinema is a sacred ritual in every way.

repeats week after week

This weekend, as I did most weekends from 1990 to 1996, I'm going to a multiplex movie theater near the mall, about five miles from my family's home in Columbus, Georgia.

It's funny, at some point between then and now, I kind of inadvertently changed the discussion about which films to make.

It all started in 2005 at Leonardo DiCaprio's Appian Way production company, where I was an executive assistant in an office overlooking Sunset Boulevard.

For those of you who don't know how the film industry works, I was one of the people behind the scenes working as an assistant to the producers, who make movies for their actors and crew, who are probably better known by name than I am.

So the assistant producer works in the shade, on the creative side of filmmaking.

For example, I make a list of writers, directors, actors. I list people that I think would be a good fit for the movie I want to make.

and read a lot

I read a novel that might become a movie, a comic that might become a movie, an article that might become a movie, and a script that might become a movie.

And we read the screenplays that the screenwriters who might be adapting them have already written.

All of this is done in an attempt to grow yourself and the company by discovering new, up-and-coming writers who can deliver the next big hit or good one.

In 2005, I was a development executive at Leonardo's production company.

I received a phone call from a writer's representative who started the conversation with the familiar phrase, "I have a great movie for Leo."

Written by his client, the film is about Leo playing the role of an oil industry lobbyist whose lover, a local meteorologist, wants him to break up because his job contributes to global warming.

The story reached the upper echelons because a hurricane in the Atlantic threatened to cause damage on par with Hurricane Maria in areas from Maine to Myrtle Beach.

While Leo is deeply saddened by his impending catastrophe, when he does some more research into this hurricane, he discovers that there is an active volcano on its transatlantic path that has not erupted for a long time, spewing toxic ash into the center of the hurricane, turning it into something like a chemical weapon that will destroy the world.

(Laughter) At this point, I asked my agent, "You're trying to sell a story about Leo fighting a toxic superstorm that's destroying humanity."

And, embarrassingly, when they actually sent me the script, I wasn't sure it was really bad until I read about 30 pages.

Now, the "Superstorm" story is an extreme example, but it's not uncommon either.

Unfortunately, scrapping a script is often not this easy.

For example, in a comedy about a senior high school student who becomes unintentionally pregnant and makes a strange decision for her unseen child.

That's right, it's "JUNO"

It grossed $230 million at the worldwide box office, was nominated for four Academy Awards, and won one.

What about a Mumbai boy who grew up in the slums and becomes a contestant in India's version of Quiz $Millionaire?

This is easy, it's Slumdog Millionaire.

It grossed $377 million at the box office, was nominated for 10 Academy Awards, and won eight.

A chimpanzee tells the story of his life with legendary pop star Michael Jackson

Anyone know?

(Laughter) It's a trick question.

It's written by Taika Waititi and directed by "Bubbles," the director of "Thor: Battle Royale."

A lot of my job as a development executive is sorting out the difference between "Superstorm" and "Slumdog Millionaire," or more generally, weeding out the writers who could write "Superstorm" and picking out the writers who could write "Slumdog Millionaire."

The easiest way, of course, is to read all the scripts, but that's impossible, isn't it?

Here's an easy way to tell them apart: the Writers Guild of America submits 50,000 new releases each year, most of which are screenplays.

Of these, a reasonable estimate is about 5,000, which go through a variety of screens, including agencies, film management companies, screenplay structuring, and are read by either production companies or major studios.

So they decide whether these scripts should be included in the 300-odd films released each year by major studios or their affiliated motion picture companies.

I used to use the analogy of walking into a members-only bookstore and having all the inventory randomly placed and each book with the same nondescript cover.

In this job, I can't get out until I go into that bookstore and find the best, most profitable book.

It's chaotic and completely unpredictable work.

everyone has their own solution to this problem

Most will go to the big agencies, and the premise is that if there were some great talent in the world, they'd find a way to reach them despite the real structural obstacles to getting to them in the first place.

Some people are constantly exchanging opinions with their peers. They share what they've read and what they like.

Others try to read the entire script, but as I said before, it's impossible.

Even reading 500 movie scripts a year is a lot.

And yet I've read only a handful of the movie scripts out there.

It's basically a triage method.

The triage approach tends to rely on conventional wisdom to determine what's good and what's not.

“A comedy about a young woman dealing with pregnancy problems doesn't sell.”

The conventional wisdom that the story of an Indian boy won't sell anywhere outside of India, let alone the domestic market,

It's a myth like, "There are very few writers who can write viable screenplays -- people who already make a living working in Hollywood, who have the highest ratings in the industry and who write boilerplate stories."

Embarrassingly, I was in that situation myself in 2005.

Sitting in my office overlooking Sunset Boulevard, staring at that imaginary bookstore I don't even know the name of, I spent months reading nothing but crap.

And I thought only one of the following was true: Either I'm not cut out for this job -- ostensibly, finding good scripts, or it's my job to read bad scripts.

If so, I should have listened more intently when my mother called me every week asking if my law school admissions scores were still valid.

I'll be on vacation for about two weeks at this time, and reading a bad script while at work sucks, but it's just a pain to read on vacation.

I thought I had to do something

So, late one night, I made up a list of people I'd had dinner with or had coffee with in the office who were doing similar jobs, and I emailed them anonymously.

the request is simple

He asked me to name 10 of my favorite movie scripts that fit three criteria:

One, only movie scripts that I really like. Two, no movie release scheduled before the end of the year.

We weren't looking for the script that could be the next blockbuster, nor were we looking for the Academy Award winning script.

It was simply an opportunity for them to talk openly about what they liked, which is becoming increasingly rare in this industry.

Well, almost all of the 75 people I emailed anonymously responded.

In addition, 24 other people emailed me at this anonymous address wanting to join, and when I actually checked, their self-reported titles were real.

And then I put the results of the polls into a spreadsheet, using pivot tables, put them into PowerPoint, and the night before I left for vacation, I gave the list a rather ominous name and sent it to everyone who responded from that anonymous email address.

"The Blacklist" (Unreleased movie ranking)

It's meant to pay homage to those who lost their jobs in the 1940s and '50s due to anti-communist hysteria, and to flip the notion that the word "black" somehow has a negative connotation.

When I arrived in Mexico, I pulled out a chair by the pool and started reading these scripts, and I was pleasantly surprised to find that almost all of them were actually very good scripts.

Mission complete

What happened next I didn't expect

About a week into my vacation, I stopped by the hotel business center to check my email.

It was a time when there was no iPhone yet.

And then my anonymous list was forwarded dozens of times to my personal address.

This list of everyone's favorite scripts was shared, read, and they themselves fell in love with these scripts.

My initial reaction was something I can't really tell you about, but let me just say it was "horror."

There's no doubt there's an unwritten blood code in Hollywood, people haven't done this kind of research.

I knew I was going to be fired, so I made up my mind that day I would never tell anyone I did it, and I would never do it again.

And six months later, something even stranger happened.

I got a call from another writer's representative in my office in Sunset.

Just like with "Superstorm," he said, "There's a movie for Leo."

Here's where it gets interesting

that's how the call ended

I'm going to quote this representative saying, "Don't tell anyone, this is pretty strong information, but this script will be number one on The Blacklist next year."

(Laughter) Yes

Are you confused?

This agent was trying to sell me a client using The Blacklist, which I created anonymously and decided never to do again.

The script's pitch is just that it might be on your list of favorite movie scripts.

After hanging up the phone, I sat in my office looking out the window, alternating between amazement and dizziness.

I've come to realize that this list I made is worth more than just finding a good movie script to read on vacation.

So I made the next year, and that year the Los Angeles Times figured out that I was the author, and the year after that, and the year after that, every year since 2005.

The results are very interesting, because apart from being unapologetically lied, this agent was right.

For many, this list is a testament to the value of screenwriting, and proof that many have believed that great screenplays are of even greater value.

Writers on the list got jobs very quickly, and these scripts were made into movies, and the movies that were made often defied the sell-or-not-sell convention I mentioned earlier.

"JUNO", "Little Miss Sunshine", "Queen", "The King's Speech", "Spotlight Scoop of the Century"

Of course, "Slumdog Millionaire"

So is the upcoming Michael Jackson chimpanzee movie.

I want to pause here and say something important: I don't take credit for the success of these films.

I didn't write it, direct it, produce it, stole it, or serve it.

The credit for the success of these films belongs to the people who made them.

What I did was change the way people looked at scripts.

Unintentionally, I asked if the conventional wisdom was true.

Of course, there are scripts that would have been made into movies without being on The Blacklist, but there were many that would have been rejected if they hadn't been on the Blacklist.

It's worth mentioning, at least, that it acted as a catalyst for many scripts to be made into productions.

About 1,000 movie scripts have been listed on The Blacklist since its launch in 2005.

About 325 were produced

300 Academy Award nominations and 50 wins

Four of the last nine Best Picture winners have come from The Blacklist, and 10 of the last 20 Academy Awards have come from The Blacklist.

Altogether, it's grossed $25 billion at the box office, which means that hundreds of millions of people have left their homes to see these movies, sitting next to strangers in dimmed theaters.

Outside of movie theaters, not to mention DVDs, video streaming, and, for that matter, illegal downloads.

Five years ago on this day, October 15th, I made a bet with a business partner that we realized that film script talent wasn't where we expected to find it, so we launched a website where anyone on the planet could upload and rate a film script, as long as it was written in English, and made it accessible to thousands of film industry professionals.

The good news is that in the five years since its launch, the idea has been very well proven, with hundreds of artists from all over the world getting the chance to showcase their work.

We've done option deals or successful sales, and seven of them made it to the movies in the last three years.

One of them is Confessions of a Murderer, a 90-minute monologue by David Oyelowo about the mental decline of a veteran.

Nominated for 1 Golden Globe Award and 2 Emmy Awards

And what's amazing is that the site has discovered more than a dozen screenwriters on the year-end list, two of which have each been number one in the last three years.

Simply put, conventional wisdom about the value of a screenplay, where you can find hits, was wrong.

This is remarkable because, as I said earlier, we often rely on conventional wisdom when choosing scripts and making films in a triage fashion.

And that conventional wisdom is, maybe, maybe, just a mistake in the face of great success.

"If you make a black movie, it won't sell overseas."

"You can't do an action movie with a female cast because women can empathize with men, but not vice versa."

“Nobody goes to see a movie about a woman over 40.”

“The main characters in movies should conform to the narrow definition of beauty that we have traditionally taken for granted.”

What would a child like me in Columbus, Georgia, think when these thoughts are projected onto a screen ten meters high and the lights go out?

Or the Muslim girl in Cardiff, Wales?

What about gay children in Chennai?

What does it mean for the way we see ourselves, the world, and the way the world sees us?

we live in very strange times

A society where almost everything is triaged and chosen.

Too much information, too many people to argue with.

That's why we tend to rely on conventional wisdom as if we're following the rules.

I think it's important to always ask yourself how conventional wisdom is and how ignorant the conventional wisdom is.

And what are you sacrificing?

thank you

(applause)

28 years ago my heart was sick

You probably didn't realize that when you met me.

I worked for a prestigious educational institution

Well dressed of course

but the inside was rotten

As you can imagine, I grew up in an addiction-ridden household, and as a child I struggled to accept my sexuality.

I didn't even know what to call myself at the time, and I grew up gay, which only exacerbated my loneliness and anxiety issues.

Everything was forgotten when I drank

Like many people, I started drinking when I was young.

I drank all through college.

And it wasn't until the early 1980s that I finally came out, and the only place I could meet other gay people, get to know them, get to know each other, was in gay bars.

what to do in a gay bar

to drink

i drank too i drank a lot

It's a commonplace story

Like many Americans, my disease progressed undiagnosed.

I was led to various people, places, and things as I was carried along.

My journey to recovery didn't begin until I found the law that gave me the "opportunity" to seek treatment.

The journey to recovery was full of love and joy, but it was also painful.

Like you, I have lost many friends and family to this disease.

I've heard many heartbreaking stories of people who have lost loved ones to addiction.

And I've lost countless friends to HIV/AIDS.

The current opioid abuse and AIDS epidemics, sadly, have a lot in common.

We are in the midst of the greatest public health crisis of our time.

In 2014 alone, 28,000 people died from prescription drug and heroin overdoses.

In the 1980s, many people died from HIV/AIDS.

officials ignored it

Some people didn't even mention it

I didn't want to treat

And sadly there are many similarities between the current fads.

Some say it's the gay plague

requesting isolation

They want to isolate innocent victims from us.

I was afraid I was going to lose this battle because people would accuse us of being sick.

Public policy has been held hostage by stigma and fear, and also compassion, medical care, research, recovery and treatment.

but everything changed

Because in the pain of those deaths was found the beginning of a social and political movement.

AIDS has pushed us to action, we've stood up, we've spoken out, we've acted

Energized the LGBT movement

I knew I was going to fight for my life because silence equals death, and we made a difference and achieved a lot.

There are now signs that the end of HIV/AIDS is coming in our lifetime.

These changes have been brought about, in no small part, by a brave and simple decision to come out and fight - to your neighbors, your friends, your family and your colleagues.

Many years ago, I volunteered on the Names project.

It's an initiative started by Cleve Jones in San Francisco to show that people who die of AIDS have names, they have faces, and they have families and even people who love them.

I remember the AIDS memorial quilt unveiling on the National Mall on a sunny day in October 1988.

Let's move forward to 2015

Supreme Court ruling nullifies ban on same-sex marriage

I walked the steps to the Supreme Court with my husband, Dave, and so many others were delighted with the outcome, and while we've come a long way toward LGBT rights, I can't help but wonder how long we'll have to go on addiction.

When I was appointed Director of the Drug Control Administration by President Obama, I was very open about my recovery and the fact that I was gay.

During the Senate confirmation process, at least to the best of my knowledge, being gay was never an issue in relation to my eligibility or suitability for the office of Director.

But the addiction history was a problem

At one point, a congressional official told me that I had no chance of getting approval in the Senate because of my past, even though I've been recovering from addiction for over 20 years, and the job requires a little knowledge of addiction.

(Laughter) So this is the stigma that drug addicts face every day. But let me tell you why I feel more comfortable coming out as gay than someone with a history of addiction.

Almost every family in America suffers from addiction.

Unfortunately, it's not often spoken openly and honestly.

be whispered

treated with contempt and ridiculed

We hear this over and over again on television, on the internet, from government officials, from family and friends.

Those of us with addictions hear those voices and somehow feel like we don't deserve medical care or treatment.

Today, only 1 in 9 Americans are receiving treatment for this "disease."

1 in 9 people

think about it

People with other illnesses generally receive medical care and treatment.

If cancer is found, it will be treated. Diabetes will also be treated.

If a heart attack occurs, life-saving medical care is given.

But for some reason, people with addictions are often left waiting for treatment and not getting it when they need it.

If left untreated, addiction can become severe and have devastating consequences.

many end up dead or imprisoned

we have followed that path

For too long, the state seemed to think we could pull ourselves out of our addictions.

you can't do that

Decades of scientific research have also shown that this is a medical problem, an inherited chronic disease that can be inherited or develop after birth.

So the Obama administration took a different approach to drug control policy.

We developed and implemented a comprehensive plan to expand preventive and curative services, early intervention and recovery support.

Promoted criminal law reform

I removed the barrier to give you a second chance.

Public health and public safety officials worked hand in hand on a community scale.

Police chiefs across the country have led people to treatment instead of prisons and jails.

Police and other first responders administered naloxone (a narcotic antagonist) to remove the addiction and give them a chance to get back on their feet.

The Affordable Care Act was the biggest breakthrough of our time in treating drug use disorders, requiring primary care physicians to double as treatment for drug use disorders.

But fundamentally, how we view people with addictions

Unless we change things here in the United States, this work isn't good enough.

Once upon a time, when I finally realized I had a problem and needed help, I was too scared to ask for help.

I feared being seen as stupid, weak-willed, and morally flawed.

But I want to make a difference, so I'm going to talk about my recovery.

I want people to realize that we should be open and honest about who we are and what we can do.

In order not to become complacent, I publicize my recovery.

To change public opinion, to change policy, to change the course of this epidemic, to empower millions of Americans who are struggling to be open and candid in their ways, and to publicize their recovery.

people are more than their diseases

We have an opportunity to change public opinion, an opportunity to change policy.

We all know someone with an addiction, and we can each play a role in changing the way we view people with addictions.

So when you meet someone with an addiction, don't think they're a drunk or a drug addict or an addict or a substance abuser, look at them.

And together, let's be part of America's growing movement to change the stigma against people with addictions.

Let's change policy together

As with any disease, it ensures that you get treatment when you need it.

We will grow and become part of an unstoppable movement to help millions of Americans recover and end this epidemic.

thank you

(applause)

I want to talk to you about a pressing social issue.

It's not about nuclear weapons, it's not about immigration, it's not about malaria.

it's about the movie

Seriously, movies are extremely important.

Movies entertain us a lot and take us into the world of stories.

Telling a story is really important

Stories convey society's values, lessons are learned from them, and history is shared and preserved.

the story is great

But not everyone has the same opportunity to be part of a story, especially the kind of stories that are told in American films.

In cinema, it's very interesting that women are still marginalized and obliterated in many films.

I first learned this reality about 10 years ago when I first looked into gender roles in consumer films.

Since then, we've conducted over 30 surveys.

my team is exhausted

As a researcher and as an activist, I've dedicated myself to confronting the diversity crisis in Hollywood.

I want to talk to you today about this critical situation.

On gender inequality in cinema

I'm going to talk about how this is inherited and how we're going to improve this situation.

But before I get started, let me warn you that my data is very depressing.

Before I offend any of you, I apologize.

But in the end, it turns the topic into a glimmer of hope that women can change the plight they've been in for so long.

So let's focus on the seriousness first.

My research team does an annual survey of the top 100 highest-grossing American movies at the box office.

Identify all characters with dialogue and titles on screen

And then we count them to see if they all have a single line of dialogue.

That's a pretty low hurdle

(Laughter) Between 2007 and 2015, I watched 800 movies, and I sorted all the spoken characters by gender, race, ethnicity, LGBT, and disability.

Look, it's a very problematic trend.

First of all, there are still very few women in movies.

Of the 35,205 spoken roles out of 800, less than a third are girls and women.

less than a third

There was no change from 2007 to 2015, and when you compare the findings of a small sample of films from 1946 to 1955, you see no change for more than half a century.

more than half a century

But half the population is us (women)

Now let's look at this data group by group, and the problem gets even worse.

Of last year's top 100 films, 48 ​​had no spoken Black or African-American female characters.

70 shows didn't have a single Asian or Asian American woman with dialogue.

not at all

None of the 84 films feature a woman with a disability.

93 films do not feature spoken LGBT women

This is not a lack of minority portrayal

It's erasure, and I call it the epidemic of underrepresentation of diversity.

And then when we look at the main characters, there's even more of a problem.

Last year, out of 100 films, only 32 had a female lead or supporting role.

Only three of the 100 films feature minority women (in terms of race or ethnicity), and only one minority woman who was 45 or older at the time of the film's release starred.

Let's think about the role.

In addition to the numbers you just saw, women are more sexually portrayed in films than their male counterparts.

In fact, female performers are about three times more likely to wear skimpy, sexy outfits, be partially naked, and be thin.

In recent anime, sometimes the women are so skinny that their waist circumference is not much different from their upper arms.

(Laughter) With a body this thin, the uterus and other organs wouldn't fit.

(Laughter) So, all kidding aside, what these theories and research confirms is that when exposed to content that idealizes thinness or objectifies women, some female viewers develop an inferiority complex, become obsessed with skinnyness, and become self-objectified.

Of course, what happens in the movies doesn't match what happens in real life.

It's something different!

If we live in a world of movies, we have to deal with the demographic crisis.

So I noticed this pattern, and I discovered two factors driving inequality on the screen that I've always wanted to know: the gender of the creators and the misunderstanding of the audience.

Let's make it clear

If you want to change any of the patterns I just talked about, hire a female director.

When we think of female directors, we associate short films and independent films with more girls and women, more women-centered films, more stories with women over the age of 40, and that's good news for everyone.

More underrated... (laughs) Excuse me.

(Laughter) I'm sorry, but that's true.

People who have been underrepresented in cinema because of their race and ethnicity, and most importantly, more women are taking on important roles in filmmaking.

It seems that the problems I have mentioned so far can be solved easily.

Is it wrong?

it's not really easy

800 films from 2007 to 2015, out of 886 directors

Only 4.1 percent of women

Only three were African American or black, and only one was an Asian woman.

If it's part of the solution, why is it so difficult for women to direct?

To answer this we investigated

We invited dozens of industry insiders to ask questions about supervision.

And it turns out that both male and female executives think of directors when they think of men.

Because we perceive leadership qualities to be masculine.

So when they hire a director, they're able to lead and direct the film crew, they're insightful and they're fearless, and all of these words influence how they think and think and they choose men.

The perception of supervisors and leaders doesn't align with the perception of women's attributes.

A sense of role mismatch, which is also found in many studies in psychology.

The second source of on-screen inequality is the misunderstanding of the audience.

I don't need to tell you, but 50 percent of the people who buy tickets at the box office in this country are girls and women.

I agree?

But women are not recognized as targets of economic benefit.

There's also some misconceptions about whether women can release movies.

There's a misconception when it comes to releasing films that female-dominated films don't generate as much return on investment as male-dominated films.

In fact, this misunderstanding leads to a great loss of opportunity.

Right?

Especially given the success of the franchise films Hunger Games and Pitch Perfect and the minor film Star Wars: The Force Awakens.

Our own economic analysis shows that the gender of the main character has no effect on economic success in the United States.

So what does it affect?

It's just the production costs, or it depends on how widely you want to distribute the film domestically.

Gender of the protagonist does not matter

That's why we should be deeply depressed at this time.

After 50 years of no change, there aren't many female directors in filmmaking, and the entertainment industry doesn't trust women as audiences.

I said earlier that there is a silver lining, and yes, there is.

There's actually a simple and obvious solution to this problem: involve the makers, the executives, and the individual consumers like you in this room.

let's talk about some of them

First of all, it is a proposal to add 5 people.

If next year's top 100 films all had five women with dialogue, we would set a new standard.

If we do this for the next three years, we have the potential to achieve gender equality for the first time in more than half a century.

This proposal is favorable for many reasons.

One, we don't take jobs away from male actors.

God's punishment will come

(Laughter) Second, it's cost-effective, it costs nothing.

Third, build a pipeline of talent.

Fourth, it humanizes the production process.

Why? That's because there's definitely a woman on the scene.

The second solution involves star actors.

Big stars, as we all know, can make demands on their contracts, especially blockbuster Hollywood movie contracts.

What if big stars put a fairness clause or a diversity addendum into their contracts?

what does this mean?

What you probably don't know is that a typical feature film has about 40 to 45 speaking characters.

Only eight or nine of them are important characters in the story.

Except for The Avengers, right?

There are more in the Avengers

The remaining 30 characters -- there's no reason why you can't cast these supporting characters into the demographics of the setting.

If a big star puts a fairness clause into their contract, they can demand that their casting reflect real social conditions.

So why would any broadcaster, any studio, any production company refuse to agree on the same terms during the negotiation process?

The third solution is for the entertainment industry, especially in Hollywood, to adopt the Rooney Rule when hiring directors.

The Looney Rule, currently in place in the NFL, states that whenever a team recruits coaches from outside the organization, at least one coach must be interviewed by a minority candidate.

Exactly the same principle can be applied to Hollywood movies.

How?

In these popular productions, executives and agents ensure that women and people of color don't just end up on candidate lists, they actually interview them.

Some of you may be wondering, why is that important?

In doing so, we can bring executives together with women directors who are victims of exclusionary hiring practices.

The fourth is a solution for audiences like you and me.

If you want to watch movies about women, by women, for women, support them.

You could go to an independent cinema instead of a multiplex.

or scroll down a little further to find works by female directors

Or write a check to fund an underrated work by a female director.

That's right?

Reach out to your distributors through letters, phone calls, emails, and on social media, tell them you want to see diverse, female-starred, and most importantly, female-produced films.

We're going to use the ticket price as a weapon to get our voice heard.

In this respect we can change the world

Movies, especially in the United States, continue to capture the hearts and minds of audiences around the world.

all over the world

This means that the film industry can spread the story of equality around the world in ways never before possible.

Imagine what would happen if the movie industry aligned with the values ​​that the screen projected.

It promotes inclusion and has the potential to foster understanding of girls and women, people of color and the LGBT community, people with various disabilities, and different people around the world.

The only thing the film industry should do is unleash this secret weapon, and that means stories.

I said at the beginning of my talk that movies take us out (into the world of stories), but I think movies have the power to change us.

Not a single person in this room grew up with stories featuring realistically portrayed women, and none of them are because the proportion of women in the cast hasn't changed.

What if the next generation of audiences grew up in a completely different on-screen reality?

What do you think will happen?

What I wanted to tell you today is that we can't just change what we see on screen, but we can't wait to see it come to us.

So let's take action today to eradicate the widespread underrepresentation of diversity.

Take action today so that audiences in America and around the world demand more worthwhile work.

And today, let's confirm to each other that the next generation of viewers and audiences deserves to see stories like we've never seen them before.

thank you

(applause)

(Chris Anderson) Hello and welcome to the TED Dialogue

This is the first in a series that began in response to the turbulent world situation.

I don't know what you think, but I'm very concerned about the ongoing conflict between the two camps in this country and in the world.

both sides to what the other says

I can't hear you

I feel that we should have the conversation in some other way, and that conversation should be based on common sense, on listening and understanding, on the broader perspective, for example.

That's what I'm trying to do, at least, in the TED dialogue that starts here.

I'm very happy to have the perfect first person to start this series.

It would not be an exaggeration to say that this man had a different mindset than anyone else on the planet.

I really think so

(Yuval Noah Harari laughs) I'm serious.

The synthesis of history and fundamental ideas that this man brings out will take everyone by surprise.

I'm sure there are people here who have read this book, "The Complete History of Sapiens."

Has anyone read it?

(Applause) You can't stop reading this book.

The history of mankind is told with grandiose ideas that will change the way you think. I think it's a masterpiece.

This is the sequel, and I think it's coming out next week in the US.

(Yuval) Yes, next week.

(Chris) Homo Deus

It's about history that will happen in the next few hundred years.

I read it

It's extremely dramatic, and I'm sure some people will read it and feel a strong sense of crisis.

Must read

Honestly, there's no better person to understand what's going on in the world right now.

Please give a warm welcome to Mr. Yuval Noah Harari.

(Applause) Some of you have seen it on Facebook and on the web.

hello facebook

First, I'm going to ask Yuval a question, and I'd like you to ask a question, not about everyday political scandals, but about understanding the broader picture of the future that lies ahead of us.

May I? let's get started

Now, Mr. Yuval, in 2017, a new president took office here in New York, and a wave of shock spread around the world.

What the hell is going on?

CA: Basically, what happened was that we lost the model story.

People think in narrative form and try to make sense of the world by telling those stories.

What happened in the world over the past few decades has been a simple yet fascinating story.

It said, "In today's world, economic globalization and political liberalization are progressing. If these two elements are combined, paradise will be created on earth. For that to happen, we must promote economic globalization and political system liberalization, and all will be well."

Right now, in 2016, too many people, even in the West, have stopped believing this story.

for whatever reason—

People have stopped believing this story.

CA: You also think that the original story was very effective.

I thought it was going well

(Yuval) Yes, to some extent.

By some measures, this is the best time in human history.

Now, for the first time in human history, deaths from starvation are outnumbering deaths from starvation, which is an amazing achievement.

(Laughter) Also, for the first time in human history, deaths from old age have surpassed those from infectious diseases, and violence has declined.

And for the first time in human history, suicide has killed more people than crime, terrorism and war combined.

Statistically, our worst enemy is ourselves.

At the very least, the person in the world who is most likely to kill you is yourself. (Laughter) Again, this is very good news.

CA: But trying to connect the world has resulted in a very large number of people feeling alienated, and that's reflected in their behavior.

We had those bombs, and they sent ripples through the world's political system.

What do you think happened?

It seems that the traditional way of thinking about politics, the division between the left and the right, has been destroyed and replaced with a new way of thinking.

How should we think about this?

Yuval: Yeah, the old political model of the 20th century left versus right makes little sense now, and the real divide in our time is between the world and the nations, the world and the regions.

If you look around the world again, that's the main problem.

Perhaps we need a whole new model of politics and a whole new way of thinking about politics.

The gist of it is this: you have a global environment, you have a global economy, but you have domestic politics, and they don't fit together.

And that makes our political system inefficient, because we have no control over the forces that shape our lives.

There are two basic solutions to this imbalance: either stop globalizing the economy and return to national economies, or globalize the political system.

Chris: I think the liberal minds of the public think that Trump and the Trump administration are irredeemably evil and just plain bad on all fronts.

Do you think there's a story behind it, a political philosophy worth understanding?

What if you could explain the philosophy and stuff in an easy-to-understand way?

Is it just a philosophy of nationalism?

Yuval: The feelings and thoughts of the people behind it is that something in the political system has broken.

No longer empowering ordinary people

I no longer care about ordinary people, and I believe this is the correct diagnosis for sick politics.

I have no idea about the solution

We see the human spinal cord reflex, which means that when something goes wrong, we go back in time.

Look around the world, and almost no one in the political system today has a forward-looking vision of where humanity should go.

Almost everywhere, it's a backward-looking vision: "Let's make America great again." It was good back then -- the 1950s, the '80s.

Even in modern Russia, a hundred years after Lenin's time, Putin's vision of the future boils down to a return to absolute monarchy.

In my country of origin, Israel, the most popular political vision today is "Let's build temples again."

"Go back 2,000 years"

People think they lost something important at some point in their past, and they feel as if they were lost in the city at some point in their past.

I don't think it will work, but it's something that many people instinctively think is good.

(Chris) Why not?

The slogan "Put America First" is appealing in many ways.

Patriotism is also a very noble idea in many ways.

It has played an important role in helping companies market themselves to large numbers of people.

Why do you think a world in which every country puts its own country first cannot work?

Yuval: For centuries, no, for thousands of years, patriotism has worked very well.

Of course there were wars and so on, but we shouldn't emphasize the bad side too much.

Patriotism has so many positive aspects, and it's power has allowed so many people to help each other, to empathize, to unite.

Let's go back in time to the earliest days of human history. Thousands of years ago, the people living along the Yellow River in China consisted of many tribes, all of whom depended on the river for survival and prosperity, but who suffered from periodic floods and droughts.

None of the tribes had any way to prevent it, because each tribe only had access to a very small watershed.

Then, in a long and complicated process, the tribes coalesced to form the nation of China, which controlled the entire Yellow River basin, possessed the power to rally hundreds of thousands of people, built dams and canals, controlled floods, prevented the worst of floods and droughts, and increased levels of prosperity for all.

A similar approach has been successful in many parts of the world.

But in the 21st century, technology is fundamentally changing everything.

Today, people all over the world live along a common river called the Net, and no country can control this river by itself.

We all live on one planet, threatened by our actions.

Without some form of global cooperation, the scale of what nationalism can do is simply not enough to address any problem, be it climate change or technological disruption.

Chris: So you're saying that in the past, nationalism was good enough, because a lot of the problems stayed within the country and the countries could solve themselves, but now the most serious problems are happening not at the national level, but at the global level.

Yuval: That's right, all the major problems in the world are essentially global problems, and they can't be solved without some form of global cooperation.

Climate change is the problem that immediately comes to mind, but not only

I think the problem of "technological disruption" is more serious.

Artificial intelligence, for example, will become a global problem in the next 20 to 30 years, taking tens of millions of jobs.

wreak havoc on the economy of every country

It's the same with bioengineering. People have concerns about genetic engineering research in humans, but even if one country, say the United States, bans experiments that attempt to genetically modify human beings, there's nothing we can do unless China and North Korea stop.

So it's impossible for the United States to solve the problem alone, and pressure will soon be exerted that the United States should do the same, because high-risk, high-reward technological development is

If others are doing it, we cannot fall behind.

The only effective way to regulate things like genetic engineering is to have global regulation.

Even with national regulations, you don't want to fall behind other countries.

Chris: It's very interesting.

This seems to me to be one of the keys to inducing people with different positions to at least have a constructive discussion, because I think we can all agree that much of the anger that has led to this situation is rooted in perfectly valid concerns about unemployment.

No wonder people get angry when they lose their jobs and lose their traditional work-based lifestyle.

In general, they've done this without their permission, and they think globalism and the world's elite are bad, and it seems like a legitimate complaint.

But if you ask me, the key question is, what are the real causes of unemployment now and in the future?

If it's globalism, then the correct response is to close borders, keep foreigners out, change trade agreements, and so on.

But your argument is that the more serious causes of unemployment are not those.

It's rooted in technology, and unless the world works together, it will never be solved.

Yuval: Yes, in my opinion, I don't know today, but in the future, it's not the Mexicans, it's not the Chinese who are going to take people's jobs out of, say, Pennsylvania. It's robots and algorithms.

Unless you build a giant wall on the California border (Laughter), building a wall on the Mexican border is very inefficient.

When I saw the pre-election debates, I was shocked. Mr. Trump never mentioned robots taking jobs as an argument to scare people.

It doesn't matter if it's true

(Laughter) "Robots are going to take our jobs!" No one ever said that.

So I was worried, because this means that whatever happens in universities and research institutions is already hotly debated there, but in mainstream politics and in the public at large, it's simply not known. Technological change can cause serious problems, and it's going to happen in 10, 20, 30 years, not 200 years, so we have to do something now. , because it will be completely irrelevant in the 2050 job market.

This is not a good thing to think about until 2040.

Now we have to think about what to teach our children.

Chris: Exactly.

You've written repeatedly about certain moments in history when mankind unwittingly entered a new era.

Decisions were made, technology advanced, and suddenly the world changed, probably for the worse for everyone.

One example you gave in "A Whole History of Sapiens" is about the whole agricultural revolution, which actually got people to plow the fields, adopting the grueling 12-hour workday, in exchange for six hours in the jungle and a much more interesting life.

(Laughter) In other words, are we now facing the next new era, heading towards a future we don't even want to see?

(Yuval) Exactly.

What happened with the Agricultural Revolution was a dramatic technological and economic revolution that gave humanity as a whole new powers. But if you look at the lives of individual people, the lives of the very few elites have gotten much better, while the lives of the majority have gotten significantly worse.

The same thing can happen in the 21st century.

There is no doubt that new technology will empower humanity as a whole.

But once again, a very small elite enjoys all the benefits and achievements, while the majority of the general public lives worse off, certainly far worse than a very small elite.

Chris: That elite isn't even human

May be a cyborg (Yuval) May be an enhanced superhuman

maybe a cyborg

There is also the possibility of an elite who can't be called a living thing at all.

It can even be an algorithm that has no consciousness.

In today's world, authority is being transferred from humans to algorithms.

Algorithms are giving way to more and more decisions in personal life, in economics, in politics.

When you apply for a bank loan, it's probably an algorithm, not a human, that reviews it.

The general impression is that perhaps homo sapiens has lost its authority.

The world is so complex, so data-filled, and things are changing so fast that "kore" evolved tens of thousands of years ago in the African savannah to adapt to specific environments and process limited information and data.

So it's no surprise that more power will shift from humans to algorithms.

CA: Well, from New York, I'm bringing you the first TED Dialogue with Yuval Harari, and some of you are joining us on Facebook Live.

I am happy to be with you

In a little while, I'll be taking some questions from you and everyone in this room.

Mr. Yuval, if you're going to argue that we have to overcome nationalism, the reason is that technology will cause it in the future.

It's a problem that can be called dangerous, and it's showing up all over the place, but if that's the case, it should be discussed by the whole world.

The hard part is getting people to believe that this problem exists, that artificial intelligence is an imminent threat, and so on.

I think people, at least some people, probably think that there are other issues that need to be addressed more urgently, such as climate change, refugees, and nuclear weapons.

Do you think that given the current situation we are in, we should be discussing these issues more?

You talked about climate change, but Trump says he doesn't believe in it.

So one can also take the view that your most powerful argument cannot be developed.

MR Yuval: On the issue of climate change, what is, at first glance, very surprising is that there is a very close correlation between nationalism and climate change.

Those who deny climate change are almost certainly nationalists.

The first person who hears it is why? you should think

where is the relevance?

Why don't socialists deny climate change?

But when you think about it, it's clear, because nationalism has no solution to climate change.

Anyone who wants to advocate nationalism in the 21st century has to deny this issue.

If we accept the reality of the problem, we also have to accept that patriotism has a place in our time, and that the idea of ​​special loyalty and duty to our own people and country can still exist today.

I don't think anyone is trying to get rid of that idea.

But confronting climate change requires a higher level of loyalty and commitment beyond national boundaries.

It can't be impossible, because loyalty can have multiple layers.

If you have loyalty to your family, loyalty to your community, loyalty to your nation, why not have loyalty to all of humanity?

Of course, sometimes it's hard to know which to prioritize, but life is hard.

please do something

(Laughter) (Chris) Now, I'd like to take a question from the audience.

I have the mic ready.

Speak into the microphone, Facebook please

(Howard Morgan) One thing that has clearly changed a lot in this country and around the world is income inequality. In the United States, the distribution of income has changed dramatically from what it was 50 years ago, and globally.

Is there any way to correct this?

Because inequality is the root cause of many problems.

Yuval: I've never heard of a good idea, partly because it's a global problem, but most of the ideas here are still at the national level.

An idea you hear a lot these days is the idea of ​​a universal basic income.

there is a problem with this

It's a good idea to start with, but the problem is that neither the definition of "universal" nor the definition of "fundamental" is clear.

When we say "universal base income," what most people think of is "national base income."

But the problem is global

For example, artificial intelligence and 3D printers are taking millions of jobs out of the people who make our shirts and shoes in Bangladesh.

So what happens?

Will the US government tax Google and Apple in California and use it to provide a basic income for unemployed Bangladeshis?

Believing in that would be like believing that Santa Claus will come and solve your problems.

Only by setting a truly "global" rather than "national" basic income will we be able to solve this deep-rooted problem.

We don't even know what the "foundation" is. What are the basic human needs?

A thousand years ago, food and shelter were enough.

But modern people might say that education is a basic need, that it should be included in the "basics."

But the degree also matters 6 years? 12 years? Until you get your PhD?

The same is true with medicine. In, say, 20, 30, 40 years, there may be a very expensive treatment that can extend life to 120 years.

Can this also be part of the basic income?

It's a very difficult problem, because in a world where people lose their ability to get jobs, the only thing people have is basic income.

This involves ethical issues that are very difficult to resolve.

CA: It raises a lot of questions about who in which country will pay for this and how.

From Facebook, Lisa Larson asked, "How does nationalism in America today compare to the nationalism of the last century between World Wars I and II?"

CA: On the positive side, in terms of the dangers posed by nationalism, we're in much better shape than we were 100 years ago.

100 years ago, in 1917, Europeans were killing each other by the millions.

During Brexit in 2016, as far as I know, only one MP was killed by extremists.

there is only one person

If Brexit means British independence, it's the most peaceful war of independence in human history.

And if, following Brexit, Scotland may choose to become independent from Great Britain.

When Scotland wanted independence in the 18th century -- and indeed tried several times to break away from central government -- the response of the central government in London was to send troops north, burn Edinburgh, and massacre the Highlanders.

My prediction is that even if the Scots voted for independence in 2018, the London government wouldn't send its army north and burn Edinburgh to the ground.

Few people today are willing to kill or give up their lives for Scottish or British independence.

Now, the story of the rise of nationalism goes back to the 1930s and the 19th century, and in the West at least today, nationalistic sentiment is far less powerful than it was in the last century.

CA: But now, I've heard some voices worrying that that's starting to change, and that depending on how things unfold, there could actually be a surge in violence in America.

Should we worry about these changes, or is it too late?

(Yuval) It is alarming.

Two things to note

First, don't get hysterical.

It's not like we're back to the situation of World War I.

That doesn't mean you should sit cross-legged on the status quo.

It's not that some divine miracle happened between 1917 and 2017, it's just a human decision.

One of the things I've learned as a historian is that we shouldn't underestimate human stupidity.

(Laughter) One of the most powerful forces that have shaped history has been human stupidity and violence.

While humans act foolishly for no apparent reason, at the same time another powerful force that has made history has been human wisdom.

people have both

Chris: It looks like the moral psychologist Jonathan Haidt in the room has a question.

(Jonathan Haidt) Hello

You seem to have a penchant for global governance, but when you look at the world map of corruption created by Transparency International, it's mostly red, with just a few yellow countries with good reputations.

So why do you think global governance, when it's in place, looks like Denmark instead of Russia or Honduras, like we've found an alternative coolant to chlorofluorocarbons?

There are ways to solve the world's problems with national governments.

What is a world government and why do you think it works?

(Yuval) I can't imagine what it would be like.

No one has a model for world government yet.

The main reason it's necessary is that many of the problems are situations that only create losers.

If it's a win-win situation, like in trade, it can be resolved because both sides can benefit from a trade agreement.

Even without something like a world government, governments find meaning in making agreements.

But in situations like climate change where everyone loses, it's much harder to solve the problem unless you have someone with transnational authority -- a real authority.

I can't even imagine what it would look like to set up such a system.

Of course, there is no clear reason why it should be like Denmark or like democracy.

first of all it won't work

There is no model of democracy that functions as a world government.

It might be more like ancient China than modern Denmark.

But still, given the crisis we face, I think the absolute need to have some kind of real power to make tough decisions on a global scale is paramount.

CA: I'll hand over the mic to Andrew after the question from Facebook.

Kat Hebron from Vail on Facebook: How do developed countries manage climate change refugees?

(Yuval) I don't understand.

Chris: Kat, that's the answer.

maybe just deny the problem

CA: Migration is an example of a problem that is generally very difficult to solve at the national level.

Even if a country can close its borders, it will only compound problems for the future.

Yuval: Well, another very good example, because migration is much easier today than it was in the Middle Ages or in ancient times.

Chris: Mr. Yuval, there's a strong belief among technologists that political concerns are kind of exaggerated, and that in reality political leaders have very little influence in the world, and that it's science, inventions, companies, and so many other things that really determine the direction of humanity, not political leaders, and it's so hard for them to get so much done, that worrying about politics is more than a struggle.

Yuval: First and foremost, it should be emphasized that political leaders have very limited capacity to improve, but unlimited power to do harm.

There is a fundamental imbalance here

They're still blowing up all humanity at the touch of a button

have that kind of power

But trying to reduce economic inequality, for example, is very difficult.

On the contrary, it is very easy to start a war.

The imbalances built into our current political system are very frustrating, because there's only so much we can do to improve, and it's so easy to cause harm.

So the political system is still a big concern.

CA: When you look at what's happening in the world today through the eyes of a historian, when you evaluate individual leaders in past times when things were going well, were they actually pushing the world or their country backwards?

(Yuval) There are many examples, but I must stress that it was never the work of a single leader.

Someone put him in that position and allowed him to stay there.

So we can't put all the blame on one individual.

There are many people behind the individual.

(Chris) Could you pass the mic to Andrew?

(Andrew Solomon) A lot of the talk is about the world versus the nation, but I think the state of the world is increasingly driven by groups with a strong sense of belonging.

There are also examples of people being taken in by ISIS in the United States.

Other newly formed groups operate across national borders while also wielding a strong sense of state power.

How do we integrate these groups into global administrations, and how do we reconcile these diverse identities under national and global leadership?

(Yuval) The problem of multiple identities is also a problem in nationalism.

Nationalism believes in a single, homogenous identity, while exclusive or at least more extreme nationalism espouses exclusive loyalty to a single identity.

And that's why nationalism has had so many problems, because its adherents wanted to divide identities between different groups.

It's not just a question of a global vision.

Again, as history has shown, we shouldn't necessarily think in such exclusive terms.

If each individual has only one identity, "I'm only X, that's all. I can't be multiple." And that's where the problem begins.

Religions and nations sometimes demand exclusive allegiance, but there are other options.

Many religions and countries allow people to have multiple identities at the same time.

CA: But I think one of the reasons for what happened last year was this: I think some people just couldn't stand the way people, like the so-called liberal elite, were greedy for so many different identities.

I thought I belonged to the majority! "and

You mean you've exploded in anger?

(Yuval) Identity is always a nuisance, because it's always based on fiction, and sooner or later that fiction collides with reality.

Nearly all identities are fictionalized beyond basic communities of dozens of people.

even if it's true

it's not real

It's just that people created it, communicated it, and started believing it.

That's why all identities are so fragile.

it's not biologically true

Sometimes nationalists say, for example, that the state is a biological entity.

They believe that a nation is made up of a combination of blood and soil.

But this is just fiction

Chris: When you mix dirt and blood, it's sticky and dirty.

(Laughter) (Yuval) And yes, on top of that, it's crazy to think that you're made of blood and dirt.

Let's look at it biologically: none of the countries we have today existed 5,000 years ago.

Homo sapiens are certainly social animals.

But for millions of years, Homo sapiens and hominid ancestors lived in small communities of a few dozen people.

everyone knew each other

Modern nations, on the other hand, are fictional communities in that you don't get to know everyone in them.

I'm from a relatively small country -- eight million Israelis -- and I've never met most of them.

I will never meet you again

People who only exist in my head

CA: Coming back to identity, about people who feel socially excluded, and who probably lost their jobs, you write in Homo Deus that these groups are expanding in a way. So, too many people are somehow displaced by technology, and the result can be a large class of people who are traditionally regarded as the non-contributing part of the economy, which you described as the "useless class."

(Yuval) Exactly.

CA: How likely is this?

Is it something we should fear?

Is it possible to do something about it?

(Yuval) We should think very carefully about this matter.

No one really knows what the job market will look like in 2040, 2050.

It's possible that new types of jobs will be created, but that's not certain.

Even if new jobs do emerge, it's not always easy for a 50-year-old ex-truck driver who's been out of work because of self-driving cars.

As a precedent, let's trace what happened in the Industrial Revolution, when machines began to replace humans in certain tasks, it was the low-skilled jobs in new kinds of businesses that solved the employment problem.

Workers who were no longer needed for agricultural work were replaced by less-skilled industrial labor, but as more machines were introduced and replaced this job, they were replaced by less-skilled service industries.

And when people say that there will be more jobs in the future, or that humans are better than artificial intelligence and robots, what they have in mind is craft jobs, like software engineers designing virtual worlds.

But I can't imagine someone who's been laid off as a Wal-Mart cashier and resurrected as a virtual world designer at age 50, and that's even more impossible for the unemployed textile workers in Bangladesh.

If that's the direction, we should start training Bangladeshis as software engineers right now, but we're not actually doing it.

What will they be able to do in 20 years?

CA: I feel like what you've just said highlights exactly the issues that have been troubling me over the past few months.

It's a difficult question to ask in public, but you might be the one who can give me some insight on this, so I'm going to ask: What is the purpose of human existence?

(Yuval) As far as we know, no.

(Laughter) Because there's no cosmic drama or grand scheme of things that we, as humans, have to play out.

And the idea that people have to find their own role and do the best they can

Religion and ideology have always told me, but as a scientist I can tell you that it's not true.

There is no cosmic drama in which Homo sapiens plays a role.

So -- (Chris) let me get back to you for a moment. In your book, Homo Deus, you develop the most coherent and easy-to-understand theories about such peculiar human skills as perception and consciousness.

You're arguing that this unique human skill is, in fact, a mysterious skill, unlike the intelligence that we're trying to create with machines.

We don't even understand what such a perception is, so how can you be sure that it has no intended role?

Is it not possible, in your view, that humanity, as sentient beings in this universe, was created at the center of joy, love, happiness and hope?

We might be able to build machines that amplify these things, even if the machines themselves aren't sentient.

Is it funny?

As I read your book, I found myself wanting that.

CA: The most interesting question in modern science is what is consciousness, what is the mind.

Our understanding of the brain and intelligence is getting better and better, but our understanding of the mind and consciousness is not.

People tend to confuse intelligence with consciousness, especially in Silicon Valley, and no wonder, because the two coexist in the human psyche.

Intelligence is basically the ability to solve problems.

Consciousness is the power of perception—the ability to feel joy, sadness, boredom, pain, etc.

Homo sapiens and other mammals -- not just humans -- all mammals, birds and some animals have both intelligence and consciousness.

Because often we solve problems by feeling things

I tend to confuse the two

it's different

Today, we're building artificial intelligence in places like Silicon Valley, but we're not building artificial consciousness.

In the last 50 years, we've made tremendous progress in the field of computer intelligence, but there's been zero progress in computer awareness.

First of all, if consciousness is given a role by the universe, it's not just Homo sapiens.

Cows and pigs are conscious. Chimpanzees and chickens are conscious. So if you're thinking in that direction, you have to broaden your horizons and remember that we humans aren't the only sentient beings on the planet.

But when it comes to sentience, I can't find any evidence that humans are more sentient than whales, or that humans are more sentient than baboons or cats.

So the first step in this direction is to broaden your horizons.

As for the second question, what is perception for? Let's look at it the other way around.

I don't think we even need to look for our role in the universe.

What really matters is to free yourself from suffering.

What sets sentient beings apart from robots and stones and the like is that sentient beings can feel suffering. Such creatures should focus their energies not on finding their place in the mystical cosmic drama.

It's about understanding what suffering is, then thinking about what causes it and how to get rid of it.

Chris: So this is an important issue for you. That was a powerful comment.

Now there's going to be a barrage of questions, from the audience, maybe from Facebook, and comments.

let's hurry

you there

Please keep your hands up in the back, I'll turn the mic later.

Questioner: In your book, you often talk about fictions that we accept as truths and live our lives according to them.

Please let me know how your understanding of it as an individual affects the worldview you bring into your life, and if you, like all of us, are confused with the truth.

(Yuval) We try not to confuse.

As a scientist and as an individual, perhaps the most important question for me is how to distinguish fiction from reality, because reality is out there.

I don't say everything is fake

It's very difficult for humans to separate fiction from reality, and it only gets harder as we go through history, because the fictions we've created -- nations, gods, money and corporations -- now rule the world.

That's why it's so hard to even think that the whole world is just a fiction that we made up.

but the reality is out there

the best for me...

There are several ways to tell the difference between fiction and reality.

The easiest and the best way to do it is, in a nutshell, to test with "suffering."

If there is suffering, it is real

without suffering it doesn't exist

because the nation does not suffer

it is clear that it does not exist

When a nation loses a war and says, "Germany suffered after being defeated in World War I," that's just a metaphor.

Germany cannot suffer

because there is no mind and no consciousness

Germans can suffer, but it's not possible in Germany.

Similarly, if a bank goes bankrupt, it doesn't suffer.

The dollar doesn't suffer when the dollar depreciates.

Both humans and animals suffer

can be said to be real

So if you want to see reality, I think suffering should be the first entry point.

If we can truly understand what suffering is, it will also help us understand what reality is.

CA: In connection with this question from Facebook, it's from somewhere in the world, and I can't read it.

(Yuval) It's Hebrew. (Chris) You were good at it.

(Laughter) Can you read my name?

(Yuval) Or Lauterbach Gollen

(Chris) Thanks for posting.

The question is, "Is the 'post-truth era' really a brand new era, or is it just another climax or moment in a never-ending stream?

(Yuval) I personally don't agree with the idea of ​​"post-truth."

As a historian, I basically think, if we're in the age after truth, then what exactly was the age of truth? and

(Chris) That's right.

(laughter) (Yuval) Was it the 1980s, the 1950s or the Middle Ages?

You could say that we are always living in a post-truth era.

CA: Let me counter this point, because people say that back in the day, there were fewer media outlets than there are now, and it was customary to verify the authenticity of things.

The idea that truth matters is built into the policies of the press.

For those who believe that "truth" exists, the content of the report is "information"

That "information" was believed to be directly linked to "truth," and that's why the headline writers were serious and honest about what really happened.

Even if there were times when I was misunderstood

But the modern concern is that there's now a technological mechanism of immense power that will terribly amplify anything for a period of time, and that it's toxic that attention will be paid only to clicks and attention, regardless of whether the content is connected to the truth.

A valid concern, don't you think?

Yuval: Well, technology has changed, making it easier to spread truth, fiction, and lies.

This is double-sided.

It's easier than ever to tell the truth.

But I don't think there's anything inherently new about spreading lies and falsehoods.

The concept of fake news and "post-truth" was something Joseph Goebbels knew.

He's famous for saying, "The more you repeat a lie, the more people will think it's true, and the bigger the lie, the better, because they don't even think it's a lie on such a scale."

I think it's been thousands of years since fake news came out.

the bible is a good example

(Laughter) (Chris) But some people are concerned that fake news is associated with tyranny, and that the appearance of fake news about an uprising is a "canary in the coal mine," a harbinger of the Dark Ages.

CA: It's a disturbing sign if fake news is used intentionally.

I'm not saying fake news isn't bad, I'm just saying it's nothing new.

CA: What's really driving Facebook's attention is what we're talking about today: global governance vs. nationalism.

From Phil Dennis: "How do you get (privileged) people and governments to give up their power?"

I can't read part of the question because the font is too big

But is the renunciation of power necessary?

Can we avoid war to make it happen?

I'm sorry if it's different from the intention of the question, it's because of the characters

(Yuval) Some people say, "It's only when a catastrophe occurs that humanity wakes up and moves toward creating a true system of global control. We can't move until a catastrophe occurs, but we must start laying the groundwork for a rapid response when catastrophe strikes."

But people have no incentive to do such things before disaster strikes.

I would like to emphasize one more point that anyone who has a strong interest in global governance should make it very clear that it should not replace or abolish local identities and communities, but should bring both the world and the region together.

CA: Can you tell us a little bit more about this, because "global governance" is a term that many people on the alt-right right now think of as a symbol of evil.

It looks scary and doesn't belong to me It's been disappointing in the past Globalists and global governance refuse! is the opinion

This election result is seen by many as the ultimate rejection of the global governance faction.

So how can we change the way we're being reported so that it doesn't come across as terrifying or far-fetched?

Can you tell us more about how global governance can coexist with local identities and communities?

Yuval: Again, I think we should start with the biological truth of Homo sapiens.

From a biological point of view, there are two things that are very relevant to this issue.

This topic is inevitable

Biology also says that Homo sapiens is a social animal, but social to a very limited extent.

It's just a fact of humanity that a person can only have close friendships with about 150 people.

A natural collective, a natural community of Homo sapiens, can never exceed 150 people. And when it's larger than that, it's based on a lot of imagination and large-scale social institutions.

More precisely, it starts with the body itself.

In this day and age, people feel alienated, lonely, and unable to find a home in the real world. The biggest problem is probably not global capitalism.

The biggest problem is that over the past few hundred years, the mind has become detached and separated from the body.

Whether you're a hunter-gatherer or even a farmer, survival requires a constant, moment-to-moment connection between your body and your mind.

If you don't listen, smell and taste carefully when you go into the forest to look for mushrooms, you will die.

must be intimately connected to the body

Over the past few hundred years, people have lost the ability to stay in touch with their bodies and use their senses to hear, smell and feel.

Humanity is becoming more and more preoccupied with what happened on screen, in other places at other times.

This is the underlying cause of feelings of alienation and loneliness, and so one of the solutions is not to restore mass nationalism, but to reconnect our consciousness with our bodies, and if we can reconnect with our bodies, we will be much more comfortable in a global world.

Chris: So, depending on how things go, we might all go back to the forest.

One more question from the floor One more question from Facebook

(Ama Adidakko) Hello, I'm from Ghana, West Africa. How do you justify and advocate the idea of ​​global governance to countries that have historically lost their civil rights as a result of globalization? Also, the term global governance sounds like it's born out of a Westernized idea of ​​what it means to be "global."

How do we justify and advocate for people in countries like Ghana, Nigeria and Togo about the idea of ​​'global' versus 'pure nationalism'?

(Yuval) History is grossly unfair, and we have to recognize that.

Many of the countries that have suffered the most from globalization, imperialism and industrialization in the last 200 years are exactly the ones that will likely suffer the most from the next wave of change -- the ones with the highest probability.

This must be clearly understood

If climate change and technological innovation do cause problems in the absence of global governance, it's not the United States that will suffer the most.

Countries such as Ghana, Sudan, Syria and Bangladesh will be most affected.

So I think these countries are more likely to be motivated to take some sort of action against the next wave of change, whether it's environmental factors or technological factors.

Once again, talking about technological disruption, when it comes to artificial intelligence, 3D printers and robots taking billions of people out of work, I'm much more concerned about the impact on Ghana and Bangladesh than it is on Sweden.

So history is so unfair, and catastrophes don't hit everyone equally, and as always, the worst consequences of climate change can be avoided by the rich, but not by the poor in the same way.

CA: From Facebook, Cameron Taylor's sharp question. You wrote at the end of "Sapiens" that we should ask, "What do we want?" What do we want? Tell us what you think.

(Yuval) What we humans want is to want to know the truth, to understand the reality.

What we want, broadly speaking, is to change reality to suit our wants and desires.

If you look at the long trajectory of history, you'll see that for thousands of years, we humans have tried to gain more and more control over our external environment, to change it to suit our own desires.

We've subjugated other animals, we've controlled rivers and forests, we've completely reshaped them, and in doing so, we've caused environmental destruction without satisfying ourselves.

The next step is to look inward, and the first step is to admit that you are not satisfied with the control of your external environment.

and try to control your inner world

This is a grand project for 21st century science, technology and industry to learn how to engineer and build our bodies, brains and minds to gain control of our inner world.

It will be the main product of the 21st century economy.

When people talk about their hopes for the future, they tend to think like this: "I want to control my body and my brain."

this is a very dangerous idea

If we've learned anything from our past history, it's true that we've gained the ability to remake things, but we're facing environmental "meltdowns" because we haven't truly understood the complexity of our ecosystems.

If we try to modify our inner world without truly understanding it, especially if we don't understand the complexity of our mental system, we may also cause an "environmental disaster" within ourselves, a mental "meltdown."

CA: If you put all the points together, the current political climate, the technology of the future, and the issues you've just outlined, it looks like you're looking pretty bleak for your own future.

I'm pretty worried about the future

Are you sure?

If there is anything that gives you hope, what would it be?

CA: What I emphasize is the possibility of the worst happening, partly because that's my job and my responsibility as a historian, a social critic.

So, because industry mainly emphasizes the positive side, it's the job of historians, philosophers, and sociologists to highlight the dangers of all these new technologies.

I don't think any hypothetical scenario is inevitable.

When it comes to technology, nothing is set in the future.

We could use the same technology to create a completely different society.

If you look back at the 20th century, the technologies of the Industrial Revolution -- things like trains and electricity -- were available in communist dictatorships, in fascist regimes, in liberal democracies.

The train wasn't instructed to use it this way.

Today, similarly, things like artificial intelligence and bioengineering don't presume a single outcome.

Humans are capable of overcoming challenges, and a perfect example of overcoming challenges to new technology is nuclear weapons.

In the late 1940s and 1950s, people were convinced that sooner or later the Cold War would end in a nuclear catastrophe that would destroy human civilization.

this was not happening

In fact, nuclear weapons prompted people all over the world to change the way international politics is managed in order to reduce war.

Many countries have excluded war from their diplomatic drawers.

They no longer pursue their own interests through war.

Not all countries do that, but many do.

This is probably the main reason why international conflicts have declined dramatically since 1945. Today, as I said earlier, more people commit suicide than die in war.

I think it's a great example of how even the most terrifying technology can be overcome by humans and produce positive results.

The problem is that the margin of error is very narrow.

If you don't do it right, you may lose the option to start over.

Chris: That was a powerful comment, and I'd like to draw a conclusion from this.

Before I wrap up, I would like to ask all of you here, the global TED community watching online, and others, to join us in this "dialogue."

If you, like us, feel that new types of conversations are needed more than ever before, please join us.

Reach out to other people, have conversations with people who disagree with you, understand them, connect different ideas, and give us your wisdom on how to move these conversations forward so that we can make a real contribution to addressing the problems that are happening in the world right now.

I hope this makes you more interested, more engaged, more involved in the current political climate.

The survival of mankind is at stake. Please help us to respond in a wise way.

Thank you Yuval Harari

(applause)

It all started with these two, my children.

While hiking in the Oakland woods, my daughter found a plastic cat litter box in the river.

He looked at me and said, "Hey Daddy?

This is weird, isn't it? ”

All of a sudden, a scene from summer camp popped into my head.

On the morning of the visiting day, just before the anxious parents rushed in through the gate, the leader would command the children, "Pick up five pieces of garbage each! Hurry up!"

If 200 children collect 5 pieces of garbage each, it will be clean in no time.

So I thought, can we do this crowdsourced cleaning method on a global scale? and

From that inspiration, Litterati was born.

Our vision is to create a world without waste

how it started

First, I took a picture of a cigarette on Instagram.

then another photo

another

take another photo

I realized two things: First, my trash became a work of art, and I felt less disgusted with it. And second, I reached 50 photos in just a few days.

There are 50 fewer pieces of trash in the world that you can see, step on, or be eaten by birds.

So we started disseminating this activity, and the number of participants increased.

One day, this picture arrived from China.

And that's when I realized that Litterati wasn't just a collection of nice photos, it was transforming into a collection of data.

There is a story behind each photo

You can see who picked up what, geotags tell you where, timestamps tell you when.

So I started using Google Maps to plot where the trash was picked up.

In the meantime, the number of participants continued to grow and the data volume swelled.

My children's school is in the middle of this street

Garbage has become part of the landscape of our lives.

But what if you pulled it out to the front?

What if we could pinpoint exactly what the trash was on the street, the trash on the sidewalk, and the trash in the schoolyard?

How can such data be useful?

let me show it

First, let's talk about the city.

San Francisco was trying to find out the percentage of cigarettes in their trash.

But why

for tax purposes

So an investigator was dispatched, with a clipboard and a pencil, and the information was collected by foot, and the result was a 20 percent tax on all tobacco sales.

But then they got sued, because the tobacco industry is powerful, and they argued that clipboards and pencils of data were neither accurate nor empirical.

So we got a call from the city asking for help with our technology.

I don't know if they were aware that the technology was just my Instagram account. (Laughter) But I said, "Yes."

(Laughter) "I can tell whether tobacco is Parliament or Pall Mall.

All photos are geotagged and time-stamped for proof."

Four days later, after 5,000 pieces of litter were picked up, our data was used not only for counter-arguments, but to double the tax rate, resulting in an additional $4 million in recurring revenue for the city of San Francisco to spend on cleaning projects.

I learned two things from this incident. First, Instagram wasn't for me.

And the second is that every city in the world has its own unique characteristics, and those characteristics lead us to the causes of the problems and the solutions.

If you can generate income just by looking at the percentage of cigarettes in your trash, why not even coffee cups, cans, and plastic bottles?

If you can figure out what makes San Francisco unique, you should be able to do it in Oakland, in Amsterdam, in your own neighborhood.

What about companies?

How can this data be used for environmental and economic benefit?

There's a corner in downtown Auckland that's full of trash.

Litterati users gathered there and picked up 1,500 pieces of trash.

It turned out that the trash was all from a famous taco shop.

Most of them were sachets of hot sauce from the store, most of them unopened.

As for the problems and solutions, for example, you could give the sauce only to those who want it, or put it in a large container inside the store, or switch to more eco-friendly packaging.

Companies must think about how they can turn negative environmental impacts into economic drivers and become industry heroes.

But if you really want change, it's most effective to start with children.

At one school, fifth graders picked up 1,247 pieces of trash in the schoolyard.

We found that the most common trash was straw bags in the school cafeteria.

So the children go to the principal and ask, "Why do we need straws?"

As a result, straws have been discontinued

The children also learned that there is meaning in what each of us does, and that together we can be more powerful.

This community is open to everyone, whether you're a student or a scientist, whether you live in Honolulu or Hanoi.

What started with two young children who took them into the woods of Northern California has now spread around the world.

How have you been on that journey?

one by one

thank you

(applause)

Joseph Keller used to jog on the campus of Stanford University, and he was very intrigued by the women who were also jogging.

Why does the ponytail sway from side to side like that?

A mathematician, he began to find out why

(Laughter) Professor Keller's curiosity was multi-faceted: Why does the teapot drip? How do earthworms bend?

I didn't know Joseph Keller until a few months ago.

I read about him in an obituary in the New York Times.

The New York Times dedicated half a page to Professor Keller.

I read obituaries almost every day

Naturally, my wife thinks I'm sick.

(Laughter) But when you think about it, it's usually bad news on the front page, and it's someone else's mistake.

It's bad news, but it's the obituary on the last page of a newspaper that tells about a person's accomplishments.

My main job is to run a company. I provide past data to marketers so that they can make predictions about the future.

At my company, we thought, What if we put the New York Times obituary into historical data analysis?

Are there any lessons to be learned from the cut of the article? By the time it was published, he no longer existed.

(Laughter) Is that an article for scrambled eggs?

(Laughter) So I looked at the data.

2,000 obituary articles written free of charge by the editorial department during the 20 months from 2015 to 2016.

What can these 2,000 deaths, or rather life, teach us?

First we looked at the words

This is the headline of the obituary article

Here's an article by the great Lee Kuan Yew.

When you take away the beginning and end, what's left is a beautifully worded description, trying to capture a lifetime's achievements in just a few words.

This alone is really interesting

Here are some famous people who died in the last two years.

guess who it is

[Artist beyond genre] This is Prince

[Boxing and the giants of the 20th century] That's right

[Muhammad Ali] [innovative architect] Zaha Hadid

We put these keywords through what is known as natural language processing. We put the keywords into the program, and it removes the extraneous words, like "the" and "and," which can be said in silence, and leaves only the words with the important content.

And we've processed the keywords for all 2,000 people, not just those four people.

Here is the result

So much cinema, theater, music, dance and, of course, art.

over 40%

It makes me wonder why so many societies tell kids that to be successful, they have to do engineering, medicine, business, and law.

Now that we've talked about careers, let's talk about age. Let's look at the average age of achievement.

the average age is 37

I mean wait 37 years for the first time

It's the average that reaches important achievements that people remember, and then 44 years later, he dies at the age of 81, which is also the average.

(Laughter) Just a word of patience.

(Laughter) Of course, this varies by profession.

If you're an athlete, you probably start to stand out in your twenties.

If you're in your 40s like I am, you can flourish in the fun world of politics.

(Laughter) In the mid-40s, politicians have their first and possibly only significant accomplishments.

(Laughter) You may be wondering about the "other."

Achievements and memorable things [Making clothes for nine presidents] Isn't it fun? [Pioneer of topless industry]

(Laughter) Our curiosity got so hot that we wanted to analyze more than keywords.

So we ran the program through the first paragraphs of all 2,000 articles, but divided them into two groups and analyzed the famous people and the unknown people separately.

Celebrities like Prince and Ali Zaha Hadid and unknowns like Jocelyn Cooper and Reverend Curry -- Lorna Kelly.

I'm sure they're all names you've never heard of

Great people with great achievements, but they're not famous.

Now, what if we split the analysis into two groups, the famous and the unknown?

What do we know?

let's see

Two features stand out

The first is "John"

(Laughter) If you have someone named John, you should thank your parents -- (Laughter) and tell your kids to cut out their own obituary.

The second is "Lend your strength."

We unearthed many lessons from The Good Life and the teachings of those who left their mark on the article.

The obituaries are compelling evidence of the kaleidoscope of life that exists, but what's even more fascinating is that almost all obituaries feature people, famous or obscure, who have accomplished extraordinary things.

They all left a positive impact on society.

I lent you my strength

When you return to your daily routine, ask yourself: How am I using my talents to benefit society?

Because the biggest lesson I've learned from this is that the world would be a better place if more people lived their lives striving to be famous when they died.

thank you

(applause)

I'd like to introduce you to some of the smartest kids I know, but first, I'd like to introduce you to a camel.

This is our therapy camel Cazzie visiting our little patient in her room.

A friend of mine raises camels on a ranch in the Santa Cruz Mountains.

He has about eight camels, and he started raising them 30 years ago because he thought horses were too mediocre.

John is a free-thinking, unconventional thinker, which is why we've been such good friends over the years in all respects.

Over the years, I've persuaded him to let this cute furry animal play with our sick children from time to time.

When I was talking to John, I was surprised to learn that the average lifespan of a camel is 40 to 50 years.

Many of the children I work with have less than a year to live.

This is the George Mark Children's House, America's first palliative and respite care center for children.

I founded it in 2004 because after years of working as a psychologist in a pediatric ICU, I was disgusted to see so many children dying without dignity and the endurance their families endured.

When I worked with the families of terminally ill children, I was acutely aware of the rudeness of the surrounding environment.

Elevated trains thunder overhead, the room literally rumbles every time the train passes

The fluorescent lights in the hospital ward are too bright

The elevators and monitors were beeping.

What these families were going through was one of the most excruciating moments of their lives, and I desperately wanted them to be in a more peaceful place to say their final goodbyes to their children.

I thought, "There must absolutely be a better place than a hospital ICU for the last days of a child's life."

Our Children's House is a calm and enveloping place.

It's a place where families can stay together to cherish quality time with their children, many of which are short stays for respite, some of whom are repeat visitors over the years.

We call them "regular customers"

Their rooms are quieter and more comfortable than the bright and noisy hospital wards, and they have family living spaces, peaceful gardens, and a wonderful outdoor playground with special equipment for children with physical limitations.

This sweet baby Lars came to us straight from the hospital's ICU.

Imagine being told heartbreaking news that no one wants to hear

His parents were told that Lars had brain abnormalities that would prevent him from swallowing, walking and speaking, and would impede his intellectual development.

Knowing that their son was unlikely to survive, the parents decided to focus on the quality of time they could spend together.

I moved into a family room at the facility and cherished the few days I had left.

Lars' life was certainly short, just a few weeks, but it was quiet and comfortable.

he also went hiking with his parents

After spending time with an aquatic therapist in the pool, my seizures lessened and I slept better at night.

His family had a peaceful place to celebrate his life and mourn his passing.

It's been five years since Lars died, and in the meantime his family welcomed a new girl and boy.

They are compelling evidence that specialized hospice care for children produces positive outcomes.

The baby's physical suffering was well managed, and the family was gifted with beautiful places to spend time together.

I'm not going to talk about the camel in the room, I'm going to talk about the elephant in the room (the problem we all avoid).

Few people like to talk about death, let alone the death of a child.

Losing a child is especially frightening, especially for those who actually have children, and it's better to say "paralyze," "wear out," and "impossible."

But what I've learned is that even if adults don't accept the injustice of losing their children, children still die.

What's more, if we have the courage to face the possibility that even the most innocent child will die, we will have unparalleled wisdom.

For example crystal

She was one of the first children to come to care after opening.

She was nine years old at the time, and her neurologist thought she had two weeks to live.

She had an inoperable brain tumor, and in the week before she came to us, she was debilitated rapidly.

After entering the room, dressed in pink and lavender and surrounded by her favorite Hello Kitty accessories, she spent several days winning the hearts of all the staff.

Little by little, her condition stabilized, and then, to her surprise, her condition improved.

A variety of factors contributed to Crystal's recovery, and we've come to call it "George Mark's Lull."

She was surrounded by a more serene atmosphere, delicious meals were often tailored to her wishes, and a resident therapy dog ​​and bunny made Krystal feel at home.

About a week after she arrived, she called her grandmother and said, "I'm in a very big house, and I have a room for my grandmother.

after that

No need to bring a dime, the washer and dryer are free! ”

(Laughter) Krystal's grandmother soon came to visit us in town, and we spent Krystal's last four months enjoying very special days together.

There was also a special day when Krystal spent time outside in a wheelchair by the fountain.

For a little girl who had spent most of the previous year in a hospital bed, being able to count hummingbirds outside meant a lot of fun with her grandma, and we laughed a lot.

Another day was made special with a variety of activities organized by child life specialists.

Crystal uses beads to make accessories for everyone.

I helped decorate for Halloween by coloring pumpkins.

She had an exciting time planning her 10th birthday, and of course no one thought she'd live to that day.

We all wore pink boas for this day and Krystal wore a sparkling crown like this as the princess of the day.

One hot morning, I walked into work and was greeted by Crystal and her prank buddy Charlie.

With help, they even strategically placed a lemonade and cookie stand just outside the front door.

I chose a cookie and asked Krystal how much it cost, and she said, "It's three dollars."

(Laughter) And I said, "Is it a little expensive for one cookie?"

(Laughter) It was small.

"I know," she admitted with a grin, "but I'm worth it."

In those words I found her wisdom.This little girl's short life had a lasting impact on my life.

She deserved it, shouldn't every child whose life was cut short by a terrible disease deserve it?

Today, together, we are able to provide the same professional care that Crystal received because we recognize that hospice and respite care for children is a critical missing component of our healthcare.

Another interesting thing is that this care can be provided for about a third of the cost of a hospital ICU, and the family is not charged.

Thanks to all the years of support from those who believe in our important work.

Indeed -- I, my colleagues, my patients' parents and other family members are in a special position to experience this special wisdom.

We only have two standalone pediatric hospices in the United States, but I'm pleased to announce that we have 18 hospices in the pipeline based on our operating model.

(Applause) And yet, most of the children who die in the United States each year end their lives in hospital rooms, surrounded by the beeping of machines, surrounded by anxious, exhausted adults, who have no choice but to say goodbye to their children in this uncomfortable, inorganic light, in the midst of virtually strangers.

Let's compare this to the situation in the United Kingdom, which has a population about one-fifth that of the United States, a land area about half the size of California, and has 54 hospice and respite centers.

Why?

I asked myself many times

Perhaps it's because Americans have a unique can-do attitude, and they expect their country's medical system to cure even incurable childhood illnesses.

We go to great lengths to keep our children alive, but in reality, perhaps the greatest kindness we can give them is a peaceful and painless end.

The transition from curative to terminal care is one of the challenges for many hospital physicians, because they have been trained to save lives, not to gently guide patients for the rest of their lives.

The father of a sweet baby we cared for at the end of his life saw exactly this situation, and he reflected, "There are many people involved in bringing a baby into the world, but there are very few people who see it at the end of its life."

What is George Mark's magic?

Young patients come to us with a complicated set of symptoms, and that often means that their lives have been restricted. Some have been in hospitals for long periods, some have been confined to wheelchairs, others have been subjected to intensive care, chemotherapy and rehabilitation.

We're setting a precedent to free ourselves from these "restrictions."

Our clichés are "let's do it" and "like it"

That's why we brought a boy who didn't seem to live until next baseball season to Game 5 of the World Series.

That's why we host staff and child-hosted talent shows for family and friends.

Who wouldn't be fascinated by a boy with atrophied arms playing the piano with his feet?

That's why we do prom every year.

It is very nice

We started prom because I heard a father lament that he would never put flowers in his son's tuxedo lapel.

The weeks before the dance, the house is in turmoil. Is it the staff or the kids who are most excited?

(Laughter) On the night of the event, you'll get in your vintage car, walk the red carpet, and walk into the big room, where you'll find the best DJs on standby and ready-to-go photographers ready to capture the attendees and their families.

At the end of that night this year, Caitlin, a cheerful teenage girl, said to her mother, "It was the best night of my life."

And that's the point: to capture the best days and nights, break the limits, have a basic "yes" attitude, and ask, "Isn't it okay?"

After all, life is too short, even if you live to be 85, it's the same if you only live to be eight.

believe me

no, trust sam more than me

We don't protect people, especially our beloved children, by denying the existence of death.

Ultimately, we cannot determine the length of life.

What we can decide is how we spend our days, what spaces we create, what we find meaningful and joyful.

We can't change our destiny, but we can change our journey to get there

Isn't it time to find out? Children deserve our uncompromising courage and wild imagination.

thank you

(applause)

My name is Lovegrove, and I only know 9 people with the same last name as me.

And two of them are my parents.

Besides, my parents are cousins, so you know what happens when that happens? So there's this weird, unconventional side of me that I'm constantly battling with myself to get this presentation done today.

Going to the bathroom as an exercise in giving an 18-minute talk

I endured

I figured if I could manage to endure it for a long time, I might be able to endure these 18 minutes.

(Laughter) So let's get started. I'm known as a leader in organic design, and this describes my philosophical and aesthetic standpoint.

But what I want to talk to you about today is the love of shapes and how they can touch your soul and your emotions.

We humans lived in caves not thousands of years ago, not that long ago.

We humans respond very well to shapes.

My interest is in the creation of intelligent forms.

I'm not interested in brovism at all -- I'm not interested in the veneer of junk that is produced in the name of design.

I think this kind of thing -- artificially induced consumerism -- is junk.

I'm in the same world as, for example, Amory Robbins -- Janine Benyus, James Watson.

While I belong to such a world, I work purely instinctively.

I'm not a scientist, as I may have been - but I trust my instincts and work in this world.

In a way, I'm a 21st century translator of technology, translating technology into everyday objects that are both beautiful and naturally relatable.

So what we have to do is develop ideas that increase people's awareness and respect for what they've unearthed from the earth, packaged it up and translated it into consumer goods.

Well it's a water bottle

I started with a concept I called DNA.

DNA stands for the three elements that condition my world: design, nature and art.

This is a 500-year-old drawing by Leonardo da Vinci, before the invention of photography.

This work shows how observation, curiosity and instinct can work together to create a work of wonder.

Industrial design is the art form of the 21st century.

I don't think there were many people like Leonardo, but he had an amazing instinctive curiosity.

to design

I don't want to sound pretentious, but this is a drawing I did on a digital pad a few years ago, 500 years later, well into the 21st century.

This is my impression of the water

As we all know, Impressionism is one of the most expensive art forms on the planet, and Monet is well over $100 million.

A few years ago, I reinvented the process and now I'm using it.

Greg Lynn, Tom Mayne - I wanted to keep up with Zaha Hadid, Rem Koolhaas, and others, all of whom have been persistently pioneering brilliant new ideas about how to create forms.

It's all done digitally

This is an acrylic block being milled.

This is to present my idea to the client.

I don't know if it's even possible at this point

It's designed to attract clients, but I intuitively believe it's possible.

So we decide what to hire, how to process it, how to manufacture it.

This is the part you don't see everyday

You could call it the background noise of industrial design.

This is like Anish Kapoor joining Richard Serra.

To me, this is worth more than the product.

I don't have one for myself, so if I get the money, I'll have one processed.

This is the final product I thought it was a failure when I received it

It felt like nothing, it just had to be

I poured water into it, and I understood that I gave skin to water.

This bottle represents water itself, and it raises people's awareness of what contemporary design is all about.

Each bottle is different, which means they look completely different depending on the amount of water in them.

This is mass-producible individualism with one product.

Arthritic Hands Fits well in children's hands

This mosaic shape adds strength

Millefiori of ideas

In the future, this is what the bottle will look like, because we're going to have to use the polymers that we're using today for things that are more important to our lives, like medical devices.

In the next 10 years, ideas involving new materials called biopolymers will come into play.

Not so cool compared to before, right?

But I can handle this, no problem

I design for that kind of prerequisite, a future that uses biopolymers.

This video was shot last year in Cape Town

My quirky side is showing up

I'm particularly interested in this kind of marvel

I don't know what to do - should I kneel and sob or what should I think? All I know is -

Nature evolves toward a greater purpose than its predecessor, and queerness is the result of that innovative thinking.

When I see something like this, it looks normal to my eyes.

But this is the result of years of evolution, and yet we're trying to design a phone in three weeks. How do we design in three weeks? It takes hundreds of millions of years for life to evolve—how?

shorten it?

So we go back to our instincts again

I'm not talking about telephones or the apparent design of architecture.

My interest is in nature's growth patterns, and in the beautiful forms that only nature can create.

I'm trying to understand how it flows through me

This is a scanned image of a human forearm, enlarged by rapid prototyping.

It reveals cell structures, and it's in my office.

My office is a mix between a natural history museum and a NASA space lab.

It's a strange, unconventional place

this is one of my samples

So bones are made of a mixture of inorganic minerals and polymers.

I went to culinary school for four years, and in my experience at that time, home economics was called domestic science, and I went there as a little trick to get my science certificate.

(Laughter) In fact, I put marijuana in all the food that I made.

The rugby team didn't seem to understand - anyway.

This is another meringue sample

My guess is that meringue is made of exactly the same ingredients as bone.

Meringue is made up of polysaccharides and proteins

Dissolves when water is applied

Will we make things out of food in the future?

Not a bad idea, Janine.

I'll have to ask some other people, but I think instinctively -- meringue could be something else, like a car? what do you think

I'm also interested in growth patterns, the patterns in which nature freely grows things without being constrained by any form.

It's these interconnected shapes that inspire all of my work, but in the end it might end up being very simple.

Here's a detail of a chair I designed using magnesium.

It's a dialogue between the elements, and the beauty of technology, and the idea of ​​biology, expressed in the form of bone structure.

No matter which part you take, if you hang it on the wall, it will become an object.

This is the world's first magnesium chair.

It cost $1.7 million to develop. This is Bernhardt's "Go."

This chair was named in Time magazine in 2001-

It was published as the new language of the 21st century, which was a huge honor for me growing up in a small Welsh village.

Like in the automotive industry, you build one holistic form first, then you break down what you need.

This is truly beautiful-

and how to do sacred work

organic and essential

It's a design that eliminates all unnecessary things, and when you look at it, you can see a human figure (to the audience sneezing) Take care.

And when you start with polymers, you can give shapes different elasticity and fluidity.

This is a one-piece, gas-injected polymer chair.

Nature first drills holes in things to free form from its shackles.

And remove the unwanted parts, that's what I do.

I make things that are intrinsic and organic

My chair is quirky, but I don't try to make it quirky on purpose.

So let's apply the idea of ​​fractal technology to take a membrane, and if we scale it all the way down, just like nature does -- we might be able to use it as the seat of a chair.

soles of sports shoes

Or what about cars that merge with seats?

great let's do it that's what i'm aiming for

This is what exists in nature. Through observation, we can

It is now possible to incorporate the natural process into the design process on a daily basis.

This is a show currently being held in Tokyo.

This is a work called "superfluidity," which is my sculptural exploration.

This is Henry Moore's 21st century expression. If you look at Henry Moore --

It still gives me chills. I feel a wonderful spiritual connection.

If Moore designed cars, everyone would be in his car.

Moore was Britain's largest taxpayer at the time.

That's the power of organic design.

Such design has a tremendous impact on how we are, how we perceive our relationship to objects, our sensuality and what should I say - the socio-erotic dimension - which is very important.

This is my work This is my whole process

I actually sell it as a work of art, it's a very large print, but this is how I understand things.

Ironically, this object was made using the Killarney process, a process that came into being in the 21st century.

I will talk about it later

When you stare at data images like this, you see something new.

I no, it's inspired by itself, formerly unobservable-

Diatomic structures and radiolarians are now observable, and inside they are also hollow, essentially composed of nothing.

It's made out of silica. Why don't we have a car with a structure like that?

Like coral, the power of nature removes all unnecessary and achieves ultimate beauty.

We have to be in that realm, that's what we want to accomplish.

This is a new chair that will be released in September.

We made it for Moroso in Italy, and this is a gas-injected polymer chair.

You could say that these pores are highly simplified and diluted versions of the ends of the diatomic structure.

This chair works really well with the fluidity of the polymer, and the picture I'm going to show you is the big picture.

It's great to have a company in Italy that supports such a dream.

The shadow you see through the chair -- it may be more important than the product itself, but it's the bare minimum.

Punch holes in the back for ventilation

It removes all unnecessary material, but also absorbs flexure.

I was about to dance

This is one of the projects I'm working on right now.

I'm thinking about a structure that has only one surface and how it flows, it stretches, it flows, although it's based on the typology of furniture.

That's not the ultimate motivation, although it's made of aluminum.

I grew up against that nature.

It grew in my head, it grew in the whole process that I explored.

This was taken two weeks ago at CCP in Coventry, where they make Bentley parts.

It's being manufactured as we speak, and it's on display at the Phillips show in New York next year.

I'm doing a big show at Phillips Auctioneers

I take my hat off when I see anime like this

Normally, I'm always like this in the studio: walking, wandering, coming back.

someone did this on a computer amazing

Every day I try to generate the energy for invention in my studio.

It's a vibrant, energetic feeling, like a "soup" of ideas.

A product with only one surface, furniture is a good example.

how to grow legs from the surface

I'd love to make one someday, using ingredients like flour, sugar, polymers, wood chips, and even hair.

What do you think? I want to try it. I don't know.

Another weird side of me is showing up, a side that a lot of companies don't understand.

Three weeks ago, I visited Sony in Tokyo and was asked, "Would you like to give our company a dream?

Tell me how to surpass Apple."

And I said, "Of course, you can't copy Apple," and I said, "What about biopolymer materials?"

It was like ignoring it, what a waste anyway (laughter).

No, it's true. Damn it, Sonny, fuck it. (Laughter) I sent a dream, but I didn't receive it. I've had this photo for 20 years.

We've had water droplets on the heated surface for 20 years.

this is my image of a car

So the water droplet is the car of the future.

I've been thinking about it for a very long time

all the cars are wrong

I'm going to show you something a little strange.

When you show it, it causes laughter anywhere in the world

Except for Moscow, this car is made up of 30,000 parts.

Ridiculous? 300 parts will do

Vacuum-formed carbon-nylon dish-shaped body. Everything is holistically integrated.

Opens and closes like a bread case

There's no engine, there's a solar panel in the back, and the battery is in the wheel.

Put it in and it's time to go

This car is three-wheeled, slow, feminine, and transparent, so you can see inside and drive differently.

(smile)

You can see that too I can see that

I can see it, but I'm not paralyzed, I'm cut off from my daily life.

There is a hole in the front There is a reason for this

This is a city car.

When you pull the car over to the "nose" and get off, the "nose" lifts the car-

It will be a solar panel.At night, it will be a street light.

(Applause) If we were to first design a car inspired by street lamps, it would look like this.

This bubble contains a hydrogen package, controlled by artificial intelligence, and you can imagine how it floats on the ground.

When I showed this in South Africa, people said, "A car on a stick, like this."

Can you imagine? a car on a stick

Putting it next to modern architecture feels very natural to me.

Treat furniture in the same way

Arrange the Eames furniture or whatever. Forget it. Move forward.

I am the furniture that fits the architecture,

I'm trying to make a transportation system

I've done aircraft work for Airbus, and all that I do is an attempt to put the nature-inspired dream back where it should be. I'll end with two stories.

This is a stereolithographic staircase.

This is just a little bit as a dedication to James Watson.

This is for the studio-

I made it, but it cost $250,000

Normally you would go buy an Aston Martin I built this

This is the data that accompanies it, and it's very complex.

It took us about two years, because we pursued a stripped-down design.

It's slim, it's efficient, it's a wholesome creation.

It's made of composite material, and it's one element --

By drawing a spiral, we've created a holistic element, which is a carbon fiber balustrade -- it's only supported in two places.

Modern materials make modern things possible

This is a photo I took in the studio

I look like this most days

I hope you don't have a fear of heights when you get off.

There are no handrails, and none of them will pass the standard.

(Laughter) Who knew?

(Laughter) The inner railing provides strength and is holistically integrated.

this is my studio basement

It's in Notting Hill, next to Trash - you know, prostitutes and stuff.

Located next to Hockney's first studio

We have a lighting system that changes throughout the day.

People go out to eat lunch, and the door is open, and it's usually raining, so they come back.

This is the studio, the 1988 elephant skull from Oxford University.

I bought it last year.It's hard to find bones.If anyone wants to sell a whale skeleton, please sell it.

I'll put it in the studio

I'd like to talk a little bit about what I'm going to show you in this video.

This is a home video shot by me at three o'clock in the morning. I wanted to show you my real world.

Because architects and designers never show us the real world.

This is a work called "Plasnet"

This is a new bio-polycarbonate chair I'm designing in Italy right now.

The world's first bamboo bicycle with a folding handle

everyone should ride

If China is buying all those wrecked cars -- we should be getting them -- to balance it out.

Like I said, it's a hybrid between the Natural History Museum and NASA's lab, and there are countless prototypes and objects.

Inspired by itself, when it's rare -

I enjoy it. Many children come to play.

A lot of children come

I "defile" the son of investment bank idiots.

No sorry (laughs)

This is Solar Seed, a new architectural concept.

Above is the world's first solar-powered garden lamp, and I'm sure Giles Revel is here today to tell us --

Photos of amazing things you can't see with the naked eye

This is a sculpted model of that work in Tokyo that I made for the first time.

There's a lot of things, like the Leaf chair, and that little gold one is called the Leaf, and it's made of Kevlar.

On the wall is a book I wrote called "Supernatural," which reminds me of some of my past forgettable work.

This is a cellular brick that I made in Limoges last year that was exhibited at "New Ceramic Concepts in Architecture."

I work at three o'clock in the morning, but I don't get paid overtime.

Passion for design pays for overtime. Either you join us or you don't.

It's true, Tom and Greg - we're traveling on schedules that just don't seem possible.

Next week we're at Electrolux in Sweden, and on Friday we're in Beijing.

Looking at Ed's photo, I wonder why I'm going to China, no really.

It's true, all this stuff has a soul-

we need to equip ourselves with new instincts for the 21st century

you need to combine all these

What a joy it would be if all the people we talked to in this session got together and built a car.

There is a new X-light system (ultra-lightweight bicycle) to do in Japan-

There are Tuareg shoes from North Africa and Kifuwewe masks.

this is a sculpture i made

Jelly mold made of copper

It looks like a quiz show or something

I will finish it soon

thank you james for the inspiration

thank you

(applause)

Now can we be optimistic?

The point of my book is that one billion people have been stuck in the last 40 years of economic stagnation, and have been cut off from the rest of humanity.

The real question here isn't "Can I be optimistic?"

"How can we give hope to these billion people?"

Now this is a fundamental challenge in development.

What I offer you here is a prescription that combines two forces that have made the world a better place: an alliance of compassion and enlightened self-interest.

Compassion is because a billion people live in a society with no real hope.

this is a human tragedy

Because "enlightened self-interest" will be a nightmare for our children if economic disparity, combined with global social integration, continues for another 40 years.

It takes compassion to take action, and enlightened self-interest to take it seriously.

This is an alliance that will change the world

What does it mean to get serious about giving hope to the bottom billion?

What can you actually do?

Think about it, "What did the rich countries do when they got serious about developing the rest of the world?"

It's a pretty good clue.

It wasn't until the late 1940s that the rich nations got serious about developing other territories.

The rich country is you America The area that needed development is Europe, where I live

Post-war Europe

Why did America take it seriously?

There was sympathy for Europe, but not only

I had to do it, because in the late 1940s, as more and more Central European countries fell on the side of the Soviet Union, I had no other choice.

There was a need to pull Europe into economic development

What did you do then?

Thank you very much.

It's the Marshall Plan. We need to do this again. Aid is part of the solution.

what else would you do

completely upended trade policy

America before the war was totally protectionist

After the war, it became a global economy by opening its markets to Europe and drawing them into the American economy, and organized free trade by setting tariffs and general rules of trade.

It's a shift in trade policy.

what else did you do?

You completely overturned the defense policy.

Pre-war American defense policy was isolationist

After the war, the United States overturned that and put 100,000 troops in Europe for 40 years.

Besides completely overturning defense policy?

We have revoked the 11 commandments of national sovereignty.

Before the war, America considered national sovereignty sacred and had no intention of joining the League of Nations.

After the war, the United States established the United Nations, established the Organization for Economic Co-operation and Development, established the IMF, encouraged Europe to create the European Community, all systems of supporting governments.

It is still an important part of effective policy: aid, trade, defense, government.

Of course, because the challenges are different, the details of the policy will be different.

Instead of rebuilding Europe, eliminate differences so the bottom billion can catch up

Easier or harder?

should be taken at least as seriously as before

Today I'm only going to talk about one of the four

I'll take the one that sounds the weakest, the government that we're all too familiar with, specifically the mutual systems that support government.

The opportunity we're looking at is the real basis for optimism for the bottom billion, and that's the resource boom.

The resource boom is pouring unprecedented amounts of money into many, if not all, of the poorest countries.

It's partly because of the high value of the product, but it's not the only reason, but there are new discoveries.

Uganda has just discovered oil in one of the most devastating places on earth, Ghana has discovered oil, and Guinea has a large new iron ore exploitation.

there are many new discoveries

These new revenues make aid smaller.

To give you an example, Angola alone has $50 billion in oil revenues a year.

$34 billion last year in aid to the bottom billion across 60 countries

Never before has there been a flow of money to the bottom, attributed to resource booms.

so i have hope

The question is how can this help development

This is a great opportunity to transform and develop

can it be used effectively

This is where a bit of science comes in. It's been new since I published my book.

I looked at the relationship between high export prices and the growth of commodity exporters.

I've looked at the global scale, and I've looked at the relationships between countries around the world over the last 40 years.

The first 5-7 years are great for now

It's all good, actually.

You get more money because the terms of trade are better, but it also boosts production across the board.

The Gross Domestic Product has gone up significantly, which is great! this is the short term

Long term?

15 years later

Strong in the short term, plummeting in the long term

They grow in the short term, but then many societies historically end up worse than they never had.

It's not a prediction about where prices are going, it's a prediction of the long-term impact of rising prices on growth.

what's going wrong? Why is there such a thing as the "resource curse"?

What we've found is that there's a serious problem with the initial level of economic governance when resource booms occur.

In fact, under good governance, there is no resource boom.

Grow in the short term and grow more in the long term

The richest countries in Europe are Norway, Australia, and Canada.

The resource curse is below the limits of sovereignty and strictly national.

Still short-term growth

That's what we're seeing in the bottom billion right now.

Highest growth rate ever

The question is whether the short term persists

Over the past 40 years, under bad governance, it doesn't last

Countries like Nigeria are worse off than they would have been if the oil had never been found.

There is a threshold of long-term growth or regression.

That threshold criterion is the level of Portuguese rule in the mid-1980s.

Now the question is, is the bottom billion people above or below the threshold?

There's been a big change since the resource boom of the 1970s: the spread of democracy.

This may have changed the governance of the bottom billion.

If democracy spreads, I think I'll be more optimistic.

If you look at it, the impact of democracy is certainly big, and unfortunately it's counterproductive.

Democracies are more disruptive to these resource booms than dictatorships.

At this stage, I was tempted to stop researching -- (Laughter) -- and it turns out that democracy is much more complicated than that.

Democracy has two distinct facets: election campaigns that determine how much power you get, and checks and balances that determine how you use that power.

It turns out that electoral competition damages democracy, and strict checks and balances are good for resource booms.

So what the bottom billion country needs is strict checks and balances.

that they don't have

They became instant democracies in the 1990s, elections without checks and balances.

What can we do to improve governance and introduce checks and balances?

In all societies of the bottom billion people, there is intense conflict just to do that.

A simple proposal would be to have a voluntary international standard outlining the key decision points needed to exploit these resource revenues.

International standards work. We already have one.

Extractive Industries Transparency Initiative (EITI)

It's a very simple idea that requires government revenues to be reported to the public.

As soon as it was proposed, reformers in Nigeria adopted it, pushed it through, and announced the proceeds in the newspapers.

Circulation of Nigerian newspapers soared

People wanted to know how much government revenue was.

It works What is the content of the international standard?

I can't list them all, but I'll give you an example.

The first is how to get resources from the ground -- an economic process that takes resources out of the ground and builds assets above ground.

The first step is to sell the rights to resource extraction.

Do you know how resource extraction rights are selling today and over the past 40 years?

A foreign company came and made a deal with the Minister

It's a great deal for the company, and it's often a good deal for the minister -- (Laughter), but it's not good for the country.

And that can be changed with a simple technique of organization, called a verified auction.

The public authority with the greatest expertise on the planet is, of course, the Treasury - the British Treasury.

And the UK Treasury has calculated the value of the rights and decided to sell the third generation mobile phone rights.

Its value was calculated at £2 billion

Before it was sold, a group of economists said, "Why don't you put it up for auction? The value will be clear."

At auction, it went up to £20 billion

If the UK Treasury misses ten times, imagine what the Sierra Leone Treasury looks like.

(Laughter) I said that to the president of Sierra Leone, and he called the World Bank the next day and asked them to send a team with auction expertise.

There are five decision points, each of which requires an international standard.

If we can do that, the world will change

You're going to help these social reformers in their struggle for change.

That's what we can do. We can't change these societies, but we can help the people in these societies who struggle to change and usually fail because of the cumulative setbacks.

These rules are still missing

If you think about it, the cost of enforcing international rules is zero -- nothing.

So why are there no rules?

I believe that unless we have some level of informed citizens in our own society, politicians will not act.

Unless we have an informed society, all politicians do, especially when it comes to Africa, are cosmetic measures that look good but don't work.

So we have to start by building an informed society.

So I broke all the professional rules of being an economist and wrote an economics book you could read on the beach.

(smile)

But I have to say that the communication process was not easy for me.

So here I am at this stage, which is alarming.

I don't show my face on the surface

My wife showed me a blog post about my last talk, and one of the comments said, "Collier has no charisma -- (Laughter), but his arguments are very compelling."

(Laughter) (Applause) If you agree with this feeling, and if you agree with the need for a well-informed citizenry, then you know I need you.

please become an ambassador

thank you

(applause)

What if plants in the soil could detect how toxic they were, and express that by changing the color of their leaves?

What if such plants could even remove the toxicity of soil?

Or what if plants create their own packaging, or whose owners have patents - designed to be harvested only by machine?

What happens when the direction of biological design becomes the same as that of mass-produced products?

What kind of world will it be?

My name is Annie, and I'm a designer and researcher at the MIT Media Lab. I'm part of a relatively new and unique group called "design fiction."

At MIT, I've been very lucky to have fellowships with scientists in a variety of cutting-edge fields, including synthetic neurobiology, artificial intelligence, artificial life, and everything in between.

All over campus, there are these very bright scientists thinking, "How can we make the world a better place?"

One of our group's favorite questions is, "What's 'better'?"

What is "better" for you and me, for white women and gay men, for veterans with prosthetic limbs and children?

Technology is never neutral

shape reality and reflect situations

If you were given something like this on your first day at work, what do you think it means about work-life balance?

(Laughter) I think the role of artists and designers is to ask sensitive questions.

Art is about how we see and feel the future, and it's an exciting time for designers to have access to so many new tools.

Synthetic biology, for example, aims to describe biology as a design problem.

In keeping with these technological developments, in my lab, we're asking ourselves what are the roles and responsibilities of artists, designers, scientists, and business people.

What does synthetic biology and genetic engineering mean, and how do they shape our notion of what it means to be human?

What impact will this technology have on society and evolution? What are the chances of it actually happening?

My speculative design research so far draws on synthetic biology, but I'm pursuing a more emotional dimension.

I'm immersed in the study of the sense of smell as a design realm.

(Laughter) What if you could collect the scent of your own body and send it to your lover?

Interestingly, this was a 19th-century Austrian tradition in which a man and a woman seeking love would keep a sliced ​​apple under their arm during the dance, and at the end of the night, the woman would offer the fruit to the man she liked the most, and if he liked it, he would gobble up the stinky apple.

(Laughter) Famously, Napoleon sent Josephine many love letters, but perhaps the most striking of them all was this short, urgent note: "I'll be home in three days, so don't take a bath."

(Laughter) Both Napoleon and Josephine loved violets.

On their wedding day, Josephine wore violet-scented perfume and brought violets, while Napoleon sent her bouquets of violets on each anniversary.

When Josephine died, he planted violets in his grave. Just before he was exiled, he returned to the grave, picked the flowers, put them in a locket as a keepsake, and kept them close to him until he died.

I was moved by this story and wondered if I could make violets that smelled like Josephine.

What if, when I visited her tomb, I could smell Josephine for eternity as Napoleon loved her?

What if we could create new types of mourning and rituals to remember the dead?

In the first place, we genetically engineer crops to maximize profits, crops that can withstand transportation, crops that keep well, crops that are sweet as sugar but are resistant to pests, sometimes at the expense of nutritional value.

Can we use this technology to create something that is sensitive to emotions?

Now in my lab, I'm trying to understand why humans smell like humans.

and it turns out to be pretty complicated

All factors such as diet, medications and lifestyle can affect body odor.

Sweat itself is largely odorless, and the bacteria and microbiome are responsible for body odor, mood, what identifies an individual as who they are, and many other things.

All kinds of molecules are released from our bodies, and we sense them unconsciously.

I collect odors from different parts of my body and make a list.

After talking to the scientists, I figured that maybe for my complete odor mix, I'd collect 10 percent from my collarbone, 30 percent from my armpits, 40 percent from my bikini line, and so on.

It's really interesting to ask people how they perceive body odor outside the context of their bodies.

The feedback we got was that it smelled like flowers, it smelled like chicken, it smelled like corn flakes, it smelled like beef carnitas.

(Laughter) At the same time, I'm also growing a set of carnivorous plants, because these plants emit a fleshy scent that attracts prey, in an attempt to create a sort of symbiotic relationship between my bacteria and this plant.

I'm going to a bar at MIT, and I spoke to a scientist who happened to be a chemist and a plant scientist, and I told him about my project, and he said, "It's like botany for lonely women."

(Laughter) I replied without hesitation, "Okay."

I cut back like this

"Can't I make a plant that will respond to my love?"

For some reason he said, "Of course you can."

First of all, "Think of me like the sun, towards me - can you grow a plant?"

So we looked at plant functions such as phototropism, which secretes a hormone called auxin that causes the cells on the dark side to elongate and grow toward the sun.

Now I'm making lipsticks, and they're impregnated with chemicals that allow me to interact with plants through chemical signatures, like lipsticks that work on plants and grow where I kiss them, or bloom when I kiss them.

Through these projects, we are asking questions like: What is the definition of nature?

If we can reshape the properties of natural objects, how should we define nature in the first place? When should it be changed?

For profit? For profit?

For emotional purposes?

Can biotechnology be used to create something as inspiring as music?

What are the thresholds of science's power to shape science and the emotional world?

There's a famous design mantra that says, "form follows function."

Now, between science, design and art, I want to ask: what if fiction creates fact?

What would such an R&D lab look like and what questions would it ask?

What is being asked, not only as a solution to a problem, but also as an artist, a designer? I would like to think

thank you

(applause)

(playing guitar) (singing) Like a roller coaster, like a merry-go-round

Heaven when it's good and hell when it's bad

You can be successful You can be lucky But you never know when it will end

People say, "If I had this, my life would be perfect."

So you put everything you have into it and eventually get lost on the streets

And then one day you wake up and they say, "You're the queen," but you realize someone's behind it all.

Like a roller coaster, like a merry-go-round

When it's good it's heaven But when it's bad it's hell

You can be successful You can be lucky But you never know when it will end

The one you love will love you oh yeah- forever

But if you lose your current success and charm, people will easily abandon you.

It's only when you're lucky that people gather around

When my luck runs out, I'm alone again

Like a roller coaster, like a merry-go-round

When it's good it's heaven But when it's bad it's hell

You can be successful You can be lucky But you never know when it will end

Well, maybe I'm just being cynical and all these words are lies But I've learned from experience that being cautious is wise

But prudence breeds hesitation, hesitation means you lose, so grab your chance and don't calculate the future

Like a roller coaster, like a merry-go-round

When it's good it's heaven But when it's bad it's hell

You can be successful, you can be lucky, but when it will end, when it will end - you never know

Like a roller coaster, like a merry-go-round, like a roller coaster, yeah, yeah, like a merry-go-round

Like a merry-go-round Like a merry-go-round Like a merry-go-round Like a merry-go-round

(Applause) It was Michael Pemberton.

(Applause) Thank you very much.

thank you

Eight years ago I was possessed by a demon.

I was 25 years old at the time, and I lived in a little house behind other houses, in Los Angeles.

It was a guest house, but it was a little run down and hadn't been maintained in a long time.

One night, as I sat there, I had this very weird feeling, like someone was watching me.

But there was no one but two dogs, and the dog was just biting its own leg.

Even if I look around, there is no one

I thought it was just my imagination

But the feeling got worse and worse, and I felt a tightness in my chest, like the feeling you get when you hear bad news.

It was sinking deeper and deeper into my body, and I even felt pain.

This feeling got worse day by day, and I began to believe that there was something in this little guest house, that something was haunting me.

And then I started hearing sounds, like whispers of something passing by.

I called my best friend Claire and said, "You might think I'm crazy, but actually...

There's a ghost in my house and I want to exorcise it."

And a very open-minded woman, she replied, "That's not funny.

Shouldn't we have a purification ceremony? ”

(Laughter) "Just burn the sage leaves and tell them to get out."

"Yes!" I went to buy some sage.

It was my first time, so I lit a sage leaf and waved it, saying, "Get out! This is my home."

Not your place! ”

But the feeling didn't go away, nothing changed

So I started thinking that this ghost must be laughing at me because he didn't leave, so he thought I was helpless and helpless and couldn't get rid of him.

Every day when I get home, this feeling is so painful that I'm laughing now, but every night I sat on my bed and cried.

The pain in my chest got worse and worse.

I actually felt the pain

I also went to a psychiatrist.

(Laughter) Eventually, I searched the internet for "obsessed."

Then I stumbled upon an exorcist forum.

These exorcists were eccentric and skeptical.

They said that all of the ghostly cases they investigated could be explained by science.

So I said, "Well, I've been through this, and if you can explain it to me, I'd love to hear from you."

One person replied, "Okay

Ever heard of carbon monoxide poisoning? ”

I replied "yeah well

Kind of like gas poisoning, right? ”

Carbon monoxide poisoning is what happens when there's a gas leak in your home.

Researchers found that symptoms of carbon monoxide poisoning included a tightness in the chest area, auditory "whoosh" sounds, and unexplained fears.

I called the gas company that night.

"It's an emergency. Please send someone.

I don't want to go into detail, but please come anyway."

(Laughter) I said to someone who came in, "I thought it might be a gas leak."

He took out his carbon monoxide detector and said, "I'm glad you called me tonight. I almost died."

37% of Americans believe in haunted houses, how many of them actually live in haunted houses, and how many are actually in danger?

This ghost story led me to this job.

I work in investigative work in two ways. I'm an investigative journalist, and I investigate phenomena that are supposed to be supernatural or spiritual.

This is what it means

Sometimes we pretend that we need an exorcism, so we go to an exorcist and see if he's using tricks or psychological tricks to trick us into believing that we're possessed by an evil spirit.

As a spy, I go undercover in fringe science groups and report on podcasts I host.

I've conducted more than 70 investigations with my co-host, Ross.

What I want to tell you is that nine out of 10 cases, science wins, and they're all explained and solved.

that's a lie

The truth is, 10 out of 10 cases, science wins and solves.

(Applause) It's not without its wonders.

There are mysteries, but mysteries are just mysteries

it's not a ghost

There are two kinds of truth in the world, and it took me a while to come to this conclusion, but I think it's true, so please listen.

There are objective truths and subjective truths in the world.

Suppose you said to me, "There once was a man named Jesus." This is an objective truth.

You can also look up historical records.

can decide if it's true

I can say that it certainly seems to be true

It's kind of hard to say, "Jesus rose from the dead."

(Laughter) This is an objective truth claim, and it may or may not have actually come back.

Leaving aside whether or not it was resurrected, it's an objective truth, isn't it?

question whether it is true or not

But I don't care if you're resurrected

As a symbol, it's important to me, and there's a lot of meaning and purpose to this metaphor, and I don't want anyone to believe it." If you say that, you move from objective truth to subjective truth -- from science to art.

We tend not to make this clear. Instead of switching from subjective truth to objective truth, or trying to be fair to one another, we try to get people to say subjective truth and justify themselves by objective standards of truth.

I'm talking about objective truth here.

So my haunted house had an objective reality.

Now that I've told you that there was a gas leak, I don't think anyone would be thinking, "No, I think there were ghosts."

These stories are used as a stopgap for the unexplained.

You don't believe because you have evidence, you believe because you don't have evidence.

Now, there's a group in Los Angeles called the Independent Investigation Group (IIG), and they're doing an amazing job.

They're giving away a $10,000 prize to anyone who can prove their psychic powers under scientific conditions.

No one has succeeded. A few people have come forward who have claimed to have clairaudience, which means they can hear voices far away and read people's thoughts.

One man, a very sincere man, believed he could read other people's minds.

So an experiment was carried out, which is carried out as follows

The group says, "Here's the experimental plan. There's a scientific way to do it.

Do you agree? ”

If the other party agrees, the experiment will be conducted.

It is very important that both parties agree

An agreement was reached and an experiment was carried out.

The group said, "Yes, unfortunately.

You couldn't read Lisa's thoughts.

It was a result not so different from chance probability.

You don't seem to have that power."

By saying this, you create the opportunity to have empathetic and difficult conversations, and in a nutshell, you say, "You're an honest person. You can actually hear voices in your head."

The person ends up making a very unacceptable decision, a life-changing decision to see a specialist or not.

We're here to help you find these connections, to help you bring back to the real world what was once extraterrestrial and explainable, and make your life better.

Now, on the other hand, it may actually be true.

There might be ghosts and then wouldn't that be amazing!

Every time I do an investigation like this, I'm blown away. I've done 75 investigations, and even the 76th one might make me jump, "This could be real!"

(Laughter) Even if I'm just being very optimistic, I don't want to give up hope. When people share what they consider to be the objective truth, I want you to do the same.

Be respectful and ask good questions when discussing questionable claims.

Let's see if we can prove it together. The idea that you can both respect an argument and not refute it is not true.

When we're investigating and testing claims, we say, "I respect you. Listen to me. Let's test it together."

I'm sure you've had this experience when you're talking to someone, and you're like, "Oh, that's really interesting."

But the other person said, "Really?

It's a little subtle, but I'll listen to you." At least you feel heard and respected.

Such a claim requires such an attitude.

It is an attitude that you feel that what the other person says is important.

that's respect

Granted, many of these quests end in vain, but that's how science works.

Research into a cure for cancer has yet to succeed, but we're not stopping research for two reasons.

First of all, because the answer is what matters.

Whether we're looking for the afterlife, the supernatural, or a cure for cancer, it all boils down to the same question: How long can we stay here?

Second, seeking the truth is about being open-minded and not afraid of making mistakes or changing your worldview, and that's awe-inspiring.

Ghost stories thrill me every time

Every time I infiltrate a group, I wonder if they're right, and I don't want to lose this hope.

Let's not lose hope, because searching for what's in the world is looking for what's inside.

And don't forget to install a carbon monoxide detector in your home.

thank you

(applause)

I was a blue-eyed, chubby five-year-old when I first joined a demonstration with my family.

My mother let me leave my doll in the minivan.

I stood on a street corner in the heavy Kansas humidity, surrounded by dozens of relatives, my little fists clutching a still unreadable sign, "Gays deserve to die."

this was the beginning

Our protests quickly became the norm and gained global attention.As a member of the Westboro Baptist Church, I became a regular at protests across the country.

My anti-gay career and life and what I believed to be the end of it after 20 years.

My family viewed life as an epic spiritual battle between good and evil.

The good was my church and its members, and the bad was everyone else.

Because of this behavior of the church, I was constantly unable to reconcile with the world around me, and I became more and more isolated in my daily life.

"Distinguish between the unclean and the clean," the Bible says, and we did.

From baseball games to military funerals, we traveled across the country with fluorescent protest signs to make clear how "dirty" people were and why they were going to hell.

this was our whole life

This was the only way I could do good in this world on Satan's knees.

And, like the other 10 brothers, I believed what I was taught with all my heart, and I approached the Westborough task with a special zeal.

In 2009, that enthusiasm led me to Twitter.

The people I met in the beginning were predictably hostile.

They were the digital version of the screaming crowds I'd seen attending protests since I was a kid.

But in the midst of all that commotion, a strange pattern emerged.

Someone shows up on my profile with the usual anger and contempt, and I respond with Bible verses, pop culture quotes, and emojis.

They were understandably confused and taken aback, but then the conversation continued.

It was a moderate conversation, filled with genuine interest in each other.

How could the other side draw such outlandish conclusions about the world?

Sometimes such conversations seeped into the real world.

When I went to protest in the town of the person who argued on Twitter, he came to see me on the scene.

Inside was a man named David.

He runs a blog called "Julicious," and after months of heated but friendly online debates, he came to see me during the protests in New Orleans.

He gave me some Middle Eastern desserts from his home in Jerusalem, and I gave him kosher chocolates.

(Laughter) There was no confusion about our position, but the line between friend and foe began to blur.

We started dating as people, and it changed the way we spoke to each other.

It took time, but ultimately these conversations planted seeds of suspicion in me.

My friends on Twitter took the time to understand the Westborough doctrine, and in doing so, they were able to find contradictions that I had missed all my life.

Why did we advocate the death penalty for gays when Jesus said, "Innocent, strike the woman with a stone?"

How do we claim to love our neighbors and at the same time pray to God to destroy them?

In fact, this kindness from strangers on the Internet was itself a contradiction.

There was growing evidence that the people on the other side weren't the devil I was led to believe.

These realizations changed my life

Once we learned that we were flawed humans rather than God's ultimate authority on truth, we couldn't turn a blind eye.

We can no longer justify our actions, especially those that are cruel, like protesting at funerals or celebrating the tragedy of others.

This shift in my perspective caused a greater erosion of my faith in the church, and ultimately made it impossible for me to remain in the church.

Despite overwhelming sadness and fear, I left Westborough in 2012.

For the first few days after I left, my instinct to hide left me unable to do anything.

I wanted to hide from my family's judgment. I was prepared to never speak to them again. Their thoughts and opinions meant everything to me.

I wanted to hide from my family, from the world I had rejected for so many years, from people who, after years of animosity, would give me a chance to start over, for no reason at all.

I was given an incredible opportunity.

The Internet exposed my past to the world, thousands of tweets and hundreds of interviews, from local TV news to "The Howard Stern Show," and yet so many people welcomed me warmly.

I wrote an apology letter for the damage I caused, but I also knew that an apology could not undo them.

All I could do was create a new life and find a way to undo some of the damage.

It's understandable that my honesty might be questioned, but almost no one doubted it.

And -- from what I've done, it's been out of my control.

it still surprises me

For the first year he chose to move away from his family home and go with me - wandering aimlessly with my sister.

We walked through rock bottom, but I was shocked to find hope and a way forward from the same people we had long hated.

David, a Twitter-connected "Julicious" friend invited me to spend time with the Jewish community in Los Angeles.

We slept on the sofa in the house of a Hasid rabbi, his wife, and four children, to this same rabbi three years ago when I was protesting with a sign saying, "Your rabbi is a whore."

We spent hours talking about theology and Judaism and life while washing dishes and chopping vegetables for dinner in our kosher kitchen.

we were treated like family

It didn't show any hostility, which surprised me again.

That period was full of turmoil, but what I often remember is the amazing discovery I made during that time—it was salvation and the privilege of letting go of the harsh judgments I instinctively gave to almost everyone I met.

Now I realize that I need to learn something

I had to listen to people

This is what's been going through my mind lately, because I see in our public debates the same destructive impulses that dominated my old church.

We're still the most divided in history, celebrating tolerance and diversity.

We want good things -- justice, equality, freedom, dignity, prosperity -- but the path we've taken is very similar to the one I should have left four years ago.

We divide the world into "us" and "them," and the only time we get out of our quarters is to steal rhetorical aggression from enemy lines.

We paint half the country as a stray liberal elite, as racist and misogynistic, and so on.

I don't care about nuances, I care about complexity, I don't care about humanity

Even if someone pitches empathy or understanding to the other side, the conversation almost always ends up in an argument about who deserves more empathy.

And we've either habitually refused to acknowledge the flaws in our position, or rejected the other side's worth.

I hate compromise

Even people on their own side become targets when they question official narratives.

This approach has led us to ruthless personal attacks, escalation of conflict, and even violence.

i remember this road

you won't get where you want

It gives me hope that something can be done about this.

Good thing it's simple, bad thing it's hard

You have to talk to those you disagree with and listen to them.

This is difficult because you usually can't guess how the other side got to where they are now.

The reason this is difficult is because it's very misleading to feel resentment that we're definitely on the right side.

This is difficult because it's about extending empathy and compassion to those who show us hostility and contempt.

I don't want to be that kind of person

we can endure

I would be willing to do so with the help of people I met on Twitter who were seeming enemies but became dear friends.

One such particularly understanding and generous man is my husband.

My reply to my husband was nothing special.

What was special was the approach on the friend's side.

I've thought about it a lot over the past few years, and I was able to find four things they did that allowed real conversation.

These four steps are small but powerful, and I'm trying to incorporate them into difficult conversations today.

First, don't assume that the other person is malicious.

My friends on Twitter have found that I truly believe I'm doing the right thing, even if my words are offensive and insulting.

Assuming malice quickly prevents us from properly understanding the reasons for our actions and beliefs.

When the other person forgets that he or she has a personality that has been shaped by previous life experiences, he or she gets caught up in the initial wave of anger and finds it very difficult to carry on the conversation any further.

But assuming benevolent or neutral intentions provides a stronger framework for dialogue.

The second is to ask

When we confront people on the basis of ideological differences, asking questions helps clarify those differences.

This is important, because to develop an effective argument, we have to understand where the other person is coming from, and we give them the opportunity to point out the flaws in our position.

But asking questions has another purpose: it signals that you're listening to what the person is saying.

When my Twitter friends stop blaming and start asking questions, I almost automatically do the same to them.

Their questions gave me space to talk, and I was also able to ask them questions and listen to their responses.

It fundamentally changed the way we interacted with each other.

Third is to calm down.

This takes practice and patience, but it's very powerful.

In Westborough, I learned not to worry about how the way I speak affects other people.

I thought my righteousness justified my rudeness. Harsh tone, yelling, insults, sabotaging. That strategy ultimately backfired.

Shouting and sarcasm are natural in stressful situations, but conversations tend to end disastrously in dissatisfaction.

When my husband was still one of my anonymous acquaintances on Twitter, our arguments were often bitter and bitter, but we always tried not to escalate.

change the subject

I made a joke, introduced a book, and calmly interrupted the conversation.

I knew the discussion wasn't over, but I took some time to calm things down.

People lament that digital conversations make them misbehave, but that's also the advantage that online conversations have over face-to-face conversations.

There's a temporal and spatial buffer zone between people with irritating thoughts.

we can use that buffer zone

Instead of lashing out, you can rest, take a deep breath, change the subject, leave, and return when you're ready.

And finally

please discuss

You might take it for granted, but one side effect of having strong beliefs is that sometimes you assume that your position is self-evident, or that it must be self-evident, or that it's obviously right and good, so you don't need to defend your position.

If it's that easy, everyone should see things the same way.

It would have been harder to see the world differently if my kind friends on Twitter hadn't made their point clear.

We are a product of the way we were raised, and our experiences reflect our beliefs.

You can't expect others to voluntarily change their minds.

If you want change, you have to prove it yourself

My Twitter friends didn't abandon their beliefs and principles, they only abandoned blame.

They wrapped their endlessly justifiable attacks with kindness and humor and asked penetrating questions.

You treated me as a person, and that changed me more than 20 full years of resentment, contempt, and violence.

Some people may not have the time, energy, or patience for a heated debate.It's difficult, but reaching out to someone who disagrees is a choice we all have.

I truly believe that we can do hard things, not just for them, but for us and our future.

Growing hatred and protracted conflict is not what we want for ourselves, our country, or future generations.

A few weeks before I left Westborough, my mother told me something when I was desperately looking for a place to be with my family.

These are the people I loved with my heart beating as a chubby five-year-old before I stood on the picket line with a sign I couldn't read yet.

My mother said, "You are only one person, my dear daughter."

She told me to be humble, to trust God and my elders, and to have no doubts.

I think she lacked a big perspective that we're all just human.

that we should be guided by the most basic facts and approach each other with generosity and compassion.

Each of us contributes to our community, culture and society.

The end of the spiral of anger and blame begins with one person who refuses to indulge in destructive impulses.

We have to decide to start it ourselves.

thank you

(applause)

When I was a kid, I was obsessed with Guinness World Records, and I really wanted to set a record.

There was just one little problem: I had no talent at all.

So I decided to try to find something that could set a world record without any special talent.

That's how I arrived at the "quadrupedal endurance race."

(Laughter) The world record at the time was about 20 kilometers, and for some reason I felt like I could easily beat it.

(Laughter) I invited my friend Ann to join us, and after some discussion, we decided that we didn't even need to train her.

(Laughter) And on the day of the race, I put on my favorite pair of jeans with some protective furniture padding and went to the race, but I quickly ran into trouble.

and a few hours later it started to rain

Then Anne dropped out

It's getting dark around here

By this time, my knees were bleeding, and I was experiencing coldness, knee pain, fatigue, and hallucinations.

Just for reference, after an uphill battle, the first lap around the track took 10 minutes.

The final lap took about 30 minutes.

After 12 hours of walking on all fours, I finally gave up and ended up with a 14km record.

It fell short of the Guinness World Record of 20 km.

For a long time, I thought this experience was a disastrous failure, but now I see it differently. When I tried for the Guinness World Records, I did three things.

I stepped out of my comfort zone, used all the strength I had, and felt confident in myself and my decisions.

I can say now that these three things do not come from failure,

comes from bravery

In 1989, at the age of 26, I became a firefighter in San Francisco, the 15th woman in a division of 1,500 men.

(Applause) As you can imagine, many initially questioned whether it was a job for women.

I'm 155 cm tall, weigh 68 kg, I was on the rowing team in college, and I endured knee pain for 12 hours.

One day, the news of a fire came in, and of course, when the fire brigade arrived, black smoke was rising from the alleyway of the building.

With me was a large man named Skip, holding the tip of a hose, and I was right behind him, just like any other fire.

There's a lot of smoke and heat -- and then suddenly there's an explosion. Skip and I are blown backwards, our masks are off our faces, and there's a moment of confusion.

Then I got up, pulled the nozzle back, did what a firefighter should do, and stepped forward, opened the hydrant, and faced the fire all by myself.

The explosion was caused by a water heater. There were no injuries, it wasn't a catastrophe, but later Skip said, "Well done Caroline."

(Laughter) It wasn't even a massive fire, so I was puzzled as to why Skip was staring at me in surprise.

And so it became clear to me that Skip was a very good man and a good firefighter, but he didn't think women could not only be strong, but they couldn't be brave either.

More than just skipping

Throughout my career, friends, acquaintances, and strangers of all genders asked me over and over again, "Caroline, aren't you afraid of fires and dangerous situations?"

Quite frankly, it's a question that male firefighters aren't asked.

i wanted to know

Why shouldn't women be brave?

The answer came to me when a friend complained that her little girl was like a timid cat. And then I realized that she was timid, as my friend said, but her parents were timid, too.

When she was outside, her parents would always say, "Be careful," "Danger," "Stop."

I don't blame my friend

I was just doing the normal thing as a parent, training my daughters more often than my sons.

Interestingly, there's been research on climbing poles, and girls who try to play with climbing poles are much more likely to get a warning from their parents that they're going to get hurt, and if the girls still show interest in the poles, their parents will help them out.

what about boys?

Even if you're afraid to play with a pole, your parents will often encourage you to do so and teach you how to play alone.

What kind of message do you get from here?

Girls are supposed to be fragile and need help, and boys are supposed to be on their own to handle difficult situations.

So girls should be cowardly and boys should be brave.

Interestingly, young children, regardless of gender, are just as physically fit.

In fact, until puberty, girls are stronger and more mature.

Yet, adults believe that girls are fragile and need help, and often cannot do things on their own.

These are the messages I heard as a child, and as I grow up, they become the norm.

We women and men believe so. What then?

When we become parents, we teach our children the same thing, and it goes on and on.

i got the answer

That's why it was thought that women, even firefighters, would be intimidated.

This is why women are more fearful

I know some of you won't believe me when I say this, but I think there's nothing wrong with being afraid.

It's an important emotion to have as humans, and fear can protect us.

But the problem is that when a girl finds herself in an uncomfortable environment, she's trained to feel fear first.

I've been a paraglider for many years -- (Applause) The wings of a paraglider are like a parachute, and they fly very well, but at times they look like a vehicle that's just a string attached to a bedsheet.

(Laughter) I've been to the top of mountains many times, and I've inflated this sheet, kicked off the ground, and jumped.

you all think

"Caroline, in a situation like this, it's natural to be scared, isn't it?"

yeah everyone you're right

I had a feeling of fear too.

But when you stand on top of a mountain and wait for the moment when the wind blows just right, you'll be surrounded by emotions of elation and confidence.

i'm a good pilot

I know that I can't fly depending on the situation

I know how exhilarating it is to fly 1,000 meters above the ground.

So, even though I had a feeling of dread, I would deal with that feeling, see how it relates to my situation, and put it back where it belongs, but usually the excitement, the anticipation, the confidence wins out.

The feeling of fear itself is not bad

I respect being brave

I'm not suggesting that your daughters should be firefighters or paragliders, but I think girls are brought up to be fearful and helpless, and it starts with a warning that they're going to get hurt.

The fears and events we learned as children that we didn't experience remain in our memory as we grow up, leading to all sorts of things we want to stop, such as the reluctance to speak up, the lack of confidence in the decisions we make, and the reluctance to speak up.

So how can we be brave?

I have good news

Bravery is learned, like everything, it takes practice.

Let's start by taking a deep breath and pushing a girl to skateboard, climb a tree, or climb a playground slide.

my mother did

My mother didn't know it at the time, but she said there was a term for it.

It's called "dangerous" play, and it's considered essential for all children.It teaches them to judge danger, learn to tolerate immediate needs, develops perseverance, and builds self-confidence.

What this means is that when children play outside and practice courage, they learn valuable life lessons.

Second, don't pay attention to everything about girls.

Next time you need to be careful, be careful. "If you're not careful, you'll get hurt." "Stop it, it's dangerous."

These warnings usually have a real meaning behind them: you shouldn't push yourself to the limit of your efforts, you're not strong enough to try that hard, you should be afraid.

Third, let's start practicing courage as women too.

I can't teach my daughter to be brave unless I learn it myself.

And one more thing: fear and elation are very similar. Your hands are shaking, your heart is racing, your nerves are being squeezed. I'm sure you've all experienced it.

so let's practice

Girls should play outside and develop courage, but adults don't want to ride hoverboards or climb trees. So, as an exercise, all of us adults, whether it's at home, at work, or in this room, must muster up the courage to talk to someone we truly admire.

Finally, if your daughter is riding her bike -- she's at the top of a steep hill and complains she's too scared to get off -- let's help her find courage.

As a result, the hills may be really steep, but you'll come to that conclusion out of courage, not out of fear.

The problem here isn't the steep hill in front of you.

It's a way for your daughter to make good decisions and navigate the rest of her life. It's a way to deal with all the dangers that parents can't protect, all the hardships that they can't reach out to.

By the way, the current world record for quadrupedal endurance racing is -- (Laughter) it's 56.6 kilometers.

(applause)

Hello, I'm Joy, Code Poet. My mission is to stop a growing invisible force, what I call "coded gaze," and bias in algorithms.

Algorithms, like humans, can produce unfair results when biased.

And algorithms, like viruses, spread prejudice more and more, and at a rapid rate.

Algorithmic bias can also lead to exclusionary treatment and discriminatory behavior.

Let me show you

(Video) Hey camera, I have a face

can you see my face

Should I take off my glasses?

I can see this person's face

what about my face

I'll wear a mask Can you see this mask?

(Joy) What happened?

Why am I wearing a white mask and sitting in front of my computer trying to be detected by a cheap webcam?

As a code poet, when I'm not battling the coded gaze, I'm a graduate student at the MIT Media Lab, and I've been involved in a number of quirky projects, one of which is called "Aspire Mirror," which puts a digital mask over your face in the mirror.

If you want to wake up in the morning and feel powerful, put on a lion mask

You can "quote" something to lift your mood.

At this point, I tried to build a system using standard facial recognition software, but I realized it would be difficult to even test it without a white mask.

Actually, this wasn't the first time I've run into this problem.

When I was studying computer science at Georgia Tech, I was working on social robots, and I had an assignment to play peek-a-boo on behalf of a robot.

It's a game that doesn't work unless you can see your opponent's face, but the robot couldn't recognize my face.

With my roommate's face, I managed to finish the work and submit the assignment, thinking that someone else would fix this bug as well.

Shortly after that, I went to Hong Kong to participate in an entrepreneurship competition.

Participants were introduced to several local startups.

A company's product was demoed on a social robot.

The demo was a success and it was my turn, and you can imagine the result.

my face is not detected

I asked the developers, "What's going on?" and it turned out that they were using the same facial recognition software as me.

After traveling halfway around the world, I've found that algorithmic bias spreads very quickly.

What's going on? Why is my face not detected?

Let's think about how we can give machines vision.

Computer vision uses machine learning techniques to recognize faces.

We collect face samples and train them.

this is a face this is a face this is not a face

Over time, computers will learn how to recognize faces.

But if you don't have a lot of diversity in your training sample, faces that deviate significantly from the established criteria will be harder to detect, which was my case.

But it's okay, there's a hopeful side

A collection of face samples doesn't come by itself.

even we can make it

So what we need to do is create a comprehensive training sample that reflects a wide range of human shapes.

As I've shown in my example, we found algorithmic bias truncation in the behavior of social robots.

This prejudice can also lead to discriminatory behavior.

Across the United States, police are starting to use facial recognition software to combat crime.

The Georgetown University School of Law reports that one in two adults in the United States, or 117 million faces, are recorded in some kind of facial recognition database.

Police now have unlimited access to these systems, but the algorithms they use have not been validated for accuracy.

But facial recognition isn't perfect, and matching faces to names is still a challenge.

Have you ever experienced something like this on Facebook?

People in my photos aren't recognized correctly and have funny tags, and I'm always laughing out loud with my friends.

But being mistaken for a criminal is no laughing matter.

Machine learning is being used for face recognition and is expanding the reach of computer vision.

In "Weapons of Math Destruction," data scientist Kathy O'Neill describes the emergence of mysterious and destructive algorithms as "mathematical destruction weapons," increasingly used in decision-making and affecting many aspects of our lives.

What separates hiring and not hiring a job?

Whether you can get a loan Whether you can get insurance

Whether you can enter the university of your choice

And if everyone buys the same product at the same place, is the price the same?

Police are also starting to use machine learning for predictive policing.

Some judges use machine-generated risk assessments to decide how many years to imprison.

So we have to think hard about these decisions.

Is the judgment fair?

As we've seen, algorithmic biases don't always produce fair results.

what can we do

Let's start by thinking about how we can create more inclusive code and implement it.

It starts with people

So it's the people who write the code that matter.

Is it possible to form a team with diverse members and check each other's blind spots?

On the technical side, it's all about how you code.

Do you build fairness into elements of system development?

Finally, what you write code for is also important.

We've created enormous wealth with computers,

We can also create greater equality now by making social change a priority, not an afterthought.

So the "incoding" movement has three pillars.

Who writes the code matters How you code matters Why you code matters

As we move towards encoding, the first thing we need to do is create a platform that can detect biases, and we'll also build on the experience I've shown you and inspect existing software.

Incorporate more variety into your training samples

You can also run a "selfie for inclusion" campaign to help developers create and test diverse samples.

Let's also try to think more carefully about the social impact of the technologies we're developing.

To start the encoding movement, I founded the Algorithmic Justice League, where anyone interested in fairness can join the fight against the encoded gaze.

Report biased code or request an audit Apply for tester participation at codedgaze.com Use #codedgaze to share topics

I would like to invite you to join us in creating a world where technology works for everyone, not just the few.

thank you

(Applause) But are you sure you're okay? Are you willing to participate?

(Laughter) (Applause)

Why do we think that stories told by men are equally important stories for everyone, and stories told by women are only relevant to women?

My grandmother left school when she was 12

had 14 children

My mother left school when I was 15.

became a secretary

I went to college to become a theater director, because this progress has so much to do with the fact that people I'll never meet are fighting for women's rights, getting the right to vote, getting an education, and making progress.

I am determined to do the same, and so are you.

don't you

(Applause) So I started a festival called Women of the World (WOW) seven years ago, and now it's on five continents in 20 countries.

One of them is Somaliland in Africa.

I visited there last year, and one of the pleasures there was called Lars Gehr.

was to visit the cave

there are some of the oldest murals in the world

They are believed to be 9,000 to 11,000 years old.

Art has been created since the dawn of mankind.

It's about how we talk about ourselves, how we understand our identities, how we see our surroundings, what we see in each other in the light of the meaning of life.

That's why art exists

look at this picture

would be a little girl

i thought it was like me when i was little

And I wonder who drew this cheerful, youthful figure

I asked the cave curator,

"Tell me about the man or woman who painted this."

He looked at me and said, "I don't draw women."

"But it must have been 11,000 years ago.

How do you know? ”

(Laughter) He said, "Women don't do this kind of work.

A man drew these, not a woman."

I wasn't too surprised, because that's the kind of attitude I've seen all my life on stage.

We are taught that God's wisdom descends through men. Imams, pastors, rabbi Holiman are all men.

Similarly, we are taught that creativity resides in masculinity. It is masculinity that allows us to conclude who we are. It is men who speak for the universal story of humanity. Female artists tell only women's experiences -- women's unique issues that are meaningful only to women, and that only a few men are briefly interested in.

I think the assumptions that we've been indoctrinated have a huge impact on whether we believe that women's stories matter.

Women's rights are meaningless unless we are prepared to believe that the stories they tell also matter, and change will never happen.

I'll give you two examples of stories that are considered important to everyone: "E.T." and "Hamlet."

(Laughter) When my two kids were little, I took them to the movies. Caroline was eight and Robbie was five -- to see "E.T."

This is a wonderful story about a little alien who is saved by an American family with a mother, two brothers and a sister, but he wants to go home.

Not only that, but bad scientists are plotting experiments and trying to capture him.

kids think

I want to put this alien in a spaceship and get him home quickly, so I put him in the front basket of my bike and off I go.

Unfortunately, the bad guys see this, and they're chasing us. They have sirens, they have guns, they have megaphones, and they're terrifying.

Suddenly, like a miracle, the bike floats in the air Over the clouds, over the moon And they rescue E.T.

When I look at my children's faces, Robbie is ecstatic and happy that he's working with everyone to save E.T.

Caroline, on the other hand, cries a lot.

"what happened?"

"Why can't I help E.T.? Why can't I come?"

And then I suddenly realized, they weren't "children." They were all boys -- they were all boys.

Caroline was very worried about E.T., but she hadn't been called on the journey to save E.T. She felt insulted and turned away.

So I wrote to Spielberg -- (Laughter) (Applause) -- and I wrote, "I don't know if you understand the psychological significance of what happened to your child, but are you prepared to pay for your child's therapy?"

(Laughter) Twenty years later, I still haven't heard back, but maybe one day.

(Laughter) But I thought it was funny, because according to an interview, what the director was trying to say with E.T. was, "I want people all over the world to understand that we should love and cherish our differences."

But for some reason, he completely forgot about the girls.

I thought he was writing the story of all mankind.

Caroline felt half of humanity was left out.

He thought it was a film about good intentions for humanity, and she thought it was a heroic adventure story for boys.

this is a common occurrence

Men feel empowered to speak for everyone Naturally—but why?

They paint based on men's experiences through men's eyes.

we have to have a female perspective

You look back at your favorite work, any book or movie, and you realize, "This was a 'male' work," and you realize the gender of the author.

We have to remind ourselves that many stories are told from a male perspective.

The male point of view is fine, but then the woman has to be half the point of view, half the point of view in a creative setting like the stage, the film, the novel.

Let me tell you about Hamlet.

"Should I live or should I die

That is the question"

but that's not my question

My question is, "Why was this story told to me at a young age that it was the epitome of human experience and dilemma?"

It's a great story, but it's about a young man who fears that unless he can avenge his father's death, he won't be recognized as a powerful figure in the male society.

He goes on and on about committing suicide, but it's Ophelia who actually commits suicide.

And after he breaks up with Ophelia, he blames his mother because she had the audacity to fall in love and enjoy sex with her uncle.

(Laughter) It's a great story, but it's a story about conflicts, dilemmas and struggles in the male society.

But I've been told that this story is universal, even though there are only two female characters.

Until I reeducated myself, I always thought women's stories were less important than men's stories.

A woman could have written "Hamlet," but the story would have been different and wouldn't have been universally recognized.

As author Margaret Atwood puts it, "When a man writes about washing dishes, it's an expression of realism.

When women write, it's the result of an unfortunate gene."

(Laughter) The situation is still the same.

When I was young and desperate to be a stage director, a male lecturer asked me, "Jude, these three British female directors.

Lesbian Joan Knight Retired Joan Littlewood Buzz Goodbody who recently committed suicide

Which of these three would you like to be? ”

(Laughter) Leaving aside the worst insults to gay women, he wanted to insult me ​​at the time.

He thought it was silly that I wanted to be a director.

When I spoke to my friend, the conductor Malin Alsop, she said, "My music teacher said the exact same thing."

"Women don't lead." But over the years, we've made our mark.

You will think, "This will change from now on."

Unfortunately it hasn't changed

The current director of the Paris National School of Music and Dance recently said, "It takes a lot of physical strength to conduct a symphony. Women are too fragile."

(Laughter) The artist Georg Baselitz said, "Women can't paint, and that's the truth.

—Women are not very good at drawing.”

Writer V.S. Naipaul said two years ago, "Read two paragraphs and you'll know if it's written by a woman. Then stop reading. It's not even worth my time."

(Audience) Eh

There are many such stories

So that we have to find a way to make girls and women feel like their stories are worthless and they can't be storytellers.

Once you feel that you're not allowed to talk about the world from a mainstream standpoint, you start thinking about offering your talents to a small group.

You choose smaller jobs, you choose smaller venues, and you have a smaller economy, a smaller audience to speak to, a smaller track record as an artist.

We are now providing artists with great presentations around the world because they are the storytellers.

What does that have to do with you as an artist?

For example, if you're an accountant, or an entrepreneur, or a healthcare professional, or a scientist, should you bother thinking about women artists?

Of course we should. As you can see from the cave paintings, artists of all civilizations, all peoples, have been telling the history of humanity. If only men were to tell the history of humanity, believe me -- it would only be about men.

so let's change this

Let's make a difference everywhere, not just in Western societies.

Let's not forget -- the message that women are not creative or talented is being spoken in every country -- Nigeria, China, Russia, even Indonesia.

All over the world, girls and women are taught that women are not creative.

I ask you, do you believe that?

Can women be creative too?

(Applause) If you believe so, please support these women artists.

And let's not forget this: in order to move us out of a world that, in some ways, treats women unfairly, artists have a role to play in envisioning and expressing a world that doesn't.

Calling all artists, women and men to envision a world where all genders are equal.

Let's actually draw and color

Let's put it into words, let's make it into a picture

If we could envision it, the world would have the energy and stamina to move towards it.

When I look at a picture of a little girl painted 11,000 years ago, I wonder if that child, in the present day, will be able to see the dreams she painted, that she has the right to decide her own destiny, that she can tell the story of the world and be recognized and applauded for it.

thank you

(applause)

When I die, I want my remains exposed so that animals can eat them.

Some of you may think that your corpse will be eaten by animals.

(Laughter) Maybe some of you have talked to your family about the end of your life, and decided, for example, to be cremated.

For those interested, my proposal for my remains is not strictly legal at this point, but it's not without precedent either.

Throughout human history, there has been a custom of exposing corpses, a custom called fuso.

In fact, it may even be happening as we speak.

In the mountainous regions of Tibet, there's an "aviary burial," in which the corpse is placed on an aviary to be eaten by vultures.

Zoroastrians in Mumbai, India, lay the corpse in a funeral home called the Tower of Silence.

Cultural tidbits, while interesting, aren't all that common in Western societies, but they're not what you might imagine.

In the United States, when people die, it has become customary to chemically embalm their bodies before burying them in local cemeteries, and more recently, cremation.

I myself recently became a vegetarian, and for about the first 30 years of my life, I've been single-mindedly consuming as many animals as I can get my hands on.

So, of course, when I die, I think it's my turn to be ingested.

(laughs) I'm an animal, right?

Biologically speaking, we're all animals here, right?

Accepting the fact that you're an animal can have some horrifying consequences.

It means acknowledging that we are destined to decay and die, just like the rest of life on earth.

For the past nine years, I've worked in the funeral industry, first running a crematorium, then becoming a funeral director, and most recently running my own funeral home.

I have some good news for you.

This is a multi-billion dollar industry whose operating model is based on the principles of carcass protection, hygiene and beautification.

Whether intentionally or not, the funeral industry promotes the notion that humans are the exception.

No matter what, no matter how much it costs, no matter how bad it is for the environment, people do it because it's worth it.

The fact that the industry turns a blind eye is that death is an emotionally disturbing and complex event, that there is beauty in destruction, beauty that naturally returns to the land from which we came.

But don't get me wrong, folks, I really understand the importance of ritual, especially when it comes to the people we love.

But we have to be able to perform this ritual without harming the environment, and that's why we need new options.

Now let's go back to the point of view of protection, hygiene, beautification.

first there is the body

The funeral industry sells coffins made of hardwood or metal with rubber seals to families to protect the corpse.

At the cemetery, on the day of burial, the coffin is lowered into a large concrete or metal crypt.

We waste resources like concrete, metal, and hardwood, and hide them in underground fortresses.

If you choose to be buried in a cemetery, that means you're not going anywhere near the dirt that surrounds the body.

Will it be eaten by worms? that won't happen

Next, the industry disinfects the corpse with embalming, which is chemical embalming of the corpse.

This procedure extracts blood from the corpse and replaces it with formaldehyde, a carcinogenic substance, back into the bloodstream.

The vendors say they're doing this for public health and to prevent the dangers posed by dead bodies. But if you had a doctor here, he'd tell you that such a claim would only hold if the person died from a serious epidemic, like Ebola, for example.

Let's be honest, even the human body smells somewhat unpleasant when it decomposes, but it's perfectly safe.

The pathogenic bacteria are different from the bacteria that decompose corpses.

Finally, the funeral home cleans up the corpse.

According to the contractor, the bodies of the father and mother are not complete as they are.

There, death makeup was applied to the corpse,

dress well

They inject dye into your blood vessels to make your complexion a little more lively, to make it look like you're asleep.

Embalming is a fake death, and death and the ensuing decay create the illusion that it's not the natural end for organisms on this planet.

Now, if this system of beautification, hygiene and protection doesn't appeal to you, you're not alone.

There's all sorts of people -- morticians, designers, environmentalists -- all trying to come up with a greener way to die.

For these people, death isn't necessarily a matter of perfection, heavy makeup, and unfashionable garb.

Without a doubt, our current method of venerating the dead is not very sustainable, it's a waste of resources and heavily reliant on chemicals.

Even with cremation, which is usually considered an eco-friendly option, each cremation of one person consumes as much natural gas as driving a car 500 miles.

Now what can we do about the current situation?

Last summer, I was in the mountains of North Carolina carrying a bucket of wood scraps in the summer sun.

I was at Western Carolina University at the "Body Farm," or more precisely, the "Human Body Decomposition Factory."

It's a facility where corpses that have been donated for research purposes are transported here to study the decomposition process of corpses and use them for future forensic investigations.

On this particular day, 12 bodies were laid out in various stages of decomposition.

Some were skeletal, some were wearing purple pajamas, some still had golden beards.

The forensic aspect is intriguing, but it's not the reason I was there.

I went there because a colleague named Katrina Spade was trying to build a way to bury corpses in the form of natural decomposition instead of cremation.

Katrina called this process "recomposition," and we've been doing this for years with cattle and other livestock and poultry.

She envisioned a facility where family members would come and place the bodies of their loved ones in nutrient-rich soil, where in four to six weeks the bodies and bones would decompose and return to the earth.

During these four to six weeks, molecules in the human body change into other molecules, literally morphing.

Now, many people want to be buried at the base of a tree when they die, or to be reborn as a tree when they die.

With traditional cremation, the remaining remains and ashes form a thick layer of calcareous material rather than organic matter, which can actually damage trees if not properly spread over the soil.

But if the corpse decomposes and actually becomes soil, it can nourish the tree, and after death, it can become the part of the tree that you longed for.

Future funerals may look like this

So what future options do cemeteries have?

Many people don't think it's a good idea to bury them anymore, because there's no place for them.

But if we change our minds, wouldn't corpses not be bad for the land, but they might also protect the soil?

What I'm talking about is eco-friendly burial, a burial method that involves buying large plots of land from a land trust.

The advantage of this burial method is that once a body is buried on the purchased land, it becomes a sanctuary and cannot be developed, hence the name "environmentally friendly burial."

It's the same as chaining your corpse to a tree after death.

You'll never move, because you'll rot under this tree."

(Laughter) All the money that the family paid for that burial site goes toward the cost of protecting and managing the land.

There are no so-called living stones or graves.

Graves are scattered about the grounds, topped by graceful embankments, marked only by rocks or small metal discs, sometimes locable only by GPS.

No embalming, no heavy metal coffins.

My funeral home also sells caskets, woven willow and bamboo caskets, but most bereaved family members only choose plain burial cloths.

There are no large crypts, which are essential in a cemetery, and the reason for that is to have a good view.

The bereaved families can come here and enjoy nature, and they can also plant trees and shrubs, but only those that are native to the area.

The bodies then blend into the surrounding landscape and become indistinguishable.

There is hope for green burials

Burial grounds provide dedicated green spaces in both urban and rural areas.

Burial grounds offer an opportunity to reintroduce flora and fauna into their former habitats.

We provide public trails that become places for meditation, places for classes and events, places where mourning and nature coexist.

Most importantly, it offers humans another chance to rot in a hole dug in the earth.

Let me tell you, the soil should want us back.

I think of a lot of people, and they're starting to feel that our funeral business isn't meeting their needs.

For most of us, sterilizing and applying death makeup doesn't reflect our will.

It doesn't reflect the way we lived our lives.

Will changing the way we bury ourselves solve the problem of climate change?

the answer is no

But in doing so, we will be able to radically change the way we perceive ourselves as residents of this planet.

If there is a more modest and less strenuous way to bury it, I think we have a chance.

thank you

(applause)

Over the past few years, there's been a national debate about sexual violence in colleges.

There's no question that young people should understand the basic principles of consent, but that's where the sex story ends.

And in the vastness of information, new digital technologies like media and the Internet are teaching our children for us.

If we want young people to have sex that's safe, healthy, and above all, fun, it's time to start an open and honest discussion about what happens beyond consent. And that requires breaking a big taboo: telling young people that women can and should be sexually pleasing.

yes

(Applause) Hey everyone

(Applause) I spent three years talking to girls aged 15 to 20 about their sexual attitudes and experiences.

And what we've found is that while young women think it's okay to engage in sexual activity, they don't necessarily think it's okay to enjoy it.

For example, an Ivy League sophomore said, "I come from a family of smart, strong women.

My grandmother was a strong-willed woman, my mother was an expert, and we sisters were outspoken.

And then she told me about her sex. She started having sex for one night when she was 13. It was...

It wasn't particularly responsible, it wasn't caring, it wasn't fun.

she shrugged

"It seems that we girls tend to be submissive. We don't tell them what we want or need."

I replied "wait a minute"

"Didn't you just tell me that you were a smart and strong woman?"

Then she was at a loss for words

Finally, I said, "Well, I didn't know that being smart and strong could also apply to sex."

First and foremost, contrary to the hype, there is no evidence that teens are having sex earlier and more often than they did 25 years ago.

but doing something else

By ignoring this and labeling it as "non-sex," we end up with risky behavior and disrespect.

Especially when it comes to oral sex, teens think it's easier than sex.

Girls say, "No big deal," as if they read the same instruction manual, at least when the boys are on the receiving end.

young women have many reasons to do it

It makes me feel wanted, and it's also a way to elevate your social standing.

Sometimes it's also a way to escape from uncomfortable situations.

A freshman at a West Coast college said something like, "Girls will blow job by the next morning because they don't want to have sex. Boys want to be satisfied."

If you don't want him to go home or do anything more than that..." As I heard more and more stories of girls having unsolicited oral sex, I started asking questions like, "If a girl is always alone with a boy and he asks him to bring him water from the kitchen, and if he doesn't get it, or if he does...

"Do you want that...? ’” What a perfect stinginess

can't stand

But it's not that boys are necessarily reluctant.

There are things that girls don't want

girls feel embarrassed about their genitals

It's a feeling that's disgusting and sacred at the same time.

How women feel about their genitals is directly related to whether they enjoy sex.

Debbie Harbenick of Indiana University says that the self-image of a girl's genitals is "under siege" like never before, and that it's unacceptable in its natural state.

Studies show that three-quarters of college girls shave all of their hair around their genitals, at least on special occasions, and more than half do it on a regular basis.

Girls say that having their hair trimmed is a personal choice because it makes them feel cleaner.

Even so, I wonder if I would spend my time that way even if I were to live on an uninhabited island.

(Laughter) And if you dig deeper, you'll find a darker motive: you don't want to be embarrassed.

"Boys seem to think it's disgusting," said one young woman.

"I don't want to be talked about like that"

Shaving around the genitals is reminiscent of the 1920s, when women first started trimming their armpits and legs on a regular basis.

It was during this period that the flapper dress became fashionable, and women's limbs were suddenly exposed to the public eye.

I think this is also a sign

An important part of girls is being exposed to public scrutiny. They're going to be judged, and it's going to be less about what they think of themselves and more about how other people see them.

The hair removal epidemic has also sparked female plastic surgery.

Vaginal plastic surgery is a plastic surgery that is rapidly gaining popularity among teenage girls by shaping the external labia and labia minora.

Demand increased by 80 percent between 2014 and 2015, with girls under the age of 18 making up two percent of all plastic surgeries, five percent of them undergoing genital surgery.

The most popular shape is the one with the outer labia fused together like a shell, and the name is...

Don't be surprised...

It's a barbie doll

(Grunts) As you all know, Barbie dolls are (1) made of plastic and (2) don't have vaginas.

(Laughter) The American College of Obstetricians and Gynecologists has issued a statement out of concern about the vogue of female genital plastic surgery, which claims that the procedure is hardly medical, has not been proven to be safe, and has side effects such as scarring, numbness, pain, and decreased sexual desire.

Now, in practice, certainly, and thankfully, the number of girls undergoing surgery is still small, but you could compare them to canaries in a coal mine, and they tell us how girls see their bodies.

Sarah McClelland, a psychologist at the University of Michigan, has coined one of my favorite phrases to describe what we've been talking about so far: "Justice in Intimate Relationships."

The idea that sex can be both personal and political, like who does the dishes or sweeps the floor in your house.

They highlight similar issues: inequality, economic imbalance, violence, physical and mental health.

Intimate justice makes us think about who has the right to engage in an experience.

Who should enjoy the experience?

Who are the main beneficiaries?

How does each partner define "enough is enough"?

And let me be honest, these are questions that are difficult and sometimes traumatic for even adult women to face, and I've repeatedly thought, especially when it comes to girls, that their early sexual experiences shouldn't be something to overcome.

According to McClelland, young women are more likely than young men to measure their satisfaction by their partner's pleasure.

So they say, "If my partner is sexually satisfied, I'm sexually satisfied."

Young men tend to measure their sexual satisfaction by their orgasms.

Young women also defined "bad sex" in many ways.

The largest survey ever to examine sexual behavior in Americans reports that 30% of sexual intercourse is painful.

It's described in these words: "depressing" "humiliating" "condescending"

The young man never used those words

So when young women report as much or more sexual satisfaction than young men, studies like this may not be the case.

If a girl expects sex to be painless, wants her boyfriend to feel close to her partner, and wants her boyfriend to orgasm, then these conditions are met and she will be satisfied.

There's nothing wrong with wanting to get closer to your partner or wanting to please him, and orgasm isn't the only yardstick.

But "no pain" is too low a measure of sexual satisfaction.

After hearing and thinking about these stories, I began to wonder if American girls were undergoing psychological genital mutilation.

From an early age, boys' parents teach them about all body parts, or at least, "This is a cock."

Parents of girls avoid this area from the navel to the knees and do not name it.

(Laughter) If you don't want to talk about something, the best thing to do is not name it.

Children learn in adolescent sex education classes that boys can get erections and ejaculate, while girls...

about periods and unwanted pregnancies

And then the students are shown a diagram of the internal reproductive organs of a woman, that one, shaped like a cow's head -- (Laughter) and always covered in grey.

So I would never say vulva or clitoris.

Not surprisingly, less than half of teenage girls ages 14 to 17 have masturbated.

That's how we experience sexual relationships with our partners, and in that situation, we expect sex to be for them, to express their needs, their desires, their limitations.

would be unrealistic

I would like to mention here

What girls spend on their partner's satisfaction has nothing to do with their partner's gender.

So for same-sex couples, the orgasm gap disappears.

Young women's climaxes are about the same as men's.

Lesbian and bisexual girls say they were able to break free from stereotypes and experience sexual experiences that fit them.

Even gay girls are confused by the definition of virginity during their first intercourse.

It's not because sex isn't a big deal, but because it's the one act that many girls associate with discomfort and pain, and that's the only thing that counts as a line on the road to sexual maturity, questioning the most meaningful and transformative experience of all.

It's worth thinking about how this is affecting girls, whether it's protecting them from danger, venereal disease, coercion, betrayal, violence.

Is it encouraging reciprocity and compassion between partners? How do we look at other sexual behaviors? Is it giving them control? Is it giving them pleasure?

I asked a gay girl, "How do you define not being a virgin?"

she replied that she googled

(Laughter) Even Google couldn't find the answer.

(Laughter) Her definition of not being a virgin was when she had her first orgasm with her partner.

I... had scales from my eyes

I imagined what it would be like if this was the definition of a virgin.

I don't mean to say that sex isn't a big deal. It's a big deal, but it's not the only thing. And instead of thinking of sex as a goal in itself, we can reframe it as a playing field for experience.

It's worth asking young people: Who is more sexually experienced?

Whether you're having sex with your partner for three hours and you're having a sensual interaction, or you're drunk at a party, having random sex, and throwing your "virginity" away before you go to college.

The only way we can change the way we think about it is by talking to young people more about sex, making discussions like this more commonplace, and bringing them into our daily lives to talk about these intimate acts differently, like we've changed everything in our lives, like we've done about women's public presence.

In one study, we randomly selected 300 girls, college students in the Netherlands and the United States, at two similar colleges and surveyed them about their early sex experiences.

Dutch girls were what we expected

A minority of children spoke of negative outcomes. Instead of STDs, pregnancies, and regrets, we received positive feedback, such as being able to communicate with a partner we know well, being prepared for responsible experiences, and having fun ourselves.

What is the secret?

Girls in the Netherlands tell us that doctors, teachers and parents talk early and openly about sex, the enjoyment that comes with it and the importance of mutual trust.

What's more, while American parents aren't exactly new to talking about sex, they perceive these topics as risky and dangerous, while Dutch parents balance responsibility and pleasure.

What I'm trying to say is, as a parent myself, I was shocked by these results, because if I hadn't delved into this research, I would be talking to my kids about contraception, about venereal disease prevention, about consent.

Well done

Now I know this is not enough

And I knew what I wanted from girls

For them, I want sexuality to be a source of self-knowledge, creativity, and communication, rather than a potential risk.

I want you to enjoy the pleasure with your own body, not just being the one who gives pleasure

Tell me what you want me to do in bed and enjoy it

I want to be protected from unwanted pregnancies, venereal diseases, cruelty, inhumane and violent things.

If I am sexually assaulted, I want protection from the school, staff and the courts.

A lot of wishes, but not too many wishes

As parents, as teachers, as advocates, as activists, we've raised girls who can have a voice - girls who can claim equal treatment at home, in the classroom, at work.

Now is the time to also advocate for justice in intimate relationships in the personal realm.

thank you

(applause)

Today I want to talk about the meaning of words, how we define words, and how words define us.

The English language is like a sponge that absorbs everything.

I like English and I'm happy to be able to speak it

English has many holes

In Greek there is a word lachesism, which means the desire for disaster.

Seeing thunderclouds on the horizon is like cheering for a storm.

There's a word in Chinese called yuyi, which I can't pronounce exactly, but it describes a desire for that fresh, intense feeling that I had when I was a kid.

Polish jouska means imaginary conversation that unfolds in your head.

There's German, of course, and there's a word called zielschmerz, which describes the fear of getting what you want.

(Laughter) Finally, a lifelong dream come true—

As a German myself, I know this feeling all too well.

I don't know if I use these words in my daily life, but I'm happy that they exist.

But that word exists because I made it up.

I'm the author of The Wordless Dictionary of Sadness, and I've been writing it for the last seven years.

The purpose of this project is to find and fill the gaps in the language of feeling, so that we can describe all kinds of weird idiosyncrasies and small mistakes that we feel but don't talk about because we don't have the words to express them.

At one point in this project, I defined the word sonder, and it means that we're all heroes, and we see others as extras.

The reality is that we're all heroes, and we're also extras in other people's stories.

As soon as I published it, I got a lot of responses, like, "Thank you for putting into words the feelings I've always felt but didn't have the words to express."

Those words eased people's loneliness.

It's the power of words to ease a person's loneliness.

Not long after that, I began to see the word commonly used in online conversations, and then I heard people next to me using it in real conversations.

It's a very strange feeling to watch a word you made up start taking on a life of its own.

I don't have the words to express it, but let's make it

(Laughter) I'm thinking

I started thinking about what makes a word real, because so many people ask me, "I don't know what this is, but it's a coined word, isn't it?"

I didn't know how to answer. Once "Sonder" went viral, would I be able to decide if it was real or fake?

And so I got the insight that Steve Jobs was talking about, that many people live their lives day by day trying to avoid hitting a wall and trying to fit in.

But once you realize that the world is made up of people who are just like you, you can reach out and even break through those walls, and you realize you have the power to change the world.

When asked, "Are these words real?"

I've tried many different answers.

Some things make sense and some things don't

One of them is, "If you want words to be real, they're real."

That path exists because everyone wanted it to be there

(Laughter) It happens a lot on college campuses.

It's called "Wish Path"

(Laughter) But then I realized that when people ask, "Is this word real?" what they're really asking is, "How many people know this word?"

Because that's how most of us view language.

Words are basically the key to getting into certain people's heads.

A language isn't worth knowing if it only works in one head.

If it's two heads, it depends on whose head it is.

A million heads are likely to be usable

A real language is one that speaks to as many minds as possible.

That's what makes it worth knowing

In that sense, the real word in the real thing is this

[OK] This is it

in the most authentic terms

It's like a master key that everyone knows

It's the most widely understood language anywhere in the world.

The problem is that no one seems to know what those two letters stand for.

(Laughter) It's a strange story, isn't it?

There are various theories, such as that it's a misspelling of "All Collect" or that it's an abbreviation for "Old Kinderhook."

Even if we don't really know, the fact that it doesn't really matter says something about how we give meaning to words.

the meaning is not in the words themselves

that it is we who infuse ourselves into the meaning

We're all looking for the meaning of our lives, the meaning of life, and I think language has something to do with that.

When looking for the meaning of something, a dictionary is a good place to start.

Brings a sense of order to a chaotic world

Our vision is very limited, and by creating patterns and shorthands, we find ways to interpret the world and try to get by.

we need words to define and make sense of ourselves

I think many of us feel trapped by the way we use language.

We forget that words are made up

All words, not just mine, are made up. Not all of them have meaning.

We're all trapped in our own vocabularies that don't necessarily suit people who are different from us, and I feel that as we take our words more seriously, we grow apart year after year.

because words are not real

It's not words that have meaning, it's us

Finally, I would like to quote one of my favorite thinkers, Bill Waterson, author of "Calvin and Hobbes."

He said, "It's rare to have a life that matches your values ​​and satisfies your soul.

Creating meaning in your life isn't easy, but it's possible, and the effort makes people happier."

thank you

(applause)

Well I'm in Chile right now In the Atacama desert I'm sitting in a hotel lobby 'cause this is the only place I can connect to Wi-Fi And there's this picture on the screen And there's a woman behind me

She says, "Oh, you're so beautiful"

"What is this? Jackson Pollock?"

But unfortunately sometimes I'm too honest with myself

I said, "No, it's not. It's penguin poop."

(Laughter) So, look, he said, "What the hell?"

And I had a hunch she must be thinking I'm using a metaphor

(Laughter) So I said, "No, no, no, really, it's penguin poop."

(Laughter) Because I was in the Falkland Islands, photographing penguins.

This is a gentoo penguin, but she still had her doubts.

So, literally minutes ago, I downloaded this scientific paper, which has calculations for bird defecation.

It's actually not the rectum in technical terms, it's called the cloacal cavity.

At this point she interrupted me and said, "Who are you?"

"Um, what are you doing?"

I got stuck 'cause I didn't have a way to express what I was doing

So in a way, today's talk is my answer.

A pick from a messy set of things I do

It's very difficult for me to understand this, so I don't know if you can understand it.

It's the kind of thing you think late at night when you can't sleep

Well, it seems some people are scared of what I'm doing

Some people think I'm a serious Tony Soprano, and the answer is yes, I ordered a bulletproof pocket protector.

I don't know what these people are thinking, I don't speak Norwegian

(Laughter) But I don't think "Monsteret" is a good thing.

i don't know but do you know

Now, one of my favorite things to do is travel the world and see archaeological sites.

Because archeology gives us the opportunity to study past civilizations and see where they succeed and where they fail.

With science, you know, you can count backwards and find out, "What were they really thinking?"

I was on Easter Island recently and it's an unbelievably beautiful and unbelievably mysterious place Everywhere you go on Easter Island you meet these statues Moai

This place is 160 square kilometers

900 known so far

For what reason did you make it? If you haven't read "The Collapse of Civilization" by Jade Diamond, I highly recommend you read it.

he wrote a nice chapter

Basically, these people were committing ecological suicide to build a bunch of moai statues.

And someone said something similar, "Let's cut the last tree." "And kill yourself because."

(Laughter) So, there's one thing that's not a mystery.

what are those eyebrows You're so powerful

Where did you get that inspiration from?

Then I met Yo-yo He's a guide to the natives of Easter Island Look at his face and you'll know where inspiration comes from

These statues hold many mysteries

Everyone wants to know how it was made How was it carried?

This woman in front of me is Joanna Van Tilberg.

She's a leading modern archaeologist working on Easter Island.

I've been studying this statue for about 20 years, and I have a detailed record of every single one.

What's on this page is what's on there

One interesting problem is that the stone isn't that hard.

Yeah this one used to be so smooth

In fact, many of the statues were quite smooth on the back when they were drilled - almost as smooth as glass.

But after 1000 years of being outside and being exposed to the elements, it started to look like this

Joanna and I have just embarked on a project to digitize this entire statue, and we're going to do a very high resolution digitization, first of all, because that's one way to preserve this statue.

Second, there's the idea of ​​trying to solve some of the mysteries about these images, algorithmically.

In what position and how long have they been standing?

Perhaps indirectly, we know something about what put them in that state.

Comet McNaught was there while I was on Easter Island, so I got some nice pictures of the moai and the comet.

I'm also involved in an ongoing archaeological project in Egypt.

"Ongoing" might be a bit of a strong word

We're currently trying to get all the permits to prepare and move the project forward.

This story will be talked about at a future TED.

There are some amazing opportunities in Egypt too.

Another thing I do is invent

Actually, I'm designing a nuclear reactor.

it's not a joke

This is a typical nuclear fuel cycle.

The red line is what most nuclear reactors do, called the open fuel cycle.

The white line is called the Advanced Fuel Cycle, which reprocesses nuclear fuel.

this is the normal way

This has the big advantage of not generating carbon-based pollution.

There are also many drawbacks, and each of these steps can be very expensive and potentially dangerous.

So our reactor removed those steps, which would be pretty cool if we could actually make it work.

Working on a new nuclear reactor is silly.

In America, the old reactor design hasn't been built in 25 years.

Especially when it's new. What we're doing is very risky, but potentially very high returns.

Let's move on to a completely different field. We're working on a lot of things related to solid state physics, especially in a field called metamaterials.

Metamaterials are man-made substances that, in this case, manipulate electromagnetic waves in a way that no one else can.

This device is an invisibility cloak.

It may not look like an invisibility cloak, but if you were in the position of an electromagnetic wave, it would look something like this.

A line of light, in this case an electromagnetic wave, comes in and circles around the cell and out the other side.

You can do this with a mirror from an angle

The cool thing about this guy is that he can do it from all angles

Unfortunately, metamaterials A: work only with electromagnetic waves B: they don't work very well

But metamaterials is an incredibly exciting field.

It's a billion dollar business right now, but it's actually in the red.

But one day maybe it will work

We are also working in the biomedical field.

We're working with major medical laboratories to develop cheap ways to diagnose diseases in the developing world.

They say the eyes are the windows to the soul, but I've found that they are the windows to so much more.

By the way, these are my eyeballs

Well, I'm also very interested in cooking.

When I was at Microsoft, I took a little vacation and went to French chef school.

I also worked at a top restaurant in Seattle when I was at Microsoft.

I was on a team, and that team was the barbecue world champions.

Barbecue is so funny because it's one of the cult foods, like chili and bouillabaisse

There are cult foods all over the world People are addicted to eating them There are many traditions and secret ways

So I'm working in a very scientific way.

This is my newest cookware, and if this looks more complicated than a nuclear reactor, it's because it is.

But if you put all of these knobs and dials to good use, of course, with those controls over there, and they're actually software-driven, I'm sure you'll be able to make a nice rib steak.

(Laughter) This is a high-speed centrifuge.

Everyone should have one in their kitchen, besides Chef Turbo.

This thing gives food 50,000 times more force than normal gravity, and can make chicken soup clear.

You won't believe it!

I'm doing a series of brutal experiments on food, and in this case, I'm trying to calibrate my mathematical model so that I can accurately estimate the cooking time that's happening inside.

I found it useful, and for a geek like me, it was really fun.

Theoretical predicted values ​​are shown in red, and experimental values ​​are shown in black.

So what I can say from this is either I'm good at deceiving, or this mathematical model seems to work.

Another random thing I do is search for extraterrestrial intelligent life. SETI is abbreviated.

I think you probably know the movie Contact, the movie that made SETI popular.

There are real humans out there looking for life in a scientific way.

In fact, almost everyone in the movies is based on real people.

The character that Jodie Foster was playing is actually this woman, Jill Tarter, and Jill has her life on SETI.

A lot of people risk their lives It's a heroic act It's a cool act But Jill is what I call slow heroism

She's staked her professional life on something that, as her own calculations show, may never work out for a thousand years.

I like to support people who risk their lives

After the movie was announced, of course interest in SETI grew.

My kid saw the movie too, and after he saw it he came up to me and said, "Hey Dad, that character is Jill, right?"

I said "Oh yes, absolutely yes"

"And that other character is..." "Yes," I said.

The kids said again, "There was a nasty rich man in that movie, right?

is that dad? ”

It's just a movie! i said

(Laughter) The SETI Institute, with a little help from me, a big help from Paul Allen, and a lot of other people's help, is building a radio telescope in Hat Creek, California, so that SETI can do the work.

I travel a lot and change my cell phone a lot, but it's Jill who keeps me up to date on my cell phone, pager, and whatever, because I really don't want to miss the "news."

(Laughter) Because, look, can you imagine? ET called me home and I'm not home it sucks

Well, I've been doing a lot of work on dinosaurs, too.

I'm known to people at TED as the man having sex with a dinosaur.

I think I'm close to that

I'm going to talk about the other side of dinosaurs, it's about finding dinosaurs.

To find dinosaurs, you'll have to roam through harsh environments to find dinosaurs.

It sounds terrible but it's true

It's a terrifying environment, because if the climate is good, the plants will grow, and there won't be erosion, so you won't find dinosaurs.

That's why dinosaurs are always found in deserts and wastelands where there is no vegetation and where there are great floods in the spring.

Look, skiers pray for snow, don't they?

Paleontologists pray for erosion

After walking around and this digging out, it looks like this

I walk around and see things like this

This is what I found, looking closer

It's bentonite soil. It's expanding.

If something pops out, look at it If you look closer, you'll probably say, "Oh, this is interesting, what the hell is this piece?"

And if you look even closer, you can tell from the shape that this is a fragment of a skull.

When you see this, you say, "It's a tooth."

"Big teeth"

It's about the size of a banana

Large jagged edges

This is what a Tyrannosaurus in the ground looks like

Here's how to find a Tyrannosaurus I was lucky enough to find one a few years ago

This is the Tyrannosaurus in my living room

It's not actually the same one It's a mold I bought I found mine after I bought it I didn't have room for two

Um

What's great about finding dinosaurs is that it's intellectual, because you're trying to use a reconstructed environment from millions of years ago.

It teaches all kinds of science in ways you never imagined.

The study of dinosaurs, for example, allows us to understand the problem of asteroid impacts.

So, researching dinosaurs could literally save the planet one day.

The study of ancient climates is very important

In fact, the Mesozoic Era, when dinosaurs lived, was much richer in carbon dioxide than it is today, and it was much warmer than it is today, and that's one of the interesting pieces of evidence for the impact of carbon dioxide on climate.

But besides being intelligent, besides being scientifically interesting, it's very different from what I'm doing elsewhere, because once you start walking around the wasteland.

- This is the reality of most dinosaur research.

Here's one of my papers, entitled "Tailbones of Non-Avian Carnivorous Dinosaurs."

This isn't as interesting as dinosaur sex, so let's not get into it here.

Now, I've been working a lot on photography as well.

I'm traveling around the world taking pictures Sometimes I get good pictures But most of the time I don't think so

Digital data is cheap now, and unfortunately this means more time needed to organize your photos.

This is the one I shot in the Falklands The King Penguin on the Beach

This is a photo of a killer whale I took in Alaska a few years ago.

I've been looking for a week trying to get a picture of a killer whale, but I can't seem to find it.

On the last day, when the sun came out, the killer whales came, right by the boat, so nice

I took a lot of pictures like this

So, shortly after that, I started taking pictures like this.

Hmmm, I have to explain this to a human audience.

Truth

There was a lot of other activity going on near the boat, and someone suddenly shouted, "What's that thing in the water?"

i said

"Well, I guess that's what you guys call Free Willie." (Laughter) You can learn a lot from watching whales have sex.

(Laughter) The first thing that comes to mind is the tremendous importance of hands.

whales don't

(Laughter) I think Ball Simon is in the audience, and he -- he may not have realized it -- wrote a song about whale sex, "Slip and Fall and Go."

this is a kind of hand

The other thing I found out is that they bend their toes too

(Laughter) So, where do we put all these disjointed pieces together?

Passion of life There's a lot of wisdom in discovering one great thing Putting all my strength into one But I'm so far

I'm not that good at it, you know, when I'm passionate about one thing, I'm interested in other

And then you'll find other things I've been working on this for a long time And I thought, "Well, I've got to work until I'm exhausted."

It was fun when I was at Microsoft, and the whole IT industry was getting bigger and bigger, and it was pushing other things out of my life.

But in the end, I decided that what I really should do is not try to be who I am, just accept myself for who I am.

Yes, the whole talk was about a mile wide and about an inch deep, but this works for me.

Whether it's nuclear reactors or metamaterials or whale sex, the common denominator is me

thank you very much

(applause)

Take a moment and think about viruses.

What comes to mind?

disease?

fear?

maybe something really unpleasant

Still, not all viruses are the same

Indeed, some viruses cause serious illness.

But on the other hand, it might also cure the disease.

The virus is called a "(bacterio)phage."

I first heard about phages in 2013.

My stepfather, a surgeon, told me about a female patient he was treating.

The woman injured her knee and had to have multiple surgeries, and even after a series of surgeries, her leg was still suffering from a chronic bacterial infection.

Unfortunately, the bacteria that cause this infection have failed all antibiotics.

In these cases, the only option is usually to amputate the leg to prevent the spread of infection.

But my father-in-law was desperate for a different treatment, and as a last resort, he applied for clinical trials with phages.

how it worked

Within three weeks of using the phage, the chronic infection was completely cured, even though the antibiotics were ineffective.

I was fascinated by the exotic concept of using viruses to treat infections.

And to this day, I'm fascinated by the medical potential of phages.

And I actually quit my job last year to build a company in this space.

So what is a phage?

Here is an image from an electron microscope

So this screen is a very small world.

The head in the center, the long body, and the many legs -- the grainy object, this is a typical phage.

It's cute in a way

(Laughter) Now look at your hands.

Our team estimates that we have over 10 billion phages on our hands.

what are you doing there

(Laughter) Yes, viruses are good at infecting cells.

Phages are highly capable of infecting bacteria

Hands, like most of our bodies, are hotbeds of bacterial activity, making them an ideal hunting ground for phages.

Phages eat bacteria

Also, know that phages are hunters who choose their prey.

Phages usually infect only one type of bacteria.

This is the bacterium Staphylococcus aureus, known as MRSA, which causes skin and wound infections and has become drug-resistant.

It's a phage trying to catch

Phages use their feet to hunt

Feet are extremely sensitive receptors that seek out the right place on the bacterial cell surface.

When the phage finds it, it sticks to the bacterial cell wall and injects its DNA.

Because the DNA is in the head of the phage, it enters the bacterium through its long trunk.

At that point, the phage reprograms the bacterium to produce new phage in large numbers.

In response, the bacterium becomes a phage factory.

Once the phages have grown to about 50 to 100 inside the bacterial cell, they can break down the bacterial cell wall—and release proteins.

Bacteria explode, phages emerge, and they keep looking for new infecting bacteria.

I'm sorry, it looks like some sort of terrifying virus.

But this is the ability of phages to multiply and kill within bacteria, which is very interesting from a medical point of view.

The other thing that I found very interesting is the size of the potential.

Five years ago, I didn't even know about phage.

Even today, phages are only part of the natural principle.

Phages and bacteria from early stages of evolution

We have always existed next to each other and kept each other in check.

This is truly a tale of yin and yang, a tale of hunters and prey at the microscopic level.

Some scientists speculate that phages are the most abundant organisms on Earth.

Before we can talk about the medical potential of phages, I think we should all be aware of their role in predating bacteria on the planet.

Now, with these hard workers all around us, naturally, on a daily basis, and almost everywhere in the world, why is there no drug on the market that uses this principle to eradicate bacterial infections?

It's simply because the drug didn't have a developer, or at least it didn't meet the Western regulatory standards adopted by many countries.

To understand why, we need to go back in time.

The person in this photo is Felix Dereille.

One of two scientists credited with discovering phages.

But in 1917, he had no idea what he had discovered.

He was interested in a disease called bacillary dysentery, a bacterial infection that caused severe diarrhea.

Dereille is observing a sample of patients who survived bacillary dysentery.

I found something strange going on

Something is killing what appears to be the dysentery pathogen in the sample.

To find out what happened, he conducted a clever experiment.

They took a sample, filtered it thoroughly until they were sure only the microscopic particles were left, and then added that single drop to a fresh culture of bacteria.

And after a few hours, it was observed that the bacteria had been killed.

Deraille repeated the experiment, again putting a drop of the filtrate into the new bacteria.

We repeated this operation 50 times and the observed results were always the same.

So he made two conclusions.

First, it's clear that something was killing the bacteria, and it was in the filtrate.

And one more thing, the fact that just one drop can do so much is that it's essentially a living organism.

Dereille called his findings "invisible microbes," and named them "bacteriophages," meaning "bacteria-eating beings."

By the way, this is one of the fundamental discoveries of modern microbiology.

The roots of so many modern technologies in genome editing and other fields go back to our understanding of how phages work.

Just today, the Nobel Prize in Chemistry was announced for two scientists who studied phages and developed drugs based on them.

So let's go back to the 1920s and 1930s, when people were quick to recognize the medical potential of phages.

After all, you can't see it, but it definitely kills bacteria.

Abbott, Squibb, and Lilly, which are still in existence today, sold phage preparations.

But in reality, it's an invisible microbe, so it's been difficult to find drugs that work consistently.

Imagine going to the FDA today and telling them that you want to administer invisible phages to patients.

So when antibiotics came along in the 1940s, things changed.

This person is the man behind it

Alexander Fleming is

won the Nobel Prize in Physiology or Medicine for his work in developing the first antibiotic, penicillin.

Antibiotics work in a completely different way than phages.

Antibiotics often suppress the growth of bacteria, and it doesn't really matter what kind of bacteria is present.

In particular, broad-spectrum antibiotics are effective against many bacteria.

This is a clear advantage compared to phages, which have a very narrow range of action and act on only one species of bacteria.

It was like a dream at the time

If a patient is suspected of having a bacterial infection, we can give them antibiotics.

That's why humans developed more and more antibiotics, and thus antibiotics became the first choice for treating bacterial infections.

By the way, antibiotics contribute significantly to human life expectancy.

Complex treatments and surgeries are now possible because of antibiotics, so patients don't risk dying the next day from bacterial infections that they may have been exposed to during surgery.

And so Western medicine, in particular, began to forget about phages.

Even when I was a child, it was somewhat common knowledge that human beings had antibiotics, so bacterial infections were solved.

Of course we all know by now that it was wrong.

Most people have heard about super-resistant bacteria.

Super-resistant bacteria are bacteria that are resistant to many, if not all, of the antibiotics that humans have developed.

As for why this happened

Humans aren't as smart as they think they are

Humans began to use antibiotics ubiquitously, in hospitals for treatment and prevention, at homes for the common cold, on farms to keep animals healthy, and bacteria evolved.

The bacteria that survived the onslaught of antibiotics from their environment are the most adaptable.

It is what we call "multidrug-resistant bacteria" today.

Let me give you some scary numbers.

A new study commissioned by the UK government estimates that by 2050, 10 million people will die each year from multidrug-resistant bacteria.

You can see how scary that number is compared to the fact that eight million people die from cancer each year.

But luckily, the phage was on its way.

And it's not daunted by multidrug-resistant bacteria.

(Laughter) Phages just enjoy killing the bacteria around us.

And now, it's convenient for phages to choose their prey.

In many cases, we can now pinpoint the exact pathogen that causes the infection.

And the selective ability of phages may avoid the common side effects of broad-spectrum antibiotics.

The best news is that phages are no longer invisible microbes.

phage can be seen

Humans have long cooperated

analyze the phage DNA sequence

I also know how to replicate that

and I know the limits

Humanity is currently in the process of developing powerful and reliable drugs based on phages.

it's happening all over the world

More than 10 biotech companies, including ours, are developing human applications of phages to treat bacterial infections.

A number of clinical trials are underway in Europe and the United States.

I believe the revival of phage therapy is just around the corner.

When I draw a phage correctly, it looks like this.

(Laughter) Phages, to me, are the superheroes humanity has been waiting for all along in the fight against multidrug-resistant infections.

So next time you think of a virus, have that image in mind.

Phages may one day save your life

thank you

(applause)

New therapeutic techniques, put into the hands of doctors and nurses, can improve treatment outcomes for children, adults, and patients of all ages, reduce pain and suffering, reduce time spent in the operating room, reduce anesthesia time, ensure that treatments are the most effective, and the more treatments the better the patient.

And what if there were no side effects, and we could do it anywhere?

For an emergency physician working in the ICU at Boston Children's Hospital, this is a game changer.

And that technology is a surgery rehearsal that's just like the actual surgery.

A real rehearsal is done through treatment simulation

Let me share this struggle with a case study and explain why this technology is not only improving the quality of care, but is essential to health care.

this is a newborn girl

We call the first day after birth "day 0".

As soon as this baby was born, I noticed that his general condition was deteriorating.

Your heart beats faster, your blood pressure drops, your baby breathes faster

The reason for this was evident on the chest X-ray.

This is a babygram, a full-body x-ray of a newborn.

Above is where the heart and lungs should be.

Below you can see the abdomen, where the intestines should be.

You can see the transparent part invading the baby's chest on the right side.

These are intestines in the wrong place

It was compressing the lungs and making it difficult for this poor baby to breathe.

To fix this, we need to take the baby to the operating room immediately, put the intestines back into the abdomen, relieve the pressure on the lungs, and allow him to breathe again.

But before she goes into the operating room, she's brought to our ICU.

I work with the surgical team

Surround the child and connect him to a heart-lung machine

They first put you under anesthesia, make a very small incision in your neck, and then thread a catheter into a large vessel, which is about the size of a ballpoint pen lead, and then take the blood out of your body, oxygenate it through a machine, and put it back into your body.

Save this child's life and carry him safely to the operating room.

But there's a problem: these disorders, called congenital diaphragmatic hernias, where a hole in the diaphragm allows internal organs to protrude into the chest cavity, are rare.

Even the best surgeons in the world struggle to get the number of surgeries needed to become fully proficient.

this case is rare

How can we make rare cases commonplace?

The other problem is that after 20 years of clinical training in the current health care system, the current training model is called the apprenticeship system.

It's been used for centuries

After you've seen an operation or a few operations, you'll perform the operation in action, and then you'll teach the next generation of doctors.

In this model, of course, we're practicing on the patient we're supposed to treat.

this is a problem

there must be a better approach

Medicine may be the last high-risk industry that doesn't practice for the real thing.

I want to show you a better way to do it with treatment simulation.

First, we visited other industries with potentially dangerous operations that have been using these methods for decades.

It's a nuclear power plant

Here, we regularly conduct drills based on scenarios when unexpected situations occur.

In the aviation industry, which is familiar to us, we can fly with confidence because our pilots and crews have been trained in simulators like this, experienced in emergency scenarios, and have the confidence that if it does happen, we're prepared for the worst.

In fact, the aviation industry turned the entire fuselage of the plane into a simulation environment, because it was important for the team to be in sync.

This is an escape drill simulator

If that "extremely rare event" were to happen, they would be ready to respond immediately.

And one thing that struck me in so many ways was the sports industry, which literally involves a lot of money.

Imagine the players of a baseball team practicing

I think this is a wonderfully advanced training model.

They first go to spring camp

It's like going to spring camp and doing a simulator in baseball.

Practice preseason matches in a simulation instead of an actual stadium.

What do you think will be the first thing you do on the field during the season before the game starts?

You spend hours practicing batting in the batting cage, hitting different balls, practicing enough until your muscles loosen up, and you're ready for the big game.

Now comes the most interesting part, if you watch sports, you've seen it.

The batter is in the batter's box and the pitcher is ready to pitch.

What does the hitter do just before the pitch?

step out of the box and swing first

must be in that order

I'm going to tell you how we're creating these training grounds in the medical world.

At Boston Children's Hospital, we're making batting cages before treating patients.

Taking a recent example,

This is a case of a four-year-old child whose head continues to grow, resulting in developmental delays in the nervous system and other parts of the body, caused by a condition called hydrocephalus.

A brief description of neurosurgery

First, there's the brain, and then there's the skull that surrounds it.

Between the brain and the skull is the cerebrospinal fluid, or cerebrospinal fluid, which absorbs shock.

Inside your head, cerebrospinal fluid surrounds your brain and fills the space between your brain and skull.

It's produced in a part of the brain where it circulates and it's reabsorbed.

This glorious current happens to all of us

But unfortunately, there are children who, like traffic jams, are stuck in this flow.

The retained cerebrospinal fluid presses on the brain

inhibits brain growth

As a result, the child lags behind in indicators of nervous system development.

It's a very nasty childhood disease.

treat with surgery

Traditional surgery involves cutting out a section of the skull, draining this fluid, and attaching a drainage tube to it to allow the drained cerebrospinal fluid to return to the body.

Major surgery

The good news is that advances in neurosurgical technology have allowed for a less invasive approach to this surgery.

You can make a tiny pinhole, insert the camera, guide it deep into the brain, and drill a tiny hole in the capsule to drain the cerebrospinal fluid, much like a sink drains it.

All of a sudden, the brain was released from pressure and returned to its original size, and we treated him with a single hole.

But there's a problem. Hydrocephalus is a relatively rare disease.

There was no training to get this endoscope to the right place.

But surgeons used their creativity to

they chose a training model

This is the current training model

(Laughter) It's true.

These red peppers aren't Hollywood special effects, they're real red peppers.

A doctor inserts an endoscope into this and performs a "seed removal operation."

(Laughter) We use this endoscope and these little tweezers to extract the seeds.

It's a primitive method, but this is how you learn to master surgical skills.

Then the doctors go back to their apprenticeships, see and learn from a lot of surgeries, operate on them, teach them again, and wait for the chance to meet a patient.

but there's a better way

We modeled ourselves on children and created replicas so that surgeons and surgical teams could rehearse all the key moments.

see this

My Team—Simulator Program SIM Engineering Dept.

Made up of great staff

They're mechanical engineers, they're illustrators.

The primary data from CT scans and MRIs are digitized, animated, assembled into a child's organ alignment, then scanned and overlaid on the body surface as needed for surgery. This digital data is then taken and output by this state-of-the-art 3D printing device, which allows us to print the child's organs lifelike down to the micron level.

This way, the child's skull will be printed hours before surgery.

My friends in Hollywood, California on the West Coast helped me make this happen.

They're engineers who are good at recreating reality.

It wasn't a big leap for us.

As we stepped into this field, we realized that we were doing the same thing as filmmaking.

I'm making a movie, it's not the actors that are a little different.

Featuring real doctors and nurses

These are images from our friends at Fractured FX in Hollywood, California, an Emmy-winning special effects company.

With Justin Raray and team, this is not a patient -- (Laughter) Look at their excellent work.

To work with them and combine their expertise, we invited them to Boston Children's Hospital, and we traveled to Hollywood to exchange ideas for simulator development.

What I'm going to show you is a copy of this child.

Each hair is reproduced

This is also a copy of the same child. Sorry if this offends you, but this is a reproduction and simulation of the child who is going to have surgery.

This is the capsule I mentioned earlier, it's inside this kid's brain.

What I'm going to show you is a real patient and a simulation.

You can see a little endoscope camera coming in here.

A small hole is made in this membrane so that the liquid can come out.

Which one is real here? I'm not going to give you a quiz like that.The one on the right is the simulator.

Surgeons have a training environment where they can practice these surgeries over and over again until they feel comfortable.

Only after that practice do we bring the child into the operating room.

not only that

The key step here is not just the technology itself, but how well that technology fits into the way you work with your team.

Let's take an example from F1

A technician is changing a tire.

It's immediately incorporated into team training, and the team gets together to change tires and get the car out on the racetrack.

We've taken it into medicine, this is a simulation of surgery.

We bring the simulator I talked about into the operating room at Boston Children's Hospital, where our surgical team performs simulated surgeries before the real ones.

I'm going to have two surgeries -- but only one cut.

in this way

(Video) Surgical Team Staff 1: Head down or head up?

Staff 2: Can you turn it down to 10?

Staff 3: Then lower the entire operating table a little.

Staff 4: Lower the operating table

Staff 3: It seems to be piloting the ship.

Can you give me some scissors?

Staff 5: Put on your gloves Size 8 or 8 1/2? i will join soon

Staff 6: Good! thank you

Weinstock: A real surprise

This next step is critical, as soon as the team leaves the room, they do a retrospective.

We use the same techniques as Lean and Six Sigma with the military, we bring them together, and we talk about what went well, and more importantly, what went wrong and how to fix it.

And then you go back to the operating room and repeat.

I can practice batting when I need it most.

Let's go back to this case

It's the same child, but let me explain to you what kind of care this child receives at Boston Children's Hospital.

This child was born at 3:00 a.m.

At two o'clock in the morning, our team got together and we cloned the organs that had the data from the scans and the images, and we cloned the organs that had the data from the scans and the images, creating what we call a virtual bedside environment.

Please take a look

I'm putting a scalpel on the replication

the baby is not born yet

how is it

The explanation I give to my family in the ICU at Boston Children's Hospital has changed completely. The explanation has changed completely.

Imagine a conversation like this: "We treat cases of this disease frequently in the ICU, and we've done a lot of the kind of surgeries you'd do on a child, but we're also used to 'your child's surgery.'

two hours ago

I had 10 surgeries.

I am fully prepared for the upcoming performance.”

What is this new medical technology?

A very realistic rehearsal

thank you

(applause)

Everyone has moments in their lives that are vividly memorable.

The first thing I remember is when I entered kindergarten.

My older brother went to elementary school, and my time had finally come.

I trotted down the corridor

I was so excited that I felt like I was going to pee

When I got to the entrance, the teacher warmly welcomed me, and I was shown to the classroom, and I was given a small locker.

The teacher said, "Go and play with your friends until class starts."

I went over to them and sat down with my own face, and I was playing, and suddenly the boy next to me, in a white shirt and blue pants.

I still remember it like it was yesterday

All of a sudden he stopped playing and said, "Why are you so small?"

I was playing without thinking

(Laughter) And then he says even louder, "Hey, why are you so small?"

I looked up and said, ``What are you talking about?

I've been looking forward to it."

We played, but after about a minute, the girl next to him in a white shirt and a pink skirt stood up and put her hands on her hips and said, "Yeah, why are you so different?"

I say, "What are you talking about?

I'm not different, I'm not small, so let's play."

At this point, I looked around and everyone stopped playing and just stared at me.

I thought, in modern terms, it's like, "Really?"

(Laughter) What happened?

I walked into the classroom that morning with a lot of confidence, but as time went on, my confidence waned and I was bombarded with questions.

At the end of the morning, before I went home, my teacher gathered everyone in a circle, and I found myself outside the mosquito net.

I can't see anyone's face

I didn't understand what was going on

For years after that, I hated going out in public.

I started to feel every stare, every laughter, every finger pointed at me -- not just a finger, but a finger pointed at me, and I hated it.

I hid behind my parents so no one could see.

If a child's mind can't understand why other children are curious, it can't understand why adults don't say anything.

But it was painfully obvious to me that the world, physically and mentally, was not made for someone my size.

As you can see, I cannot remain anonymous. My size is noticeable, but we all face many challenges in life.

Some things are visible like mine

But most of the time we don't know

I don't know if I'm suffering from a mental illness, if I'm struggling with a gender identity disorder, if I'm caring for an aging parent, if I'm in financial trouble.

I can't see that

Even if you know that I'm struggling with my height, you don't really understand how I go about my day-to-day life and the challenges I face.

Let's go with the collapse of the myth here

I don't think we can ever put ourselves in someone else's shoes, so we have to learn new ways to give ourselves.

Simply put, I don't know what it's like to be you, and you don't know what it's like to be me.

I can't face your fears and dreams, and you can't replace me, but we can support each other.

Instead of putting yourself in someone else's shoes, you have to learn how to give yourself to others in a different way.

I realized very early on that there were things I couldn't be like everyone else, but I also learned that there were things I could be on par with, and one of those things was academics.

Hehehe I was equal

In fact, I did well in school.

As I grew older, I realized how important this was, because I can't do physical labor.

I realized that I needed an education.

So I went ahead with my studies and got my bachelor's degree, but I realized that in order to get a job, I needed to go one step further and get a master's degree, so I got my degree.

Then I had my first job interview.

Do you remember your first interview? what should i wear

What kind of questions do you have?

Don't forget to shake hands firmly

I felt the same as you

When I had 24 hours until my first interview, a childhood friend called me and said, "Michelle, there are stairs in the building where the interview is being held."

He knew I couldn't climb the stairs and he told me

In an instant my interests changed

In my position, I have to worry about how to get to the venue.

I left early, found a truck yard, made it to the venue, and the interview went well.

No one knows how I felt, that's fine

I'm sure you all think my biggest challenge that day will be an interview or getting to the building.

But the biggest challenge of the day was getting through the truck yard without being run over.

I have very dangerous situations in airports, corridors, parking lots and truck yards.

So you have to be very careful

You have to anticipate what's going on around you, be flexible, and sometimes move as quickly as possible.

So that's how I got the job, but my current job involves a lot of travel.

Business trips are a challenge for us today.

You go to the airport, go through security, and go to the boarding gate.

Aisle seat or window seat, wondering if you've been upgraded

As for me, I can't get through anything in the first place.

(Laughter) In particular, you won't pass the Transportation Security Administration (TSA) inspection, because you'll have to undergo a body search.

I will spare you the details

Anyway, when I get to the boarding gate, my parents say I'm a natural talker, and I speak to the boarding staff, "Hey, this scooter is so heavy, and it has batteries, so I can drive it to the gate of the plane."

Also, the day before, I called the city I was traveling to to see if I could rent a scooter in case mine broke down.

See, in my position, it's a little different.

When you get on the plane, you use your flair for talking and ask them to lift your luggage upstairs, and they're all very kind.

I don't eat or drink on the plane because I don't want to get up and walk around on the plane.

I walked to the front of the plane, and after talking to the flight attendants for a while, I said, "Would you mind watching the door? I can't reach the key."

The door pops open when I'm doing my business inside

There was a man standing with a look of horror on his face.

I must have had the same expression

I went outside and realized that the man's seat was on the other side of the aisle, and he looked extremely embarrassed.

I went up to him and I softly said, "Is it the same of you who can't forget this?"

(Laughter) He said, "I think so."

(Laughter) I don't think he talks to people, but I don't.

(Laughter) After that, we talked all the way until we arrived, and we got to know each other about family, sports, jobs, and so on.

shall we take? ”

I replied, "Thank you very much."

And we wished each other luck, and the most important thing that day wasn't that he didn't leave the plane with his embarrassment, his embarrassment.

He'll never be forgotten, and neither will I. But I think it's our chats, our thoughts about each other, that will stick out more in his memory.

Traveling the world is, in some ways, more difficult.

A few years ago I was in Zanzibar, in a wheelchair, and I thought,

It's a little, blonde, white guy in a wheelchair.

It's not a sight you see everyday.

I stepped forward and, using my speaking talents, started talking to the staff.

They're very friendly and ask me about their culture and things like that, and then I suddenly realize there's no boarding bridge for the aircraft.

I said, "I would appreciate it if you could help me not only lift my wheelchair, but also climb the stairs."

So we spent about an hour until the flight, and we had such a wonderful time together.

That day we changed our minds

As we boarded, he patted me on the back and wished me luck, and I thanked him from the bottom of my heart.

He will remember his experience with me more than his hesitation when he first saw me.

As you can see, I get a lot of help

I am who I am because my family, my friends, my colleagues and so many strangers have helped me every day of my life.

It's important that everyone has access to help.

Asking for help is a strength, not a weakness.

(Applause) We all need help in our lives, but it's also important to remember that we are here to help others.

I have to repay you like that

Of course, we have a role to play in our own success, but we also have to think about what we can do to help others succeed, just as there are people who helped me every day.

Helping each other is essential. In society, prejudices and ideologies are causing people to withdraw more and more into themselves.

That's why we should look at the essence of things and face the truth that no one's true form can be seen.

In other words, we have problems that people can't see.

By living life without any preconceived notions, we are able to share our experiences with each other and see things in completely different ways.

After all, you can only be yourself

i can't replace

You can't be this short. (Laughter) Well, you can try.

but what's better than that

To be empathetic, to have courage and understanding, to walk shoulder to shoulder, to support each other.

thank you

(Applause) Thank you.

For the last few years, I've been working on a short film called "The Dead Mall Series."

For those unfamiliar, an abandoned mall is basically a run-down shopping mall.

There are few stores, very few shoppers, abandoned and ruined.

JC Penney is not on sale either

(Laughter) I started working on this series in early 2015 after going through a dark period in my life when I didn't want to make films anymore.

I threw the camera away and stopped shooting.

In 2015, I decided to do a short film about Owings Mills Mall.

Owings Mills Mall opened in 1986

I know, of course, because I went there on the first day it opened.

I was traveling with my family, and there were families from all over Baltimore, and I ended up driving around for 45 minutes just to find a parking space.

Can you imagine that in today's shopping malls?

When I was a teenager, my first job at a mall was at a sporting goods store, Herman's World of Sports.

some of you may remember

(singing) Herman's World of Sports

Do you remember?

(Laughter) And women's shoe stores,

I also worked in a leather goods store and a video store, not just because I loved retail -- (Laughter) because I got fired for everything I did.

(Laughter) In between those low-paying retail jobs, I was doing what any normal teenager in the 1990s was doing.

Shoplifting

it's a joke

I went to the mall with my friend

(Laughter) People are like, "Oh my God, what the hell are you talking about?"

(Laughter) Hanging out at the mall was fun, sometimes it wasn't. I shared a cigarette with this 40-year-old unemployed guy who was always in the mall. He wears black lipstick at night.

While I'm here, Owings Mills is just waiting to be torn down inside and wrecked with a wrecking ball.

The last time I was there was at dusk, about three days before the mall closed completely.

And then I had this feeling -- there was no closing announcement, but it felt like I was headed for a dead end, something big was about to happen.

Walking in the mall was so creepy

Please look

(Music) I started making "The Dead Mall Series" and I started posting it on YouTube.

But I was wrong, and there were a lot of people who commented.

A lot of the early comments were like, "That's the mall I had when I was a kid!

Why are you doing this? ”

And then I started getting comments like, "There's an abandoned mall in my town, come and shoot."

So I started traveling the Mid-Atlantic, photographing abandoned malls like this.

Some are open

There were also ruins

It's always been difficult to get into the ruins, but the entrance is always found.

(Laughter) Strange things always happen to malls that aren't closed yet, just like abandoned malls.

Even though there are only three stores left, they clean up the look and make it look really good.

For example, when an empty store appears, the shutter is closed.

At Owings Mills, that's where we put the sheets.

don't you

Printed on the sheet is this image material: a happy woman holding a blouse, like this -- (Laughter) And next to the woman, a man holding a cup of espresso like this -- (Laughter) And it says, "What are you looking for today?"

(Laughter) "I wanted to feel fear and depression.

Thank you very much.”

Comments on the video were pouring in, all over the country and then all over the world.

So I started thinking that maybe this could be something, but I had to be creative.

(Laughter) The first few shots were taken with an iPhone.

I walked around the mall with my iPhone in one hand.

just like this

(Laughter) Many malls don't want to be photographed, so when security guards say, "Stop," I say, "Okay."

So I started using hidden cameras and new techniques to get the footage I needed. What I really wanted to do was make the video look like you're experiencing it from a first-person perspective. I wanted to make it so that when you sit down, put on your headphones, and look at the screen, you feel like you're there -- like a game.

We also incorporated music, and we collaborated with musicians from Vaporwave.

The vaporwave genre emerged from an internet community in the early 2010s.

this kind of music

(Music) The artist is a song from the Disconscious album "Hologram Plaza"

You can listen to more if you search

Vaporwave isn't just a style, it's a movement.

It's nihilistic and full of anxiety, but somehow it puts my mind at rest.

All of its aesthetics lie in how you handle the hopelessness, like you don't have a job, or you're slurping ramen noodles in your parents' basement.

Vaporwave was born out of a desire to express that generation's sense of hopelessness, much like the pre-internet generation used to hang out in food courts.

One of my favorite malls I've ever been to is the Sunrise Mall in Corpus Christi.

When I was a kid, I loved watching movies, watching them over and over again.

One of my favorite movies was The Legend of Billie Jean.

If you've seen it, you know it's a really good movie.

I love it

Helen Slater and Christian Slater, by the way, are not related.

There were many people who thought they were brothers and sisters, but they weren't.

By the way, Sunrise Mall was the filming location for this movie.

This mall is still as it was in 1984

It's been 32 years.

(Video) (Dan Bell) Here's Billie Jean running across the pond, chased by Hubie Pyatt's crew.

and jump over here

The shooting location for this scene now looks like this

It's amazing

really exactly the same

Then the pursuers fall into the pond and Billy runs up.

This is what it looks like when you take a clear picture of the whole

(Dan Bell) Really good

(Laughter) I always think, if I were the owner of an abandoned mall, why not take advantage of the vintage feel?

If you put vegan food in your bar or food court and invite millennials and hipsters to eat and drink, in less than three weeks, H&amp;M and Levi's will want to open a store.

I don't know why I don't do it, but maybe it's just my delusion, I think about it all day long.

(Laughter) And finally -- (Laughter) when I was asked to do this talk, I immediately said, "Is it okay for me?"

(Laughter) Because the talk has to inspire people... (Laughter) But I just remembered.

I took a break from filmmaking three or four years ago, but it wasn't until I started touring malls that the inspiration came back.

And I can't believe that viewers from all over the world are commenting on me and saying, "I love this video."

I can't put into words how fulfilled I am as an artist.

If you had told me a year ago that I would be standing on this stage and speaking to these amazing people like you, I wouldn't have believed it.

I'm sorry and I'm really grateful

thank you

(applause)

Now, as many of you know, here are the results of the most recent presidential election: Democrat Hillary Clinton won a landslide victory with 52 percent of the total votes cast.

Green Party candidate Jill Stein wins 19% of the vote

Republican candidate Donald J. Trump was a narrow 14 percent, with the remaining votes contested by two sobriety voters and Libertarian Gary Gibson.

(Laughter) So what is this parallel world that I live in?

It's not actually a parallel world

It's the real world, and it's the votes of people all over the world.

Let's go back and explain

In June of this year, I launched Global Vote.

Global Vote does what it says

For the first time in history, anyone from anywhere in the world can vote in another country's elections.

Why?

What is that heart?

let's see it in action

Go to the website Isn't the site beautiful? and choose an election

There are many elections that we have covered.

We carry out about one case a month

Here Bulgaria and the United States United Nations Secretary General Election Britain's Exit Election from the European Union

Find an election that interests you, and you choose from among the candidates.

These are the candidates for the most recent presidential election in the Democratic Republic of Sao Tome and Principe, a small island nation of 199,000 people on the coast of West Africa.

You can see a brief bio of each candidate, which I hope is well written, neutral, informative, and concise.

You can vote for who you think this is

These candidates are from the Icelandic presidential election, and that's how this election works.

So why would you want to vote in another country's elections?

The reason why you don't have to vote in other countries' elections is because, as you might expect, it would interfere in other countries' democracies.

that's not the purpose

It's impossible, because I publish the results after voters in each country have voted, so I can't interfere with the election process.

But more importantly, I'm not particularly interested in the internal politics of any country.

this vote is not for

I frankly don't care about Donald Trump's or Hillary Clinton's promises to the American people.

It's something Americans should care about when voting.

This is just one facet of the Global Vote. It's all about what these leaders do for people around the world.

Why this matters is that, as we've all heard, in this globalized, hyper-connected and highly interdependent world, the political decisions of other countries can and do affect the way we live our lives, and it does, no matter who you are or where you live.

Just like a butterfly flapping its wings on one side of the Pacific can spread to the other side and cause a hurricane, so in the world we live in today and in the world of politics.

There is no longer a dividing line between domestic and international

Any small country, even the Democratic Republic of Sao Tome and Principe, has the potential to create the next Nelson Mandela or Stalin.

They can pollute our air and oceans, which are our common property, and they can act responsibly and support us.

On the one hand, existing systems are strangely ill-equipped to adapt to the globalized reality.

The influence of leaders is powerful and almost universal, yet very few vote for them.

how many people were there

140 million Americans have voted for America's next president, while all the rest of humanity knows that in a matter of weeks the code for launching a nuclear bomb will be handed over to Trump.

If this doesn't affect all of humanity, how else can we say that?

Similarly, the UK's referendum to leave the European Union will only be voted by millions of Britons, but either way the outcome will have a profound impact on the lives of hundreds of millions of people around the world.

But few people have the right to vote

is this a democracy

Decisions that affect all of humanity are being made by a very small group of people.

I don't know what you think, but I don't think this is democracy.

So I want to make this clear

But I will not interfere in internal affairs.

Candidates are only asked two questions

Each time, we send the same two questions to the candidates.

Question number one: If you are elected, what will you do for all of humanity, for the seven billion people living in other countries on this planet?

Second question How do you see your country's future in the world?

What role does your country play?

We are sending these questions to all candidates

not everyone will reply

If you're running for the next president of the United States, you're going to be extremely busy, so I wouldn't be surprised if you didn't get a reply, but a lot of candidates do.

Response rate is increasing

not just reply

Some people send me the most passionate and enthusiastic replies.

I want to mention Savior Chisimba, who recently ran for president of Zambia.

His response to the two questions was an 18-page editorial, outlining his vision of the role Zambia could play in the world and in the international community.

I posted it on the web so anyone can read it.

He won the Global Vote, but he lost the actual election.

So I wondered what was going on with these extraordinary people.

I mean the amazing people who won the Global Vote.

By the way, we always remove the results.

The people we elect are always different from the people elected by domestic voters.

It's also because we've always tended to vote for women.

And what we do know is that domestic voters still hold strong, nationalistic views.

they are still very domestically oriented

How does "I" benefit from this? I think

Which one should be in the present age for "us"? Nevertheless

It can't be helped

Please let me know what you think.Email me when you have an idea, even if it's not now.What to do with the glorious losers?

(Laughter) Savia Chisimba, mentioned earlier.

Halla Thomasdottir, she was the runner-up in the Icelandic presidential election.

Many of you may have seen this wonderful talk at TEDWomen a few weeks ago, where she said that we need more women in politics.

Maria das Neves in Sao Tome and Principe

Hillary Clinton

I don't know if she will participate.

green party jill stein

We also cover the next United Nations general election.

Former Prime Minister of New Zealand, he'll be a great addition to the team.

Maybe these people, the glorious team of losers, running around the world every election, will tell us that in this day and age, we need a little more extroverted thinking, and we need to think about international implications.

what will be the next global vote

Obviously, the Trump and Hillary show is a bit difficult to follow, so we'll be covering other high-impact elections.

In fact, such elections are on the rise.

As you all know, the world is changing.

The upcoming series of elections is of particular importance.

In the next few days, we'll have a re-vote in the Austrian presidential election, and it's expected that Norbert Hofer will become Europe's first head of a far-right party since World War II.

Next year is Germany, and France, Iran presidential elections and more than 10 others are coming up.

Far from diminishing in importance

becoming even more important

"Global Vote" is not a stand-alone project

rather than exist alone

I have a background

It was part of a project that started back in 2014, called Good Country.

The idea of ​​"Good Country" is basically simple

It's my straightforward analysis of the world's challenges and how to improve them.

I've already hinted at some of the world's challenges.

Fundamentally, what we're facing is a huge, growing, mighty, existential global problem: climate change, human rights violations, mass migration, terrorism, economic turmoil, and weapons proliferation.

All of these things are inherently globalized problems that could end humanity.

It is not a problem that each country can solve alone.

It's very clear that we, as a nation, should cooperate and work together to solve problems.

Obvious but not yet executed

not coordinated enough

Countries still mostly behave as if they were selfish tribes at war with each other, indeed, for hundreds of years since the emergence of nation-states.

this has to change

Rather than changing political systems and ideologies,

change the culture

We all need to understand that domestic thinking cannot solve the world's problems.

Collaborate on a greater scale, learn to collaborate, and reduce competition a little bit.

Otherwise, things will only go from bad to worse, faster than you can imagine.

Ordinary people must tell politicians to change the tide.

that the culture has changed

that the public's demands have changed

In the old days, the demands were simple and one-sided: when you assumed a position of power or authority, you only had to be responsible for your own people and a very small portion of your territory, and that was it.

And to do what's best for your own people, you had to deceive the rest of the planet, which is better.

A slightly macho example

In our time, every person in a position of power and responsibility has a dual mission. If you hold a position of power and responsibility, you have a responsibility to your people, and to every man, every woman, every child, every animal on the planet.

While it creates responsibility for its own territory, so does all the land on Earth and the atmosphere above it.

If you don't want to take on that responsibility, you shouldn't be in power.

For me, it's the rule of the day, the message that politicians should get through, and let them know that's the way things are today.

otherwise mankind will be in trouble

I myself have no complaints about Donald Trump's "America First" policy.

I think it's a very corny statement that politicians have said before, and probably will always have to say.

Of course they are people elected for the interests of their country.

But what I find boring, old-fashioned, and unimaginative is that for Trump, America First means putting everyone else on the back end. Making America great again means making others small again.

As a policy adviser, over the past 20 years, I've seen a great many examples of policies that successfully match international needs with domestic needs, and then come up with even better policies.

I'm not telling nations to be altruistic or self-sacrificing.

it's a silly story

there is no such country

I want you to wake up and show understanding that we need a new way of governing, one that is viable and one that is attuned to two needs: the well-being of our own people and the well-being of all other peoples.

Since the elections in the United Kingdom and the United States, I feel more and more that the old-fashioned line between right and left is meaningless.

It is impossible to fit into this mold

What's really important today is a simple question: Is your way of thinking about the world domestic and reassured by old ideas, or are you hopeful of looking abroad with new ideas like mine?

this is the new politics

It's a new boundary that divides the world in two.

It sounds like a hasty decision, but it's not.

I understand that many people find comfort in domestic and old-fashioned thinking.

In difficult times, when we're struggling financially, when we're feeling insecure and vulnerable, it's natural for us to become introverted.

But I consider it a dead end

history shows that

As we become domestically oriented and look back, humanity degenerates and the situation rapidly deteriorates for everyone.

But if you, like me, believe in the benefits of looking to the future and abroad, and that what is best for humanity is diversity, and that the greatest benefit of globalization is that by revitalizing that diversity and the mixture of cultures, it will make us more creative, stimulating, and more productive than ever before in human history, then, folks, we have one job to do. It's taking the world by storm with what appeals to instinct.

Those of you who share the same beliefs as I do and who care about the future and the world must unite because the time limit is ticking.

thank you

(applause)

I don't want to brag, but I'm a genius at finding things I don't like.

You could say it's my specialty

What do you remember when you hear 100 compliments and 1 insult?

you are an insult

Studies show I'm not alone

Unfortunately, the human brain is wired to focus on the bad.

In primitive times, it might have helped us avoid predators, but today, this way of life sucks.

Anxiety and depression are major causes

So how do you fight the negative thoughts that are ingrained in your brain?

According to various studies, the best way is gratitude.

When I found out about it, a few years ago, my family started a new practice.

I decided to offer a prayer of thanksgiving before my family's meal.

The word prayer is not correct.

I'm agnostic, so it's not so much thanks to God, but to the people who were involved in getting the food to me.

I thank the farmers who grew these tomatoes, the truck drivers who brought the tomatoes to the store, and the shop assistants who paid for the tomatoes.

I thought this was good practice

One day my 10 year old son said to me, "Hey Dad, those people aren't here.

I can't hear my daddy

If you really appreciate me, tell me directly."

i thought it was an interesting idea

(Laughter) I'm a writer, so I like to venture out to write a book.

embark on a journey of discovery

So I took my son's challenge and stood up.

seemed easy

To make things even simpler, I decided to focus on one food.

Morning coffee is a must for me

But in reality it wasn't easy at all.

(Laughter) This adventure will take months.

had to travel around the world

Because I realized that if it wasn't for the hundreds of people who usually don't care, I wouldn't have gotten my coffee.

First, I thanked the driver who brought the coffee beans to the store.

But I can drive because I have roads.

So I thanked the people who paved the road.

(Laughter) And then I thanked the people who made the asphalt for paving.

That's when I realized that my coffee, like so many other things in the world, can only be made by an incredible number of people from all walks of life working together.

Architects, biologists, designers, miners, goat herders — people of all walks of life.

I named my project "Thanks a Thousand."

Because in the end, I conveyed my gratitude to more than a thousand people.

It was incredibly difficult, but it was a great experience.

Because through this project, instead of looking at the three or four things that we usually see that aren't working, we're looking at the hundreds of things that are working.

I also felt that the world was incredibly connected.

I've learned many lessons, but I'll just focus on five.

The first point is to raise the line of sight

My gratitude journey started as a barista at a local cafe, Joe Coffee in New York.

The barista's name is Janggu. He's the brightest person out there.

She has a lovely smile and gives me a warm hug

But even for her, being a barista is hard work.

because you associate with people who are at risk

(Laughter) Yes, people who can't wait for their morning coffee.

(Laughter) I've had customers yell at me and I've cried.

I thanked Changgu and she thanked me for my gratitude.

I stopped there

I didn't want it to be an endless loop of gratitude.

(Laughter) Chang says the hardest part is not being treated as a human being.

everybody treat her like a vending machine

I don't even look up from my phone when I hand him my credit card.

As I listened to the story, I realized that I was too.

I was one of the customers I didn't like.

In that moment, I swore to myself that when I interacted with people, I would spend two seconds looking at them and making eye contact.

It's to make you feel like you're dealing with a human being, who has a family, a dream and embarrassing high school memories.

That moment of interaction is so important to the humanity and happiness of both you and the other person.

The second thing is to smell the roses, and the smell of soil and manure.

After Janggu, this man

thank you ed kaufman

Ed's job is to pick the coffee to sell at the cafe.

We travel around the world, including South America and Africa, to find the highest quality beans.

i say goodbye to ed

In return, he taught me how to taste coffee like a pro.

This is quite a ritual

First, scoop the coffee with a spoon and sip it loudly.

Loud like a cartoon

This is to spread the mist of coffee throughout your mouth.

You have taste buds on the inside of your cheeks and on the palate, so you need to taste the whole thing.

Ed drank like this, and his face lit up, and he said, "This coffee has flavors of honeycrisp apples and earth and maple syrup."

I took a sip and said, "What I feel is the taste of coffee.

(laughs) It tastes like coffee."

(Laughter) But Ed inspired me to try to let coffee sit on my tongue for five seconds, and we're all busy people, but we get five seconds.

I started to taste other foods in a similar way.

Taste is directly connected to gratitude

According to psychologists, gratitude means taking a moment and holding it for as long as possible.

And it seems to slow down the flow of time

Life often passes by like a blurry picture, but don't let that happen

And the third thing is to notice the hidden masterpieces around us.

One of the most memorable conversations of the year was with the man who invented the coffee cup lid.

Until then, I had almost never thought about coffee cup lids.

But I really enjoyed talking to the inventor, Doug Fleming, because he spoke so passionately.

The blood, sweat, and tears I shed for this lid were beyond my imagination.

They say a bad lid ruins your coffee

It can mask the aroma, which is very important when you enjoy your coffee.

he is so innovative

It's like the Elon Musk of the lid world

(Laughter) This lid that he designed has an upside-down hexagon where you can put your nose close to it and enjoy the scent to its fullest.

I enjoyed talking to him, but it also made me realize that if you look around, there are countless masterpieces that no one realizes.

For example, the switch on my desk lamp has an indentation that fits my thumb.

When it's done well, the process behind it is almost invisible.

But when you focus on it, it's awe-inspiring, and it can enrich your life.

Fourth, pretend until you actually feel it.

By the end of the project, I was in a state of gratitude.

In the hours after I woke up, I wrote emails, sent letters, made phone calls, met people, thanked them for their involvement in my coffee.

To be honest, some people are not so keen

I was like, 'What the hell is this?

MLM? what do you want what are you selling ”

But most people were surprisingly impressed.

I called the woman in charge of pest control at the warehouse where the coffee is stored.

I said, "This may sound silly, but I just wanted to thank you for keeping bugs out of my coffee."

She said, "It's definitely weird, but I'm very happy."

It was the exact opposite of nuisance calls

This call affected me as well as her.

I always wake up in a bad mood every morning, but I forced myself to write a thank you letter, and then another, and then another.

Over time, I realized that if I acted like I was grateful, I would eventually become truly grateful.

The power of action to change our minds is truly amazing.

We tend to think that our thoughts change our actions, but more often than not our actions change our thoughts.

The last thing I want to tell you is to practice the "six degrees of gratitude."

Along this path of gratitude, wherever you stop, you'll find 100 new people to thank.

I went to Colombia to thank the coffee bean farmers.

The farm was in a small town in the mountains, and we had to navigate a steep, curvy road.

And every time you make a sharp turn, the driver makes a cross.

I said, "Thank you for the cross-

(Laughter) But can you hold the steering wheel properly?

I'm so scared."

but somehow i got there

There, I met the Guanizo brothers, who are farmers.

They make great coffee on a small farm, and they say it sells for more than fair trade.

showed me how to grow coffee

The beans are inside a fruit called a coffee cherry.

thank you brother

They said, "We couldn't have made coffee without so many other people."

The machines that de-pulp the beans are made in Brazil, and the trucks that drive around the farm are made from parts made all over the world.

In fact, the United States also exports iron to Colombia.

So I went to Indiana and thanked the iron producers.

So I had a strong feeling that what it takes to make a cup of coffee is

One village isn't enough, it's the world

There are many shortcomings in today's global economy and globalization.

But the long-term benefits are huge, and I think we're making real progress.

In the last 50 years, we've improved in many ways, and the world's poverty is decreasing.

That's why we should resist the temptation to withdraw into our own world.

We must resist the rise of isolationism and nationalism.

this leads to the last story

It is to make gratitude an opportunity to practice

Some people worry that gratitude has its flaws.

If you just give thanks, you'll end up satisfied with the status quo

"Everything is great, I'm really grateful"

But what actually happens is the opposite

Research shows that the more grateful we are, the more likely we are to help others.

I can't concentrate on myself when I'm not feeling well

On the other hand, being thanked makes me want to reach out to someone else.

i have experienced this myself

Of course, I'm not Mother Teresa, and I still have quite a few selfish moments.

It's just that I'm better off than I was before this adventure.

Because through this adventure, I realized that exploitation is taking place in the middle of the supply chain.

I realized that what I take for granted is out of reach for millions of people around the world.

water for example

Coffee is 98.8% water

So I thought I should go and thank the hundreds of people who work in New York's reservoirs and bring me water, and the miracle of being able to turn on a faucet and have safe water.

Millions of people around the world don't have that luxury, and they have to walk for hours to get access to safe water.

And then I started thinking about what I could do to help people get water, and I did some research and found this wonderful organization called Dispensers for Safe Water.

now participate

I don't expect to win a Nobel Prize, but it's just a small step, a little practice.

It's all thanks to you

That's why I encourage people, friends and family to follow their own paths of gratitude.

because it's a life-changing experience

even if it's not coffee

whatever

It could be a sock or a light bulb

You don't have to travel the world to show a little thank you, like making eye contact or writing a thank you letter to the person who designed your favorite logo.

this is a matter of mindset

Realize that every little act of ours involves a multitude of people.

And don't forget that someone made the fabric of the chair you're sitting in right now in a factory --

Somebody went into a mine and dug copper and made this mic, so I was able to say thank you to all of you.

thank you so much for listening to me

(Applause) (Cheers)

Today I'm going to talk to you about statistics.

If you're quick to put your guard down, don't worry. Doubting statistics doesn't make you a crazy conspiracy theorist, just a skeptic.

We should be skeptical about numbers, especially now.

But we should also be able to distinguish which numbers are reliable and which are not.

Today I'm going to give you some tips to make that possible.

But before that, let me clarify what I mean by numbers.

It's not like this: "9 out of 10 women recommend this beauty cream."

Many people are always amazed by these kinds of numbers.

But what's being questioned now is this statistic: 5% unemployment in the United States.

The difference is that this is a government figure, not a private company.

4 out of 10 Americans don't trust government-reported economic data

Among Trump supporters, the percentage is even higher, seven out of 10.

As you all know, there are many divisions in society today, and the meaning of many of these divisions can be seen by understanding the relationship between people and government numbers.

On the one hand, there are those who say that statistics like this are essential, that statistics are necessary to understand society as a whole, to look beyond emotional anecdotes and to look objectively at how things are going.

On the other hand, some people say these statistics are elitist and manipulated.

Now, it feels like the second group has the upper hand.

We live in a world of "alternative facts," where people don't think of statistics as a common ground for understanding the world or as a starting point for discussion.

this is a problem

What we're really seeing right now in the United States is a move to delete some government statistics entirely.

Congress is in session right now, and there's a bill to investigate racial inequality.

According to the draft, government money should not be used to collect data on racism.

It would be a disaster if that happened

Without this data, how do we know about discrimination, let alone correct it?

In other words, if we can't measure the current inequality, how can governments make fair policies?

This isn't just about discrimination, it's about everything, okay?

How can we make health policy without solid data on health and poverty?

How can we have a public debate about immigration if we haven't even reached a common understanding about the number of people leaving and leaving?

The word statistics comes from state

It means measuring the population more accurately in order to provide better public services.

So we need government statistics, but we also have to change our attitude of blindly accepting or rejecting them.

You need to have the skill to spot false statistics

I started learning that skill while working in the statistics department at the United Nations.

Our job was to find out how many Iraqis have been forced out of their homes as a result of the war and what they need.

It was a very important task, but it was also incredibly difficult.

The decisions we make every day affect the accuracy of the numbers, like which part of Iraq to go to, who to talk to, what questions to ask.

And I became disillusioned with our work, because I thought we were doing a very good job, but the people in Iraq, who were supposed to know it best, rarely saw the analysis, and even less had the chance to verify it.

So I became very convinced that one of the ways to get more accurate numbers is to have as many people as possible verify them.

That's how I became a data journalist.

My job is to find data like this and disseminate it publicly.

Anyone can do it, you don't have to be an otaku

You can ignore those words. People who say things like that are people who want to pretend to be humble and say they're smart.

really anyone can do it

I'm going to give you three questions to ask, questions that can help you spot false statistics.

Question 1: Do you know the uncertainty of the data?

One of the things that has changed people's relationship to statistics and even their trust in the media is political polls.

I have a lot of personal thoughts about political polls, because the role of the reporter is to report the facts, not to try to make predictions.

Anyway, let's talk about the accuracy of this attempt.

If you look at national elections in the UK, Italy, Israel, and of course the recent US presidential election, using polls to predict elections is only as accurate as looking at the moon and predicting hospitalizations.

You're right, I used data from an academic study to draw this graph.

There are many reasons why polls have become so inaccurate.

Our society has become significantly more diverse, making it difficult for pollsters to obtain adequately representative samples.

People are really reluctant to answer polls over the phone, and shockingly, some even lie.

But when you look at the news, you don't necessarily know that.

Hillary Clinton's winning percentage, for example, was reported to the decimal point.

You don't use decimal places when you indicate temperature.

How can we accurately predict the behavior of the 230 million voters in this country?

And there was a fancy chart

Data visualizations often exaggerate certainty, and charts like these paralyze the brain's ability to think critically.

Hearing the stats might sound skeptical, but

As soon as it's charted, it seems like some kind of objective science, and it's actually not.

So I was looking for a way to better communicate with people about these uncertainties in numbers.

What I've done is take a real dataset and hand-paint it and visualize it, so that you can see the inaccuracies in the data, so that you can see that the statistics are compiled by humans, and that humans are discovering and visualizing the data.

For example, instead of calculating the probability of catching the flu by month, we could show the distribution of when the flu season is.

Like this -- (Laughter) it's not something you see in February.

But this is a more responsible visualization of the data. If we only show the exact probabilities, it could encourage people to get vaccinated at the wrong time.

The point of using a quivering line like this is not only to remind people of the inaccuracy of this, but to make them remember an important fact instead of just looking at a specific number and letting it go.

It's a fact that injustice and inequality leave a deep mark on our lives.

The fact that Africans and Native Americans have shorter life expectancies than other races, and that's not likely to change anytime soon,

The fact is that prisoners in the United States can end up in solitary confinement cells that are smaller than the average parking space.

These visualizations also remind people of some very important statistical concepts, like averages.

Let's say you hear something like, "U.S. pools have an average of 6.23 roughs."

That doesn't mean there are exactly 6.23 poop floating in every pool in this country.

To show this, I went back to the original data, which was a survey of 47 swimming facilities at the CDC.

I spent the night redoing the poop distribution.

You can see how averages can be misleading.

(Laughter) So the second question. To spot the wrong numbers, ask yourself: Can you fit yourself into the data?

This question is also about averages, in a sense, because part of the reason people are so frustrated with these national statistics is that they don't tell you who's losing or who's gaining from national policies.

It's easy to see why people are frustrated by aggregate averages that don't match their own experience.

I would like to present the statistics in a way that is relevant to everyday life.

I started an advisory column called "Dear Mona," where people write me questions and concerns, and I answer them with statistics.

every question came

“Is it normal for my wife and I to sleep in separate beds?”

"Do you regret getting a tattoo?"

"What does natural death mean?"

All of these are great questions, because they make me think about how to find statistics about these things and communicate them.

"How much does it mean to pee a lot?"

That's the question that was asked, but it's important to come up with a visualization that's easy for as many people as possible to understand.

These figures are not unavailable

Sometimes it's buried in the supplements of academic research.

And it's not something you can't track down.

(Laughter) And the big thing here is that each piece of data doesn't have to be particularly relevant to you.

I'm curious how many women in France have been fined for wearing the niqab (face veil), but I don't live in France and I don't wear the veil.

It's important to know the context as much as possible to figure out if it applies to you.

To do that, we can look at a single data point and look at the unemployment rate, which is 5 percent, and look at how it changes over time, or how it changes with education level.

These days, the unemployment rate for men is higher than for women.

Until the early 80's it was the other way around.

This is one of the biggest changes in American society, and if you look beyond the average, it's all on the chart.

The XY axis is important. Changing the scale changes what you're telling.

Okay, so the third and final question I want you to think about when you look at the statistics is how was the data collected?

So far, we've only talked about how data is communicated, but how data is collected is just as important.

This is a difficult one. The methods can be opaque and actually tedious, but there are easy steps to make sure of this.

I'll use one example, the last one.

One poll found that 41 percent of Muslims in this country support jihad, which is clearly terrifying.

When I want to see numbers like this, I start by looking for the original survey.

It turns out that the reporters who reported the statistic ignored a question at the back of the survey that was about respondents' definition of "jihad."

Most respondents defined it as "the personal and peaceful efforts of Muslims to become more religious."

Only 16% defined it as "a holy violent warfare against infidels."

And that's a really important point. Based on these numbers, it's very possible that none of the respondents defined jihad as "holy and violent warfare" and supported jihad.

These two groups may not overlap at all.

It is also important to ask about research methods

This case was called an opt-in poll, where anyone could find the survey online and complete the response.

There's no way to even know if the respondent is really Muslim.

Finally, 600 people responded to this survey.

There are roughly three million Muslims in this country, according to Pew Research Center data.

So only one in 5,000 Muslims in this country responded to the poll.

This is one of the reasons why government statistics are often better than private statistics.

The poll sample could be 200 or 1,000. In 2005, L'Oréal, which wanted to sell skin care products, polled 48 women to make claims.

(Laughter) The private sector isn't really interested in getting the numbers right.

government statisticians are different

At least in theory, government statistics are perfectly fair, because most people work regardless of who's in power.

they are public servants

And we don't just get responses from 200 people to do the job right.

That unemployment figure that I keep citing comes from the Bureau of Labor Statistics, which surveyed 140,000 businesses in the United States to come up with this estimate.

I know it's going to be troublesome

If you want to test the accuracy of statistics from private companies, buy face cream for yourself or a friend, try it, and if it doesn't work, you can say the numbers are wrong. But how do you question the accuracy of government statistics?

keep checking everything

I don't know how the government collected the numbers.

Make sure the chart shows everything you need to know.

But don't just lump all the numbers together, because that would leave public policy decisions in the dark and driven by private interests.

thank you

(applause)

It was a Saturday like any other

My father was mowing the lawn in the yard, my mother was upstairs folding the laundry, my sister was doing her homework in her room, and I was playing video games in the basement.

When I went upstairs to get a drink, I looked out the window, and I realized that my work was there, and this is what I saw.

Yeah, this is not our home cooking scene.

was my science project

Fire erupted, smoke came out, and the wooden deck looked like it was about to catch fire.

I immediately shouted

My mother panicked, my father ran around trying to put out the fire, and of course my sister started playing the video.

(Laughter) This was just the beginning of a project for my science team.

The team consists of me and three other students, all of whom are here.

We competed in the FIRST LEGO League, which was an international LEGO robotics competition for children, and not just a robot competition, but also another science project, and this is that project.

The idea for it all started a few months earlier, when some teammates traveled through Central America and saw beaches littered with Styrofoam and expanded polystyrene foam.

When they came back and told me about this, I started thinking about how we see Styrofoam every day.

when i buy a new tv

Comes with a piece of styrofoam that's bigger than the TV itself.

drinking coffee

A styrofoam cup will come out

Where do these things go after one use?

There's no effective way to dispose of used Styrofoam, so most of it ends up in landfills, oceans, and beaches, where it takes over 500 years to decompose.

In fact, nine million tons of Styrofoam are produced each year in the United States alone, and they continue to occupy 25 percent of landfills.

So why do we keep a pile of Styrofoam waste?

Why can't it be reused, like most plastics?

Simply put, recycled polystyrene is too expensive and can be polluting, so there's very little demand for recycled Styrofoam.

As a result, Styrofoam is considered a non-renewable material, because recycling polystyrene is neither viable nor likely to succeed.

In fact, many American cities have passed ordinances that simply ban the production of many products that contain polystyrene, including disposable cutlery, packaging stuffers, disposable containers, and even plastic toys, all of the products that serve society today.

And now France is the first country to ban all plastic utensils like cups and plates.

But what if we could continue to use Styrofoam, which is cheap, light, insulated, and convenient for packaging, without the negative consequences associated with Styrofoam disposal?

What if we could turn it into something else useful?

What if you could turn the impossible into the possible?

Our team hypothesized that we could use the carbon already present in Styrofoam to create activated charcoal, which is used in almost every water filter today.

Activated carbon has very small micropores that work to remove contaminants from water and air.

We started by doing various heating experiments, and unfortunately we failed a lot.

nothing really worked

On top of that, my father's grill caught fire and most of the samples evaporated to nothing, or exploded in his expensive fireplace into a hideous gooey wreckage.

In fact, I was so depressed by failure that I almost gave up.

Why do we keep trying when all the adults say it's impossible?

Maybe it's because we were kids and we had no choice but to do our best.

But the truth is, I didn't think it was possible yet.

I knew that if I succeeded, I could contribute to the environment and make the world a better place.

So we kept trying and failing and trying again and failing

I was ready to give up

But then I did

With the right temperature, time and chemistry, we finally got solid experimental results showing that we could make activated charcoal out of Styrofoam waste.

What was impossible at that moment suddenly became possible.

It was proof that we persevered and persevered in order to get the results we wanted, even though we failed a lot in the beginning.

On top of that, not only did we create activated charcoal to purify water, we also reduced Styrofoam waste, solving two global problems in just one way.

Since then, I've been more motivated to push the project further, and I've been experimenting with ways to improve the effectiveness of the method, and testing it in real-world situations.

And then we started raising money for the NSTA's eCYBERMISSION STEM-in-Action program -- sponsored by the U.S. Army -- which also won the Global Innovation award at FIRST, sponsored by XPRIZE.

It also won the American Science Innovation Award at the Google Science Fair.

With these funds, we plan to patent and continue working on our own projects.

Yes, I started by setting my father's grill on fire, and after failing so many times, I almost gave up, but in retrospect, it was well worth the effort.

He took on a problem that many people said was impossible, made it possible, and persevered when nothing else seemed to work.

I've learned that you can't succeed without a few or many failures.

So in the future, if the grill catches fire, don't be afraid, because your idea might catch fire too.

thank you

(applause)

Philosophers, playwrights, and theologians have grappled with this question for centuries: What makes a person go astray?

It's funny, I thought about this question when I was a kid.

I grew up in the Southern Bronx, in the slums of downtown New York. Like all inner-city kids, I grew up surrounded by evil.

My friends who were really good kids lived their lives like Robert Louis Stevenson's "Dr. Jekyll and Mr. Hyde."

I mean, I did drugs, I got in trouble, I ended up in jail.

Some died, some died for reasons other than drugs.

So when I read Stevenson it's not fiction

The question is what was in the juice? And more importantly, the line between right and wrong --

Lucky people want to believe that they're on the good side, that the other side of the line is the bad guy, that the line is immovable and impenetrable -- I knew that line was movable and permeable.

Good people can be tempted to cross the line, and bad children can be regenerated through rehabilitation, correction, and support in rare and fortunate circumstances...

Now, I'd like to start with a wonderful trompe l'oeil painting by the Dutch artist Escher.

Look at this, focus on white, and you'll see a world full of angels.

But if you look closely, you'll gradually see the demons, the world of demons.

this implies a lot to us

One is that the world is full of good and bad, because good and bad are yin and yang in the human condition.

You can also say that, you all know

God's Favorite Angel Was Lucifer

Lucifer means "light"

In some Bibles it means "the morning star"

Apparently he disobeyed God, which would mean the ultimate rebellion against authority.

When Lucifer rebelled, the Archangel Michael was sent to banish him from heaven along with the other fallen angels.

And Lucifer goes to Hell, becomes Satan, becomes the devil, and that's where the power of evil in the universe begins.

It was God who created hell as a storehouse of evil, so to speak.

Evil couldn't be kept locked up This God's favorite angel turned into the devil

The act of cosmic transformation sets me up for understanding the transformation of human nature from the average good guy to the root of evil.

Although the Luciferian effect focuses on the negative side -- the negative side that a person can become, not the denial of a person's existence -- it leads to a psychological definition: Evil is the use of force.

That's the key: It's a matter of power.

It physically harms, fatally destroys people and ideas, and commits crimes against humanity.

If you Google the word "evil," you'll get 136 million hits in a third of a second.

A few years ago -- in the midst of a controversial war, you were probably as shocked as I was when the abuse of prisoners by American soldiers was exposed in a strange place -- Abu Ghraib, Iraq.

This was the men and women who were causing the prisoners to experience unbelievable humiliation.

I was shocked, but not surprised, because when I was the director of the Stanford Prison Experiment, I had seen footage that looked exactly like this.

The Bush administration immediately said

When there's a scandal, everyone says the same thing: we're not at fault, it's not the system's fault, it's the rotten apples.

There were just a few bad soldiers mixed in."

My hypothesis is that American soldiers are usually good people.

It's probably the barrel that was rotten.

But how can we prove that hypothesis?

I became an expert witness for Sgt.

I met him and observed him

I invited him over to my house and got to know him and gave him a psychiatric evaluation to see if he was right or wrong.

Third, I've seen all 1,000 photos taken by soldiers.

it was violent or sexual

All were taken by American soldiers' cameras.

They all had digital cameras and camera phones, and they were taking over a thousand pictures.

I divided it into different categories

They are reservists of the military police

I am not a trained soldier for this mission.

The incident happened only in underground floor 1A during the night shift.

I wonder why? 1A was the center of military intelligence.

The CIA was there where the interrogation took place.

There were also investigators from the Titan Corporation, everyone.

You pressured the soldiers and gendarmes in the field to cross the line Break their will and prepare them for interrogation Make them weak Make them lose self-control In a roundabout way

This is the result of that interpretation

Take a look at that dungeon 2003 Abu Ghraib Prison Gendarmerie photos ... contain nudity and violent images

(Dull sound) (Camera shutter sound) (Dull sound) (Breathing sound) (Bell sound) It's so cruel

This is an example of visualizing evil.

Don't miss this, the reason I combined Leonardo da Vinci's human body with a prisoner with outstretched hands is because this prisoner was mentally ill.

He smeared himself with feces every day, and the guards would roll him in the mud to get rid of the smell.

And they used to call this prisoner him a fucking boy

What was he doing in that prison instead of going to a psychiatric hospital?

In any case, former Secretary of Defense Rumsfeld

They come to the scene and say, "Who's in charge? Who's the rotten apple?"

this question is wrong

You really should ask, "What's causing this?"

Because the "what" could refer to a person, or it could refer to a situation, which is clearly a misunderstanding.

How does a psychologist go about understanding this shift in human nature, if we believe that these soldiers were good soldiers before they fell into the labyrinth?

There are three methods Mainstream is attribute attribution

It's a way of looking inside a person, a rotten apple.

It's the foundation of all social sciences, it's the foundation of religion, it's the foundation of war.

When social psychologists like me come along, they say, "Of course, people are stage actors. Rather, they have to be situational."

Who is your character's personality? what is the costume?

Do you have a stage director? we are more concerned with external factors

What surrounds an individual Rotten barrel?

Social scientists stopped there and missed an important point, an important point that I discovered when I became an Abu Ghraib appraiser.

power is in the system

A system creates the conditions in which an individual degenerates, and that system is the legal, the political, the economic, the cultural context.

Power creates rotten barrels in the system.

If you want to change people, change the situation.

If you want to change things, you have to know where the power in the system is.

The Luciferian effect involves a transformation of the human personality and an understanding of these three elements.

it's a dynamic interaction

What do people bring to the situation?

What does the situation bring to a person in return?

What is the system that creates and maintains that situation?

My recently published book, "The Lucifer Effect," discusses how to understand the transformation of good guys into bad guys.

And it's full of details about what I'm going to talk about today.

Dr. Z's "Lucifer Effect" focuses on evil, but it really celebrates the limitless capacity of the human mind. Anyone can be kind or ruthless, empathetic or indifferent, creative or destructive.

There's a good story that I'm hoping to reach in the end, and some of them will be heroes, in this funny "New Yorker" cartoon.

My whole story is summed up, "I'm neither a good cop nor a bad cop, Jerome.

Like you, it's a synthetic substance with a complex mixture of positive and negative characteristics.

(Laughter) So here's an experiment that some of you know.

This is Stanley Milgram, who grew up in the Bronx as a Jewish kid. He asked, "Could the Holocaust happen here now?"

People say, "No, it's the German Nazis. It's Hitler. It's 1939."

He asks, "But if Hitler ordered you to electrocute a stranger?" "I can't. I'm a good person."

500 in New Haven and Connecticut 500 in Bridgeport The ad says, "Psychologists are trying to understand memory.

To improve people's memory, because memory is the key to success." Okay?

"We'll pay you $5 -- $4 for your time."

He also said, "No college students. Recruiting men between the ages of 20 and 50."

-- We also experimented with women later -- Ordinary people: barbers, clerks, white-collar people

When you go there, one will be the student and one will be the teacher.

The learner is a mild-mannered middle-aged person

He's tied up in a shock device in another room.

Some of the learners were middle-aged, some were young people in their twenties.

And the white-coated authority tells the teacher, "Your job as a teacher is to give this person material to learn.

Reward if correct

If you make a mistake, press the button on the electric shock box

The first button is 15 volts and he won't feel anything."

This is important. All evil starts with 15 volts.

And the next step is to add another 15 volts.

And that goes all the way to 450 volts, and that's the problem.

As the experiment progresses, the man screams, "I'm heartbroken. Get me out of here!"

A good teacher complains to the authorities.

"If something happens to him, who will take responsibility?"

Researchers say, "Don't worry, I'll take responsibility.

Go on sir." The question is, who's going to raise it to 450 volts?

At 375 volts it says "DANGER SEVERE SHOCK"

"XXX" at this point: It's a pornographic shock

(Laughter) Milgram asked 40 psychiatrists, "What percentage of Americans do you think will make it through?"

They said 1 percent, this is abusive behavior.

1% of Americans are known to be sadistic

here's the data they were totally wrong

Two-thirds went to 450 volts in the first run.

Milgram conducted over 16 experiments, see this one.

In the 16th experiment, 90% of the time, people like you make it to the end.

In the fifth experiment, as you can see, 90 percent resisted.

what about women? Experiment 13 Same as Male

Milgram quantified the degree of evil in people who blindly submit to authority and go as far as 450 volts.

It's like a dial in human providence

It's like a dial, a scale that goes from almost everyone obeying to most not obeying at all. Where do experiments and the world connect? All research is artificial.

How valid is it in the real world? In 1978, 912 Americans were killed in the Guyana jungle.

They've been killed or committed suicide by family and friends because they blindly followed this man's pastor, not a priest, pastor Jim Jones, and he persuaded them to commit mass suicide.

He's a modern-day Luciferian effect, a saint becoming an angel of death.

Milgram's experiment shows that personal authority controls people.

People spend most of their time in institutions, and the Stanford Prison Experiment is a study of institutional authority influencing individual behavior.

Interestingly enough, Stanley Milgram and I were high school classmates in James Monroe in the Bronx in 1954.

I did this experiment with graduate students, among them Craig Haney, and we also started with advertising.

We didn't have a lot of money, so we put out a small, cheap ad, recruiting college students to participate in a prison life experiment.

We had 75 applicants, and we took a personality test.

do an interview and be the most normal

recruited 24 healthy individuals

Randomly assigned prisoners and guards

And on day one, we started experimenting with good apples.

i put them in a bad situation

Second, we're between the boys who become guards and the boys who become prisoners.

We also knew it made no difference.

What we didn't say is that the real city police are actually coming to make the arrests.

A police car pulled up in front of me, and a policeman knocked on my door and said they were looking for me.

And there they took me out the front door and put my hands on the car.

It was a real police car, a real cop, and there were real neighbors on the street who didn't know this was an experiment.

Cameras were everywhere, neighbors were everywhere.

They put me in the car and drove me through Palo Alto.

When I got to the police station, I was taken down into the basement and put in a cell.

I was the first to be brought and put in solitary confinement.

It was like a room with bars on the door.

I thought it was a real prison They locked me in a nasty little room

They took this experiment too seriously...

There are prisoners here who are being dehumanized and they become numbers.

The guards, symbols of power and anonymity, are here

Guards force prisoners to clean toilets with their bare hands, perform humiliating tasks, strip them naked, and sexually humiliate them.

They enforce homosexuality, etc.

begins to coerce demeaning behavior

You saw an Abu Ghraib soldier imitate a blowjob

My security guard did this in five days, the stress reaction was so extreme.

Ordinary children, who were adopted because they were healthy, were exhausted within 36 hours.

The experiment ended after six days because it got out of control.

Five children were mentally debilitated.

Is it any different than changing a warrior's appearance as they head into battle?

Did their anonymity make any difference in how victims were treated?

Some cultures don't change their appearance when they go to war.

There is also a culture of wearing masks.

Many soldiers wear uniforms, anonymity.

So this anthropologist, John Watson, organized the 23 cultures into two axes.

do they change their appearance? 15

Will they kill, torture, mutilate? 13 If they don't change their appearance

Only 1 out of 8 kills, tortures, or mutilates. The key is in the red zone.

if they change their appearance

12 out of 13 -- 90 percent -- kill, torture and mutilate

that's the power of anonymity

What are the seven social processes that grease a slippery slope?

taking the first small step without thinking

Strip away the humanity of others and deindividualize yourself

Obfuscate personal responsibility and blindly submit to authority

Follow group standards uncritically

passively tolerate evil through negligence or indifference

And it happens for the first time and in unfamiliar circumstances.

Your Habitual Response Patterns Are Not Working

Your personality and your morality are set apart. "There is nothing easier than blaming the bad guys.

"There is nothing more difficult than understanding him," says Dostoevsky.

Understanding is not making excuses Psychology is not an apology

Sociological and psychological research reveals how ordinary good people can be transformed without drugs.

We don't need drugs, we need social and psychological processes.

Does it reflect the real world? Compare this photo with this photo

James Schlesinga says, "Psychologists have sought to understand why individuals and groups that normally behave in a humane manner sometimes behave inhumanely in certain situations."

That's the Lucifer effect

"Stanford's research is groundbreaking and the lessons learned apply to all military operations."

If you give someone authority without oversight, it's a prescription for abuse, and they knew it and let it happen.

Other Reports In an investigative report by Major General Fay

he says it's the system that's bad

It's that environment that made Abu Ghraib responsible for the occurrence of such abuses was the failure of leadership and the fact that it went undetected by the higher ups for so long...

Those abuses lasted three months. Who was watching?

no one was watching. I don't think anyone intended to see it.

He gave the guards permission to do those things, and they knew no one would ever descend into that dungeon.

A paradigm shift is needed in all these areas

Change is moving away from a medical model that focuses solely on the individual.

It's a shift towards a public health model that recognizes that situations and systems are vectors of disease.

Bullying is a disease Prejudice is a disease Violence is a disease

And ever since the Inquisition, we've been dealing with issues on an individual level, you know? didn't work

Aleksandr Solzhenitsyn said that the line between good and evil is

It is said to be in every human heart

So there are no boundaries outside

it's a personal thing you have to decide

I would like to conclude with a brief and positive statement.

Heroism as a silver bullet against evil by promoting heroic imagination, especially in children, in the educational system.

We want our children to think that I'm a waiting hero, and that when the time comes, I'll act as a hero.

I focus on understanding heroes and what they call heroic qualities.

ordinary people doing heroic deeds

It takes a stand in contrast to Hannah Arendt's "banality of evil"

Our Traditional Social Heroes Are Wrong

Because they are exceptional, their lives are centered on heroism, and that's why we know their names.

And the children's heroes are also role models for their lives, because they have supernatural talents.

We want children to understand that heroes are mostly ordinary people and that heroic deeds are extraordinary. This is Joe Darby.

He's the man who stopped the abuse you saw.

When he saw the footage, he gave it to a senior investigator.

He's a private and that stopped him Is he a hero? no

He had to hide because people were afraid they would harm him, his mother, his wife, and for three years they were hiding.

This is the woman who stopped the Stanford prison experiment.

You said the experiment had gotten out of control, but I was in charge of the experiment.

I didn't know it was spinning out of control, and I was totally indifferent.

She looked at the chaotic place and said, "What you're doing to that boy is terrible.

They're not prisoners, they're not guards, they're boys, and you're in charge."

And I canceled the experiment the next day.

Luckily, I married her the next year.

(Laughter) (Applause) Clearly, I'm feeling sane again.

Circumstances have power

The point is that the same situations inspire the imagination of malice in some people, make us perpetrators of evil, and heroic imaginations in others, and the same circumstances do.

you are on this side or that side

Many will be found guilty of negligence, and their mothers will say, "Don't get involved, just do your own thing."

You should say, "Mom, humanity is my problem."

The Psychology of Heroes -- Coming Soon -- How to Encourage Kids to Take New Heroes Courses I'm working with Matt Langdon, who runs the Heroes Workshop, to develop and teach how to give heroic imagination and autosuggestion to "I'm a hero in waiting."

To be a hero, you have to learn to be a misfit, because you're always going to defy the obedience of your group.

There are two keys to being a hero. A: You have to act when others are passive.

B: You must act socially, not self-centered.

Finally, some of you will end with a familiar story about Wesley Autry, the hero of the New York subway.

A 50-year-old African-American construction worker was waiting for a train on the New York subway.

white man fell on train tracks

The subway is approaching, there were 75 people.

everyone freezes

there was a reason he didn't get involved

He was black and the one who fell was white, and he had two small children.

But he left his kid with a stranger, jumped off onto the tracks, put a white man in between the tracks, lay on top of him, and the subway passed over him.

Wesley and a white man: 20 and a half inches tall (52cm)

Train gap is 21 inches (53.3cm)

Half an inch away and his head was about to fly.

He said, "I did what anyone could do."

Jumping off a railroad track is a no-brainer, and the moral obligation is, "I did what everyone else should have done."

one day you're in a new situation

If you take course 1, you become the culprit of evil.

Evil means you'll be Arthur Andersen

Cheating or overlooking bullying the weak

Path 2: Convicted of Passive Inaction

Path 3: You become a hero The point is that heroes who are ordinary people

Seize the opportunity and turn the image into action Are you ready to take that course? because it may only happen once in a lifetime

If you let it go, you'll always think I could have been a hero, but I let it go

The point is to think first and then do it. Thank you everyone. Thank you. Thank you.

Let's resist the forces of the evil system at home and abroad and focus on the good.

Let us respect the dignity of the individual and advocate for justice and peace, although sadly our government does not.

Thank you very much. (Applause)

Have you ever heard about why breast milk is free?

(Laughter) This is a pretty funny story.

As any mother knows, it's a lot of work, because you're liquefying your body, you're literally melting your body.

(Laughter) It sucks, which is why we're mammals.

At Arizona State University's Comparative Lactation Lab, I'm analyzing the composition of human milk to understand the complexities of human milk and its impact on early childhood development.

The most important thing I've learned is that mothers and children are inadequately supported.

Neglecting mothers and babies is an act of neglecting everyone who loves mothers and babies.

It's time to move away from simple solutions and simple slogans and start working on nuances.

I was lucky enough to stumble upon this nuance very early on, firsthand, when I was first interviewed by a reporter who asked me, "How long should an infant be breastfed?"

The word "should" confused me, because I don't want to say what a woman "should" do with her body.

Babies thrive because breast milk serves as food, medicine, and signaling.

Breast milk is a complete food for young infants, providing the body with the nutrients it needs, shaping the brain and providing energy for activity.

Breast milk also feeds microbes that colonize the baby's intestinal tract.

Not only does the mother feed for two, but she also nourishes a myriad of gut bacteria.

Breast milk builds immunity and resistance to pathogens, and the hormones in breast milk promote the development of the infant's body.

But in recent decades, we tend to forget the value of breast milk.

I stopped looking at breast milk as commonplace.

And when I think of milk, I came to think of it as standardized, homogenized, sterilized, bagged — powdered, seasoned, artificial nutrition.

I neglected the affection of breast milk and turned my priorities to other things.

The National Institutes of Health (NIH) in Washington, D.C. is home to the National Library of Medicine (NLM), an intellectual repository of life science and biomedical research with 25 million articles.

This database is keyword searchable, and a search yields nearly a million papers on "pregnancy," but far fewer on "breast milk" and "lactation."

If you look at the number of research papers specific to breast milk, you can see that coffee, wine, tomatoes, etc. are better studied.

(Laughter) ED is being studied twice as much.

(Laughter) I'm not saying you don't need to know. I'm a scientist, and I think you should know everything.

But when it comes to breast milk -- (Laughter) -- we're so ignorant that it's the first liquid that a baby mammal ingests -- and we should be angry.

9 out of 10 women will have one or more children in their lifetime

That translates to nearly 130 million newborns every year.

Mothers and children deserve the best scientific research

Recent research has shown that milk not only promotes physical growth, but also provides energy for behavior and shapes neural development.

A 2015 study found that when a mother's milk mixes with a baby's saliva -- especially the baby's saliva -- a chemical reaction produces hydrogen peroxide that kills Staphylococcus aureus and salmonella.

Studies in humans and other mammals are beginning to show that the composition of breast milk can vary biologically depending on the sex of the baby.

In the neonatal intensive care unit (NICU), when it comes to access to donor breast milk and commercially available artificial nutrition, there's almost a single standard.

We don't even think about it, but there are considerable sex differences in baby growth patterns and rates, and breastfeeding is one of them.

With this information, most mothers attempt to breastfeed, but many do not reach the breastfeeding goals they set for themselves.

It's not your fault, it's our fault

A growing number of medical problems these days — obesity, endocrine disorders, caesarean sections, and premature birth — can all interfere with the mother's lactation.

And many women do not have access to informed medical support.

Twenty-five years ago, the WHO and UNICEF set standards for baby-friendly hospitals. Baby-friendly means providing optimal levels of support for mother-infant bonding and infant and toddler nutrition.

Only one in five babies in the United States today is born in a "baby-friendly" hospital.

This is a problem, because every minute, every hour, every day, every week, mothers face problems during breastfeeding.

Remembering the breastfeeding posture can be difficult, and you may feel some pain.

There should be smart clinical staff who are familiar with these processes during breastfeeding.

I get calls from moms who struggle with these issues, and they're trembling and tearing up and saying,

"It's not going well

breastfeeding should be natural

How come it's not going well? ”

Just because something is evolutionarily old doesn't mean it's easy and anyone can do it anytime soon.

You know other behaviors that are evolutionarily old, right?

(Laughter) It's sex.

You don't think you can do it right the first time

(Laughter) In order for clinicians to be able to provide the most appropriate care for everyone, they need ongoing education about how best to support breastfeeding and lactation.

And continuing education requires linking it to cutting-edge research in both the life and social sciences, because what we have to recognize is that historical trauma and underlying bias often create a divide between mothers and clinicians.

the body is political

Breastfeeding support is not sufficient unless it is multifaceted

And moms who have to go back to work sometimes have to go back to work just days after giving birth, because in countries like the United States, they don't have paid parental leave.

Without institutional support to strengthen the mother-infant bond and support breastfeeding, simply by informing mothers about breastfeeding in order to optimize maternal and infant health, how would that work?

it won't work

I am electing Congressmen and Congressmen -- I say to voters

To Employers and Unions Who Conduct Collective Bargaining To All Employees And Stockholders

All of us are deeply involved in the health of our society as a whole, and we all have a role to play in making that happen.

Breast milk is part of improving human health

In the NICU, when a baby is born prematurely or with a disease or disability, breast milk and the bioactive components in breast milk can be very important.

In environments, ecosystems and areas where the risk of infection is high, breast milk can be a very effective defense.

In emergencies such as typhoons and earthquakes, and when safe water is not available, such as during power outages, breast milk can keep your baby hydrated and nourished.

And if you're in a situation of humanitarian crisis, like a Syrian mother fleeing a conflict zone, a tiny drop can save your baby from a global challenge.

But understanding breast milk isn't just about sending messages to mothers and policy makers.

By understanding the importance of breastfeeding, we can improve formula-fed formulas and help mothers who for one reason or another choose not to breastfeed.

We can do a better job of supporting diverse mothers in different ways of parenting.

As women around the world struggle for political, social and economic equality, we must rethink motherhood not as a core attribute of femininity but as one of the potentials that make women great.

now is the time

(applause)

One day in a dimly lit bar in Madrid

I ran into my colleague at McGill University, Michael Meaney.

We had a beer together, and he told me about his work, as all scientists do.

His interest was in the act of mother rats licking their newborn pups.

So I said, "My tax dollars are being wasted on that. (Laughter) On this kind of 'soft science.'"

So he began to explain that just as humans are different in their parenting styles, mother rats also lick their babies in different ways.

There are mothers who are very dedicated to parenting, there are mothers who are almost indifferent, and most are somewhere in between.

But what's even more interesting is when these baby rats grow up, long after their mothers die, the equivalent of many years later in humans.

they have completely different personalities

Individuals that have been licked and groomed more diligently are therefore more relaxed.

their sexual behavior

Their way of life was different from those whose mothers cared less about them.

So I thought, could it be magic?

What does it mean?

Geneticists might explain that if the mother carries a "bad gene," the offspring will be less tolerant to stress, and that will be passed on to future generations, so the genes will determine everything.

But is it possible that something else is going on?

We can use rats to find the answer to this question.

So I experimented with exchange feeding.

They assign the pups to two types of adoptive mothers, not real mothers, but they nurse them: the mothers who lick a lot and the mothers who don't.

Children of mothers who did not lick much were assigned mothers who licked frequently.

Surprisingly, the genes from the mother didn't matter.

It wasn't the birth mother that determined the rat's characteristics.

It was the mother who took care of the baby rats.

What do you mean?

I'm an epigenetics researcher

I'm interested in how genes are chemically marked during embryogenesis, while we're still in the mother's womb, to determine which tissues express which genes.

Different genes are expressed in the brain than in the liver and eyes

So I thought, could mothers, through their behavior, reprogram their children's genes?

And over the course of 10 years, we discovered that biochemical processes play a role: mothers grooming and licking their babies translate into biochemical signals that travel to the cell nucleus and then to the DNA to reprogram them and change them.

So that's how the rat prepares itself for the rest of its life. Is it going to be a tough life?

Is the environment rich in food?

Is it an environment with many cats and snakes? Or is it an easy life in an upper-class neighborhood where all you have to do is behave yourself to be socially acceptable?

Think about how important that process is to our lives.

we inherit the DNA of our ancestors

DNA is old

Evolved with human evolution

But it doesn't predict whether you'll be born in Stockholm, where summers are long and winters are short, or where you'll be born in a country like Ecuador, where daytime is half day and night half year round.

even though it has a big physiological impact on us.

Our idea is that the signals given by the mother, perhaps soon after birth, tell the child what kind of social environment awaits them.

If it's going to be a tough environment, it's bound to feel sharp and stressful, and if it's going to be a gentle environment, it's bound to feel different.

Is it a bright or dim environment?

Is it an environment with too much or too little food?

In a food-poor environment, the brain learns to gorge on food whenever it becomes available, and the body learns to store it as fat rather than waste it.

this is good

Thus, evolutionary selection allowed this ancient, fixed DNA to function dynamically in a variety of new environments.

Well, sometimes it doesn't work out, for example, if you were born into a poor family, the signal would say, "Eat as much as you can. Eat whatever you can see."

But humans and their brains have evolved, and they've accelerated their evolution.

You can buy a McDonald's hamburger for a dollar.

So the information passed on by the mother is maladjusted to the current situation.

The genetic code that was supposed to protect us from famine and starvation instead leads to obesity, cardiovascular and metabolic diseases, and more.

The idea that genes are imprinted with experience, especially early in life, provides a holistic explanation for both health and disease.

Is this a phenomenon that only occurs in rats?

The problem is that humans can't do this kind of experiment, and ethically, we shouldn't torture children randomly.

If poor children develop certain traits, it's not clear whether it comes from poverty or whether poor people have bad genes.

Geneticists would point to genetic factors that made the poor poorer.

Epigeneticists would say that poor people live in bad or destitute environments, and that they develop a phenotype with this trait.

So I looked at monkeys that are closer to humans

My colleague Stephen Suomi raises monkeys in two different ways. He randomly took the monkeys away from their mothers and raised them with other females, surrogate mothers.

These monkeys were raised by nannies, not mothers.

other monkeys are raised by their own mothers

And when they grew up, they were completely different.

Monkeys who grew up with their mothers showed no interest in alcohol and were not sexually aggressive.

Without mothers, the monkeys became aggressive, intolerant to stress, and alcoholics.

We looked at their DNA right after they were born. Could it be the mother's imprinting?

Is there a mother's mark in the child's DNA?

It's a 14-day-old monkey, and this is how I'm currently studying epigenetics.

Today, we can identify the locations of these chemical marks, called methylation marks, and map them across the entire genome at single-nucleotide resolution.

So you can compare monkeys that had mothers and monkeys that didn't.

Here's a chart of that information.

Genes that are more methylated are in red

Genes with relatively low methylation are shown in green.

You can see how many genes are changing, and the absence of a mother affects everything, it sends all the signals about what life will be like when that child comes of age.

The two groups of monkeys are very different from each other.

How early does this develop?

These monkeys have the social experience of not seeing their mother.

Is there a sense of social status at the moment of birth?

In this experiment, we took placentas from monkeys of different social classes.

Interestingly, there is a hierarchy of social status in the social structure of all organisms.

The 1st ranked monkey is the boss The 4th ranked monkey is the servant

Putting four monkeys in the same cage always determines the boss monkey and the servant.

What's interesting is that the number one monkey is much healthier than the number four monkey.

And when you put them in the same cage, the first place monkey doesn't eat as much.

4th place monkey eats a lot

What this methylation mapping reveals is a surprisingly striking distinction between high-status monkeys and low-status monkeys.

So we're born with social information already, and that information isn't about good or bad, it's just something that allows each of us to be biologically programmed and prepared for life, whether we're at high or low social status.

But how should we study humans?

You can't use people for experiments or put them in difficult situations.

But there is an experiment that God does on humans called a natural disaster.

Canada's most severe natural disaster in history is Quebec's

A big snowstorm in 1998

A big snowstorm knocked out the power grid, and the temperature in Quebec dropped from -30 degrees to -35 degrees.

There were mothers who were pregnant at the time.

My colleague Suzanne King tracked the children's development over 15 years.

What happens when stress is high? Here's an objective stress measure: How long did you spend without electricity? where did you spend that time?

Was it my mother-in-law's apartment or a splendid mansion in the suburbs?

After you've incorporated this information into your social stress scale, you ask yourself the question: What happened to the children?

Children with more stress had higher rates of autism, higher rates of metabolic disorders, and higher rates of developing autoimmune diseases.

When we map the methylation status, the green areas turn red with increasing stress, and the red genes turn green with decreasing stress. Genome rearrangement occurs in response to stress.

If we could program our genes -- what if we could erase the programs written in our genes instead of becoming slaves to the history written in them?

Because epigenetics triggers metabolic and psychiatric disorders.

Let's talk cocaine addiction

Cocaine addiction is a terrifying thing that can take your life.

Our thinking was, could we reprogram the addicted brain to make the addiction disappear?

We used a model of cocaine addiction that mimics human symptoms.

In humans, if a high school student is offered cocaine by a friend and smokes it, nothing happens.

A few months later, something triggers me to remember my first pleasure, I give in to the temptation of a cocaine dealer, and I end up becoming a drug addict, which changes my life.

I'm going to do this experiment with rats.

My colleague Gul Yadid gives rats cocaine and then discontinues cocaine for a month.

Then the color of the cage at that time reminded me of the first taste and pleasure of cocaine.

rats go crazy

Hold the lever until you die to get the cocaine.

The first change we identified in these rats was that the epigenome had been rearranged during the period when cocaine was not available to them and nothing was happening.

Their genes are modified in some way, and something triggers them to express this addictive phenotype.

So we gave these rats drugs that either promote DNA methylation of the epigenetic markers of interest or decrease the epigenetic markers.

And what we found was that increasing DNA methylation made rats more desperate.

want more cocaine

But when we reduced the methylated DNA, the rats were no longer toxic.

I was able to reprogram them.

The fundamental difference between epigenetic drugs and other drugs is that epigenetic drugs remove the imprint of experience, and after that, you can't go back to that state unless you go through the same experience.

the rat was reprogrammed

After 30 days, or 60 days, when you look at the animals again, which is many years in human time, the effects of a single epigenetic drug show no signs of addiction.

So what have we learned about DNA?

DNA isn't just a string of letters, it's not just a scenario.

DNA is a dynamic movie

Our experiences are being written into interactive movies.

It's like you're watching a movie called DNA that tells the story of your life.

Actors can be ejected or cast.

Despite the deterministic nature of genes, they can control inherited phenotypes. This is a very optimistic message that we can treat serious diseases like cancer and mental illness as maladaptives and approach them in new ways.

If we can intervene epigenetically, we can kick an actor out of a movie and start a new story.

So what I'm talking about today is that our DNA is made up of two components: two layers of information.

Old information layers have evolved over millions of years.

It's fixed and hard to change

The other is the epigenetic layer, which is flexible and dynamic, and that unfolds interactive narratives that give us a great deal of control over our destinies, helping our children's destinies, and hopefully helping us overcome the diseases and serious health problems that have plagued humanity for so long.

Whether we're shaped by our genes or shaped by our genes, there's still room for freedom to direct the life we ​​live in our own responsibility.

thank you

(applause)

In the late 19th century, scientists were trying to solve a mystery.

What they discovered was that if you ran a high voltage through a tube like this, strange things would happen.

This is called a cathode ray

But the question was, what is this?

In England, in the 19th century, the physicist J.J. Thomson did experiments like this with magnets and electricity.

and made a great discovery

These cathode rays were made up of negatively charged particles that were 2,000 times lighter than the smallest known hydrogen atom.

This is how Thomson discovered the first subatomic particle, now called the electron.

At the time, this seemed like a totally impractical discovery.

Thomson didn't think you could apply electrons.

I used to make a toast in my lab in Cambridge like this: "Cheers to electrons, to no one's benefit."

(Laughter) Thomson believed that we should do research for curiosity, so that we could better understand the world.

Thomson's discovery revolutionized the scientific world.

It also caused an unexpected revolution in the world of technology.

I want to argue today that curiosity should be the driving force behind research, because without them none of the technologies I'm going to talk about today would have come to fruition.

Thomson's discovery actually changed our perception of reality.

I'm standing on stage and you think you're sitting in chairs.

It's just the electrons in your body pushing against the electrons in your chair, resisting gravity.

In fact, I haven't even touched the chair.

It's just slightly floating above the chair.

But in many ways, modern society is built on this discovery.

These vacuum tubes were the beginning of consumer electronics.

And for a long time, if you remember, many of us had a CRT television in our living room.

But how poor my life would have been if cathode rays were only used to watch silly TV shows.

(Laughter) Fortunately, the tube was just the beginning, because when the electron touched the metal in the tube, something else happened.

let me show you

undo this

When an electron suddenly stops inside a metal, its energy is released again in the form of high-energy rays called x-rays.

(clack) (clack) And within 15 years of the discovery of the electron, X-rays were being used to show the inside of the human body, helping doctors find bullets and shrapnel inside soldiers, saving lives.

But we wouldn't have gotten this kind of technology just by asking them to build advanced surgical probe technology.

It's research driven by curiosity that doesn't think about how to apply it, and that's why discoveries like electrons and X-rays were born.

Vacuum tubes also opened the door to our understanding of the universe and the field of particle physics, because it was also the first particle accelerator that was very simple.

I'm an accelerator physicist, so I'm trying to design particle accelerators to understand the motion of particle beams.

My field is a little bit different because it's an eclectic mix of curiosity-driven research and the practical application of technology.

But it's the combination of the two that makes me so passionate about research.

In the last 100 years there have been too many examples to mention.

I would like to introduce you to a little

In 1928, physicist Paul Dirac found something strange about the equation.

And I made a prediction based purely on mathematical intuition, and I thought there must be another kind of matter, the opposite of normal matter, a matter that annihilates everything when it comes in contact with it -- antimatter.

At the time, it seemed like a silly idea.

Discovered 4 years later

Today, positron emission tomography and PET scans are used every day in hospitals to detect disease.

so is x-ray

If you increase the energy of the electrons to a thousand times higher than that of a vacuum tube, the resulting X-rays can produce enough ionizing radiation to kill human cells.

And if you can create these X-rays and control what they're emitting, you'll be able to do amazing things, you can treat cancer without resorting to drugs or surgery, it's called radiation therapy.

In countries like Australia and England, half of cancer patients are treated with radiation therapy.

So particle accelerators are standard equipment in most hospitals.

And on a more personal level, if you have a smartphone or a computer -- TEDx, you probably have both right now.

Inside such a device is a chip that is made by implanting single ions into silicon in a process called ion implantation.

Particle accelerators are used for this.

None of this would have existed without curiosity-driven research.

Over the years, we've been able to look inside atoms.

To do that, we had to develop particle accelerators.

The original accelerators were able to split atoms.

And then I was able to use more and more energy, and I was able to build a circular accelerator that could probe inside the nucleus and create new particles.

By that time, we weren't just studying the insides of atoms anymore.

We can now manipulate different particles.

We have become able to interact with the world on a scale so subtle that we cannot see it, touch it, or even perceive its existence.

And I built a larger particle accelerator because I wanted to learn about the nature of the universe.

The deeper we dig, the more new particles we discover.

In the end, they built a giant wheel-like machine that had two beams of particles going in opposite directions, condensing them into a narrower width than a human hair before they collided.

And then, using Einstein's formula, E=mc2, we take this energy and transform it into new matter -- new particles from the universe itself.

Today, there are 35,000 particle accelerators worldwide, not including televisions.

Inside each marvelous machine, hundreds of billions of tiny particles dance and twirl in systems more complex than the birth of galaxies.

Ladies and gentlemen, I can't even put into words how amazing it is to be able to do this.

(Laughter) (Applause) So I urge you to invest your time and energy into curiosity-driven research.

Jonathan Swift once said, "Vision is the art of seeing the invisible."

That's exactly what J.J. Thomson did more than 100 years ago when he figured out the subatomic world.

It's because of the challenges we face today that we should invest in curiosity-driven research.

It takes perseverance, too. We must give scientists the time, the place, the tools, to continue this quest, because history teaches us that if we stay curious about our findings and keep our minds open, more world-changing discoveries will be made.

thank you

(applause)

I was 10 years old when I learned what the word "genocide" meant.

In 2003, we were brutally attacked, just because of our ethnicity. Hundreds of thousands were killed, millions were displaced, and the country was torn apart by the government itself.

My father and mother immediately began vociferously denouncing this dire situation.

I didn't understand what that meant, but I knew it was tearing my parents to pieces.

One day, I saw my mother crying, and I asked her why she was burying so many people.

I don't remember the words my mother used to explain genocide to my 10-year-old daughter, but I still remember how I felt.

We felt so alone, as if no one could hear us and no one could see us.

This was the first time I wrote a poem about Darfur.

I want people to hear us and see us. With that thought in mind, I wrote a poem.

it's easy to get people to look

You know, I'm a young African woman with a scarf on my head, an American accent, and a story that makes me look forward to even the worst of Monday mornings.

But it's hard to convince people that it's worth watching.

One day in high school, I realized this in class, when my teacher asked me to give a presentation on Darfur.

As I was setting up the projector, a classmate said to me, "Why are you talking about that?

You know how we feel

(Laughter) As a 14-year-old, I didn't know how to repay that child, and then -- how to explain the pain I felt every time I was told not to talk about "that thing."

The child's words brought me back to my days in Darfur, where we were kept in silence, unable to speak over our morning tea, because the noise of the fighter jets overhead drowned out all sound, and that not only were our voices not worth listening to, we had no right to even exist.

But then something magical happened, and as the students began to take their seats in the classroom, I began to speak, reliving the feeling of not even being there, not my place, not having the right to break the silence.

As my story progressed and my classmates listened, that fear faded away.

I calmed down and felt safe

I could hear their grief and wailing together, I could feel their arms beside me, and a solid wall seemed to hold us together.

It was far from isolation.

I choose poetry because poetry is intuitive.

When someone stands in front of you and says, "Look at me," wholeheartedly and wholeheartedly, you can't help but show your humanity.

Everything changed for me

I had the courage

I feel the power of "seeing" every day.

Now it's my turn Will you look at me?

I'm handed the mic and the tension is on my shoulders and I feel crushed

A woman says, "Refugees fleeing South Sudan hit a record 1 million.

Please leave a comment."

Swinging and swaying in the high-heeled shoes my mother bought me, I try to dodge Should I stay or is it safer to run away?

Those numbers echo in my head, 1 million gone, 2 million displaced, 400,000 dead in Darfur.

This nugget of numbers gets stuck in my throat, like every single corpse has found a graveyard right here in my esophagus.

My former homeland was restless North and South East and West Not even the Nile could hold us together But you say hold us together

As if it's already gone, they say the numbers, As if half a million people haven't died in Syria, As if 3,000 haven't had their last struggles on the bottom of the Mediterranean Sea, As if they don't have a report on the facts of this genocide and want me to write it.

In fact, I never spoke at breakfast because the sound of fighter planes drowned out my voice.

In fact, my grandfather didn't want to leave home, so he died in a war zone.

In fact, even a bush that doesn't burn out is just a fire if it's not under God

I measure the distance between what I know and what it's okay to speak into the microphone

do you talk about sorrow? Are you talking about forced evictions?

Can you handle that violence? That things aren't as simple as they look on TV? How many weeks of terror are there before the cameras start rolling?

Are you talking about the many corpses? 60% water but still burning like driftwood and fueling sacrifices?

The men who die first Have you ever seen your mother show them the slaughter?

Have their hands reached out to their children, and have they scattered them across the continent until their homes have sunk?

A bomb can sink a castle?

Are you talking about those old people too? Our heroes, too weak to run, even a bullet wasted, they made the old people walk, hands up, rifles to their backs, into the fire.

Did their wands keep the flames alive?

Broadcast over cable, too tragic to reach viewers

So merciless, like the stench of our rotting corpses in the valleys.

Is poetry still good?

Will a line of poetry gently envelop the corpse?

If I use euphemisms, will the pain be less?

If I don't cry Will you listen to me properly?

Will the pain go away with Mike?

Why does every word feel like the last word?

30 seconds of sound bite 3 minutes of poetry

Just as we die and turn to ashes my tongue thirsts it was never charcoal

I felt numbness in my left leg and before I knew it, I was holding my knees in a defensive position.

Never wear shoes that can't run

thank you

(Applause) Now, let's end on a positive note. Paradoxically, that's my life, where I learned to cry the most, and then I learned to laugh.

Then

"You have a great imagination, or you can cry in 400,000 ways."

Tribute to Zeinab

I'm a sad girl But my face doesn't look that way Put all your energy into this smile Don't waste it in pain

The first thing they robbed me of was sleep, heavy eyelids and wide eyes, wondering if I had missed something, if the cavalry were still coming.

But they don't come so I bought a bigger pillow

(Laughter) My grandmother could fix anything.

My grandmother said, "You're the kind of girl who can make even a cellar thief laugh in the middle of a war."

War breaks the vows of husband and wife out of sorrow

I just want to disappear, but in my heart I can't bear to leave behind

But joy, joy is armor that you can take beyond your ruined hometown

A loose mix of stories and people will remain long after the taste has faded.

The memories of the muscle movements that are hammered into my brain will survive even the toughest days Sprinkled in my memories are the days I laughed until I cried, or the days I cried until I laughed

Laughter and tears are both unconscious human reactions, testament to our expressiveness.

So let me tell you, if I made you laugh, it's usually because I wanted to.

If I make you cry, I still think you're beautiful

I dedicate this to my cousin Zeinab Zeinab in bed one afternoon

I hadn't seen her since we met in Sudan, but I was at her bedside in a hospital in a 400-year-old building in France.

Zeinab wanted to hear poetry

Suddenly English, Arabic, and even French aren't enough

All the words I know have become empty sounds Zeinab says don't delay

(Laughter) I read everything I could think of, and we laughed together, I loved it, and it was the most important time in my life, surrounded by family, surrounded by the shadows of people who were married to a dastardly war, but managed to make their lives shine, surrounded by people who taught me not only to laugh, but to live on the brink of death.

Zeinab Zeinab Taught me love in a place like France Zeinab wanted to hear a poem on his deathbed Dilated fibromyalgia

A disease in which the heart muscle continues to expand and cease to function.

Being held by her made me feel radiant

I said, "Zeinab, it's funny, you're too big-hearted to do it."

thank you

(applause)

More than 6,000 light-years away from the Earth's surface, there's a rapidly spinning neutron star, the Black Widow Pulsar, that orbits each other every nine hours, emitting radiation to its binary brown dwarfs.

Standing on this earth, you would seem to be just an observer of this dance.

But actually these two stars are pulling you in.

And you're trillions of kilometers away, but gravitational pulls you back Trillions of kilometers, gravitational pulls you back.

Gravity is the force of attraction between two objects that have mass.It works on any object that has mass.

So everything in the universe is attracting everything -- stars, black holes, humans, smartphones, atoms -- all constantly attracting each other.

So why don't we feel the pull in all directions?

There are two reasons: mass and distance.

The first equation describing the force of attraction between two bodies was written by Isaac Newton in 1687.

Since then, scholars' understanding of gravitation has advanced, but Newton's law of universal gravitation is still a good approximation for most situations.

It's a law like this: the gravitational force between two bodies is equal to (the mass of one body times the mass of another body) multiplied by a very small constant called the universal gravitational constant, then divided by the square of the distance between the bodies.

Doubling the mass of one object doubles the force acting between them.

If you double the distance between objects, the force will be four times as strong.

The gravitational pull between you and the Earth is pulling you toward the center of the Earth, and you feel this force as your weight.

For example, if this force is 800 newtons at sea level

At the Dead Sea, this force would increase by only a small percentage.

At the summit of Mount Everest, this force diminishes, again by a very small percentage.

The higher you go, the less gravitational effects you have, but you can't escape gravitation.

Gravitational force is produced by the curvature of space-time, which is three dimensions plus time, the distortion that occurs around any object that has mass.

Earth's gravitational pull reaches the International Space Station, which is 400 kilometers above the Earth, with almost the same strength.

If the space station were to rest on a giant pillar, it would have 90 percent of the gravitational pull it would have on Earth.

Astronauts experience weightlessness because the space station is constantly falling to Earth.

It's flying around the Earth fast enough to stay on track.

If you could go to the moon's surface 400,000 kilometers away, the gravitational pull of the Earth would be less than 0.03% of the gravitational pull on Earth.

You'll only feel the moon's gravitational pull, which is one-sixth as strong as Earth's.

As you go farther away, the pull of the Earth on you continues to decrease, but never goes to zero.

Even though we are safely standing on Earth, we are still weakly attracted by distant celestial bodies and nearby objects on the ground.

The sun is exerting a force of 0.5 newtons on you

Even your smartphone, a few meters away, is exerting a force of a few trillionths of a Newton.

This is about the same gravitational pull between you and the Andromeda galaxy, which is a galaxy 2.5 million light years away, a trillion times the size of our sun.

There is also a loophole that frees you from the gravitational pull.

If everything that has mass around us is constantly pulling on us, if we dig a tunnel deep underground, if we don't get burned or crushed by the heat, how would the earth's gravitational pull change?

Assuming the Earth is a perfect sphere -- which it really isn't -- if you hollow out the center, you'll have exactly the same amount of gravitational pull on all sides.

You'll be floating in the air and you won't feel your weight.

So the only thought-experimental way to escape Earth's gravity is to go straight to the center of the Earth.

In the movie "Interstellar," we were able to see a supermassive black hole up close.

Against a backdrop of bright gas, the black hole's massive gravity bends light into a ring.

But this isn't a real photograph, it's a computer graphic, an illustrator's imagination of what a black hole might look like.

100 years ago, Einstein published his general theory of relativity.

Since then, scientists have found a wealth of evidence to support this theory.

However, the black holes predicted by this theory have not yet been directly observed.

We have a few ideas about what a black hole might look like, but we haven't taken a single real picture of it yet.

But you'd be surprised if it's possible any time soon.

You'll see the first images of a black hole in years.

The first shot was taken by a team of scientists from around the world, an Earth-sized telescope, and an algorithm that assembles it into a single image.

I can't really show you a picture of a black hole today, but I'm going to give you a behind-the-scenes glimpse of what it took to get that first one.

My name is Katie Bouman and I'm a graduate student at MIT.

I work in a computer science lab, trying to get computers to recognize photos and videos.

I'm not an astronomer, but I want to show you how I've contributed to this exciting project.

If you escape the city lights tonight and head out into the countryside, you'll be rewarded with a spectacular view of the Milky Way galaxy.

If you could go through millions of stars and zoom into the center of a spiral galaxy 26,000 light years away, you'd end up with a central cluster of stars.

It's been more than 16 years since astronomers began using infrared telescopes to observe these stars, which are obscured by space dust.

but you're not seeing what you want to see most

The star at the center of our galaxy appears to orbit around an invisible object.

After tracking the orbits of these stars, astronomers have concluded that the only object of size and mass that can cause this motion is a supermassive black hole, which is so dense that it engulfs anything that comes near it -- even light.

What happens if we zoom in further?

Can we see things that by definition cannot be seen?

If we observe it with a radio telescope, we should be able to observe the ring of light that is formed by the gravitational bending of the hot plasma around the black hole.

So the black hole casts a shadow against this bright background, creating a spherical darkness.

This bright ring is called the black hole's event horizon, and from here on out the gravity is so strong that not even light can escape.

Einstein's equations predict the size and shape of this ring, so taking a picture of it would not only be pretty cool, but it would also help us see if Einstein's equations hold in the extreme conditions around the black hole.

But this black hole is so far from our Earth that the rings appear incredibly small, as small as you can see an orange on the moon's surface.

That's why it's so incredibly difficult to photograph these rings.

Could I ask the reason?

The answer lies in one simple equation

There is a fundamental limit to the size of what we can observe because of the phenomenon of diffraction.There is a fundamental limit to the size of what we can observe.

According to that equation, the smaller you want to see, the bigger your telescope has to be.

But even the largest optical telescopes on Earth can't even come close to the resolution needed to photograph the surface of the Moon.

Here's a picture of the moon as seen from Earth, taken at the highest resolution currently available.

This photo is about 13,000 pixels, but there are more than 1.5 million oranges in one pixel.

What size telescope would you need to see an orange on the moon, or even that black hole?

If you do the math, it's easy to see that you need a telescope the size of the Earth. (Laughter)

If we can build an Earth-sized telescope, we can start to see a special ring of light that marks the event horizon of a black hole, and this picture is as good as a computer graphic.

It's not very detailed, but it's the first time we can reliably get a glimpse of what's going on around a black hole.

But, as you might imagine, it's impossible to build a telescope out of a single reflector the size of the Earth.

But as Mick Jagger sang, "You don't always get what you want, but if you keep trying, you'll get what you need."

And in an international project called the Event Horizon Telescope, which is connecting telescopes around the world, we're trying to make a computer-powered Earth-sized telescope that's capable of capturing the event horizon of a black hole.

In 2017, we plan to use this network of telescopes to take the first picture of a black hole.

This plan will link telescopes on a global scale.

Synchronized with precise timing by atomic clocks, at each station, a team of researchers captures all the light and collects trillions of bytes of data.

This data is then processed here at the Massachusetts Observatory.

I'll explain a little more how it works

If you want to see the black hole at the center of our galaxy, you need an impossibly large, Earth-sized telescope.

But let's say once we can build an Earth-sized telescope.

Think of the Earth as a giant spinning disco ball.

Each mirror collects light and is combined into a single photograph.

Now let's get rid of most of the mirrors and leave just a few.

We can still put this information together, but this time there are many holes.

This remaining mirror shows the observation point where the telescope is located.

That's an incredibly small amount of observational data to fit into a single photograph.

We can only collect light in the few places where telescopes are placed, but as the Earth rotates, we get other observations.

So when the disco ball rotates, the mirrors change position so you can see different parts of the image.

An image processing algorithm under development will fill in the missing parts of the discoball to recreate the image of the black hole hidden there.

If you could put telescopes all over the surface of the earth, if the disco ball were perfect, then this task wouldn't be difficult.

But since we only have a small amount of observational data available, there are an infinite number of images that perfectly match the small amount of telescopic observations.

But not all images are equal

There are images that are closer than others to what we think black holes are.

To take the first picture of a black hole, I'm responsible for developing an algorithm to find the most rational image that matches the telescope data.

Just as caricature investigators use their knowledge of the structure of the face to create a single picture from the slightest information about their features, I use an image processing algorithm I'm developing to combine the limited observational data into a single picture suitable for a celestial body in space.

And with this algorithm, we can put this sparse, noisy data together into a picture.

So I'm going to show you an example of a reconstruction using data from a simulation where we point the telescope at the black hole at the center of our Milky Way galaxy.

This is only a simulation, but being able to reconstruct it in this way gives us hope that soon we will be able to reliably photograph the first black hole and determine the size of its rings.

I would love to tell you all the details of this algorithm, but luckily you don't have enough time.

I'm going to give you a quick rundown of how we determine how the universe looks and how we use algorithms to reconstruct and check the results.

Now, there are an infinite number of images that can perfectly match the telescope data, and we have to somehow sort them out.

We rank these images according to their degree of approximation to the image of the black hole and pick the one that is the most appropriate.

make it a little easier

Let's think of a model that decides whether a photo on Facebook is likely or not.

With this model, I would expect the result to be that it's very unlikely that the noisy photo on the left was posted, and that the selfie on the right was much more likely.

The middle photo is blurry and more likely to be seen on Facebook than the noise photo on the left, but less likely than the selfie.

When it comes to photography of black holes, this is a difficult question, because we've never seen a black hole.

In this case, which one is the image of the black hole, and which one should we assume as its structure?

We could use simulations like the black hole image in "Interstellar," but then there would be a serious problem.

What will happen if Einstein's theory doesn't hold?

We want to reconstruct an accurate picture of what is happening.

If we put too much Einsteinian theory into our algorithm, we end up seeing what we expected.

So I want to leave open the possibility that there is a large elephant at the center of the galaxy.

(Laughter) Different types of images have very distinct characteristics.

The difference between images of black hole simulations and everyday photographs taken on Earth is obvious.

So we have to tell the algorithm what an image looks like without overemphasizing certain types of features.

One way to do this is to highlight features of one image type over another and see how they affect the reconstruction.

If we get similar images from all of the different image types, it's going to strengthen our confidence that the resulting images won't be significantly affected by the assumptions we've made.

This is a bit like giving the same information to three caricature artists from all over the world.

If all three of them draw very similar faces, it's going to strengthen their confidence that the resulting painting isn't influenced by their respective cultures.

One way to reflect the characteristics of different image types is to use parts of the image that already exist.

It collects a lot of images and breaks them down into smaller image pieces.

Then you can use each piece of the image like a puzzle piece.

Using that common puzzle piece, put together an image that matches the telescope observations.

Different types of images give different feature sets of pieces.

What would happen if we reconstructed the image using different sets of pieces based on the same observations?

Let's use a piece taken from a black hole simulation.

well that's reasonable

This is similar to what we think black holes look like.

But did this happen because we used a piece of a black hole simulation?

So let's use another set, this time from a celestial body that isn't a black hole.

nice very similar

And finally, what about puzzle pieces made from everyday photographs that you might have taken with your own camera?

i did it i got the same picture

Once we get the same image from all the different sets of puzzle pieces, we start to feel confident that the final image is not significantly affected by the assumptions we've made.

Another way is to use a single set of puzzle pieces, for example, a set obtained from everyday photographs, to reconstruct different kinds of images.

The simulations not only assume that the black hole resembles other celestial bodies, but also that there's an elephant-like, everyday photograph-like shape at the center of the Milky Way galaxy.

If the image that's generated using the algorithm at the bottom of the chart looks a lot like the real photo at the top of the chart, that's going to make the algorithm more convincing.

I just wanted to let you all know that all of these images are pieces from everyday photographs that you have taken with your own camera.

A picture of a black hole that we've never seen before would eventually be possible if we put together pictures of people, buildings, trees, dogs, and cats that we see all the time.

This kind of image processing idea would allow us to take the first picture of a black hole, and to support a famous theory that scientists have always based.

Of course, this kind of image processing idea wouldn't have been possible without the incredible team of researchers I'm honored to work with.

The wonderful thing is that I didn't have any background in astronomy when I started this work, but through this unique collaboration, we may be able to get to the first image of a black hole.

Large-scale collaborations, such as this Event Horizon Telescope, are successful when diverse people bring their interdisciplinary expertise to the table.

Our team is a melting pot of astronomers, physicists, mathematicians and engineers.

What was once thought impossible will soon become possible

I want you all to go out there and help us push the boundaries of science, even if it seems like a black hole at first, as a mystery.

thank you

(applause)

No one wants to pay you what you're worth

No one pays you what you're worth.

The other party only pays you for the value you set yourself The other party only pays you for the value you set

You control the other person's thoughts.

(Laughter) Hopefully that's great.

But instead, I use this method: clearly defining and communicating your worth is essential to being rewarded for your ability.

Do you want good rewards?

After all, it's true, so this story is useful for everyone.

Effective for any position

Useful for managers, employees, and job seekers alike

It doesn't matter if you are male or female

I'm going to talk to you today from the perspective of a female business owner, because I've seen for a long time that women are paid less than men because of the nature of their work.

The gender pay gap in America is well known.

According to the U.S. Bureau of Labor Statistics, women earn just 83 cents for every dollar men earn.

It may come as a surprise to all of you, but this trend is spreading to business owners as well.

Women business owners only get 80 cents for every dollar men make.

In my work, I often hear from women that they feel hesitant to self-promote their abilities, especially as a female entrepreneur who is just starting out.

They say, "I don't like bragging."

"I will prove it in my work"

"I'm not good at self-praise"

Very few male business owners would say that, and this difference would translate into a 20 cents on the dollar gap.

So I'm going to tell you about a consulting firm that is dramatically improving the profitability of its clients.

it's about my company

After a year in business, I noticed that more and more clients were succeeding in increasing their profits with my consulting services, and I realized that I needed to reassess my pricing.

My reward was cheap for the value I produced.

I'm a pricing consultant, so it's hard to accept.

(Laughter) Pricing is my job.

I advise companies on pricing for value.

And yet I found myself in that situation, and I sat down and asked questions that touched the heart of evaluation, to determine my own worth and my rewards as well.

Where are my customers' needs and how do I meet them?

What are my unique strengths that enable me to better meet customer needs?

What am I the only one doing?

What problems am I solving for my customers?

What kind of added value do you provide?

By answering these questions, I've figured out the value my clients get from working with me, and I've calculated the return on investment, and I've found that if I don't get paid twice as much, I'm not going to be interested.

To tell you the truth, I was horrified by this.

I was supposed to be an expert in this field, but I put myself on the shelf.

certainly created value

And yet, while I was convinced of its value, I was deeply afraid.

What if the reward is not paid?

"That's ridiculous"

What do you do when a customer kicks you out?

Am I really worth it?

It's not my job, it's my worth

Am I worth it?

I am raising two girls on my own.

I am a single mother

What if the job fails?

What if it goes bankrupt?

But I have a way of applying the magic bullets that I prescribe to my clients.

was already ready

confident in my worth

So when a prospect came to me, I wrote a proposal with a new, higher fee, and presented it to them, telling them the value I was offering.

What happened then?

Contracts with customers have been extended.In addition, the number of referrals and recommendations to other companies has increased, and my company continues to exist.

I bring this up because it's natural and normal to have doubts and fears.

But don't let those emotions determine your worth, and don't let them undermine your earning power.

Let me tell you another story about a woman who learned how to communicate values, and who actually did so in her own words.

She ran a successful web design company and employed several people.

In the first few years of her founding, she used to say, "I run a small web design company."

I used to explain this to my customers.

"Small web design company"

All these little things, in the eyes of prospects and customers, made her look like she was hurting the company, and she was devaluing herself.

It's come to the point where it's affecting her ability to make a profit.

Perhaps her language and manner of speaking conveyed the impression that she lacked value to offer.

I was just using my own words to sell my work on the cheap.

So she set out to take responsibility for communicating her value to her customers and changing their perception.

I told her that the important thing is to speak in your own words, to speak in words that are genuine and heartfelt.

Don't try to imitate your sister-in-law because she's a good salesperson or your neighbor because she's a good joker if you're a different type.

Let go of the idea that you're bragging

I'm talking about the other person

If you talk about services and added value, it doesn't sound like bragging.

"What do you like about your job?"

"What do you enjoy about your work?"

By connecting to such a story, you can naturally talk about your values.

So she embraced her own way, found her own way of thinking, changed the impression she made.

For example, I stopped calling my company "a small web design company."

I discovered many strengths and powers in sending out messages from myself.

Now she charges three times as much for web design as she used to, and her business continues to grow.

He recently had a meeting with a surly, sometimes troublesome customer, to check on progress on search engine optimization.

My old girlfriend would have been intimidated by this kind of meeting, but she had changed her mind.

She compiled the information, sat down with the customer, and said, "This is not about me, it's not personal, it's about the customer."

She read the data and numbers with the customer, explained trends and progress in her own words and ways, and then said bluntly, "Here's what we've done."

"Okay, let's go ahead," said the customer, convinced.

She described this moment as follows: "I no longer feel the fear, the panic, the intimidation that I used to have.

On the contrary, I thought, "Okay, I can do it.

I did my best, let's have confidence." It's very important to be evaluated correctly.

You'll find that there's a meaning behind this story that extends far beyond just finances to the realms of self-esteem and self-confidence.

I talked about two things today. One is to articulate your values, and the other is to communicate your values.

It is the addition of these two

If you in the audience aren't getting paid for what you're worth, let's figure this out together.

Imagine what your life would be like, how far you could go, how much you could give back, how much you could plan for the future, how much you would feel valued and respected—what if you were rewarded for what you did and you maximized your worth?

no one will pay you what you're worth

Your partner will only pay you for the value you set for them, so change their values.

thank you

(applause)

There was an article in the Yale Alumni magazine about Clyde Murphy, a black man who graduated in 1970.

Clyde's career has been illustrious

After studying law at Yale and Columbia, he spent 30 years as one of America's leading civil rights lawyers.

He was a good husband and a good father

A successful man both professionally and personally, Clyde's life came to a tragic end.

In 2010, at the age of 62, he died of a pulmonary embolism.

Clyde's example is not uncommon

Many of my black classmates who graduated from Yale died young.

In Clyde's article, he said, 41 years after graduating from Yale, blacks who graduated in 1970 had a mortality rate more than three times higher than the average for their entire class.

amazing fact

In recent years, a constant source of criticism in America has been the high number of unarmed black men shot dead by police.

The bigger problem is that every seven minutes in America, a black person dies prematurely.

That means more than 200 black people die every day who wouldn't die if there were no health disparities between blacks and whites.

For the last 25 years, I've devoted myself to researching why race affects health so much.

When I first started my research, the prevailing theory was that it's because people have different incomes and educational backgrounds.

We found that it wasn't just the person's financial situation that affected their health, but there were other factors as well.

For example, if you look at life expectancy at age 25, you'll find that there's a five-year gap between blacks and whites.

And for both races, the difference in life expectancy by education level is greater than by race.

In addition, regardless of educational background, whites live longer than blacks.

As a result, white high school dropouts live 3.4 years longer than black high school dropouts, and the gap is even wider for college graduates.

Most surprisingly, whites with high school degrees live longer than blacks with a college degree or more.

What causes race to have such a large impact on health?

Besides education and income, what makes the difference in life expectancy?

In the early 1990s, a book about the health of black people in America came out and I was asked to write a book review.

Amazingly, most of the 25 chapters said that racism was the determinant of black health.

Researchers uniformly claimed that racism was a detrimental factor, but provided no evidence to back it up.

I didn't understand

A few months later, I had the opportunity to speak at a conference in Washington, D.C., and said that one of my research priorities should be documenting how racism harms our health.

A white man listening to me stood up and agreed that racism was an important factor, but said he could not assess its impact.

"Self-esteem can be measured," I replied.

"If you give it your all, there's no reason why you can't appreciate the impact of racism," he said.

And I put all my effort into creating three criteria.

The first is whether or not you've been unfairly dismissed or unfairly questioned because of your experience of significant racism.

In addition to this kind of discrimination, there are also minor things that are difficult to judge, so the second criterion is called "daily discrimination criteria", and we created nine items to capture experiences such as being treated less kindly than others, being treated worse than others when eating out or shopping, or being scared.

What this measure shows is how the dignity and self-esteem of those who are socially marginalized are routinely eroded.

Studies have shown that the greater the degree of racism, the greater the risk of various diseases, including blood pressure, abdominal obesity, breast cancer, heart disease, and, at worst, premature death.

Some diseases, in particular, can start at a very young age.

For example, one study found that black youth who experienced severe discrimination in their teens had higher levels of stress hormones, high blood pressure, and were overweight by age 20.

Yet the stress of discrimination is just one example.

Racism has serious health consequences in other ways as well.

For example, there is discrimination in medical settings.

In 1999, a panel invited by the Institute of Medicine to participate made the scientifically-based argument that the quality of care given to blacks and other minorities was worse than that given to whites.

This claim could be applied to any medical service, from the simplest of treatments to the technically complex.

The explanation for this phenomenon is a phenomenon called "unconscious bias" or "unconscious discrimination."

Decades of research by social psychologists have shown that unconsciously holding onto negative stereotypes about a particular group can discriminate against people from that group when you meet them.

will be treated differently than normal

It's unconscious work, and the brain takes care of it.

It's a decision that's hard to notice, but it's a common practice that happens to even the very best of people.

As we delve deeper into the effects of racism on health, we find that the effects are less visible.

There is something called structural discrimination, which is discrimination that is rooted in the way society works.

As a result of racial segregation, blacks and whites live in very different local environments, and this is a prime example of systemic racism.

One of America's little-known secrets is that racial segregation is the secret cause of racial inequality.

In America, where you live determines your educational and career opportunities, even your housing and access to health care.

A study of 171 cities in the United States came to the conclusion that none of the white cities had the same living conditions as the blacks, and that even the worst white cities were far better off than the average black community.

Another study found that statistically eliminating residential segregation would completely eliminate disparities in income, education, and unemployment rates between blacks and whites, and reduce the gap in single-mother households between blacks and whites by two-thirds, all negative effects of segregation.

There's also the story of how negative stereotypes and images that have been directed at black people have created and perpetuated both structural and individual discrimination.

A group of researchers has put together a database of books, magazines, articles, and other books that the average college-educated American will read in their lifetime.

This database is open to the public and allows them to look at the verbal connections they've seen growing up in American society.

For example, in American culture, what words does the word "black" appear with?

"poor" "violent" "religious" "sloppy" "cheerful" "dangerous"

For "white," on the other hand, the words that are often used together are "rich," "progressive," "mediocre," "stubborn," "successful," and "educated."

That's why, if a police officer sees an unarmed black man and sees him as violent and dangerous and overreacts, the police aren't inherently bad guys.

Maybe he's just a typical American, raised in this society, and his actions reflect his experiences.

And speaking from my own experience, I don't think that racial differences will determine the rest of your life.

Before I moved to the United States, I lived in St. Lucia in the Caribbean.It was in the late 1970s, and I moved there in search of a better education.In the last 40 years, I've been successful.

I've had a supportive family, I've worked hard, and I've been successful.

There was a chance

I received a minority scholarship from the University of Michigan.

Yes, thanks to affirmative action.

without this i wouldn't be here

And yet, in the last 40 years, America's black community hasn't been as successful as I am.

In 1978, black households earned 59 cents for every dollar earned by white households in the United States.

In 2015, black households still earned 59 cents for every dollar white households earned.

For a white household's economic power on the dollar, blacks are 6 cents, Latinos are 7 cents.

So racism has created a very unequal system in America, where some races are at a systemic disadvantage.

In the words of Plato, "There is nothing more unfair than treating unequals equally."

Words like these are what motivate me to end racism.

Thankfully, I am where I am today because my predecessors risked their lives to pave the way for me.

We want to make sure that these roads are not blocked and that everyone can walk through here.

Robert Kennedy said, "Every time a man rises up to attain an ideal -- to act for the well-being of mankind -- to confront inequality, it sends out a small ripple of hope -- which eventually becomes a wave -- to sweep away the great walls of oppression and resistance."

I'm positive now, because I see ripples of hope across America.

Boston Medical Center added lawyers to its medical team to help doctors address patient health issues by having lawyers address patients' non-medical needs.

Loma Linda University established a medical college in nearby San Bernardino that, in addition to providing medical services, also offered courses in vocational skills and vocational training, ensuring that the majority of course attendees, low-income minorities, had the skills they needed to find decent jobs.

In Chapel Hill, North Carolina, the Abecedarian Project found that blacks in their mid-30s needed high-quality day care from ages 0 to 5 to reduce their risk of developing heart disease.

In after-school daycares across America, Wintory Phipps launched the US Dream Academy to provide high-quality learning support and mentoring to children of criminal parents and children who are falling behind in school to break the cycle of incarceration.

Oakwood University in Huntsville, Alabama, one of the historically black colleges and universities, has introduced health screenings as part of new student orientation to improve the health of adult blacks, provide them with the guidance they need to make healthy choices, and provide health screening results annually to monitor changes in their health.

In Atlanta, Georgia, Purpose Built Communities sought to cut the negative effects of segregation, transforming public housing from an environment rife with crime and drugs into affordable housing for families of varying incomes, better academic performance, a healthy community, and full employment.

And finally, the Divine Solution.

Professor Patricia Devine at the University of Wisconsin teaches us how to confront hidden biases head-on and effectively reduce them.

Each of us can be a ripple of hope

It's not always easy to be a ripple of hope. Former Supreme Court Justice Thurgood Marshall said, "We have to challenge.

we must indifferently protest

we must challenge the lethargy

we must challenge hatred and suspicion

We have to object, because America can be better than it is now, and America has no choice but to be better than it is now."

thank you

(applause)

this represents me last week

What did you do? Who were you with? Main emotions you felt while awake…

Is it the feeling you get when you think of your recently deceased father, or is it just a way to avoid anxiety and worry?

If you say, "I'm very picky," you might be right.

But obviously, this kind of visualization gives you a much better picture of me than any other way of doing it.

Bar chart of steps Pie chart of sleep quality This is my morning jogging path.

I work with data

I run a company that visually designs data, and I design and develop ways to make information easier to understand through visual representations.

Over the years in this profession, I've learned that sometimes to truly understand data and its potential, you have to forget about the data and look beyond it.

Because data is always just a vehicle for representing reality.

Data is always used as a container to represent something, but it's never real.

Now let me take a step back for a moment and tell the story of when I first realized it myself.

1994, when I was 13

when i was a teenager i lived in italy

As a young man, I didn't care about politics, but I knew that a businessman named Silvio Berlusconi had run for president as a center-right.

My family lived in a fairly liberal neighborhood, and my father was a Democratic politician.

I remember no one thought Berlusconi would be chosen, it shouldn't have happened.

But it happened

I can vividly remember how I felt at that time.

It really came as a surprise, because my father had assured me that no one in this town would vote for him.

This was the first time that the data I was seeing was completely distorting reality.

In fact, I thought my data sample was very small and biased, and maybe that's why I was naive and didn't have enough opportunities to look outside.

Time has passed November 8, 2016 United States

Internet polls, statistical models, all experts were in agreement on their predictions for the presidential election.

This time, we were well-informed and had much more opportunities to look outside our little world, and I thought so, but it was clearly not the case.

I remember this feeling

i had experience

Now it's fair to say that the data has betrayed us, and it's done beautifully.

We trusted the data, but what actually happened was that even the most authoritative newspapers struggled to boil everything down to two numbers that were percentages, and then wrote impactful headlines to make sure everyone was paying attention to just those two numbers.

By oversimplifying our message and focusing on drawing its corollary, a beautiful red-and-blue map, we've lost sight of the point.

Somehow, we forgot that there is a human story behind these two numbers.

Then, in a different but very similar way, this woman presented my team with a unique challenge.

She brought in a ton of data, but in the end, she was trying to tell the most human story possible.

Her name is Samantha Cristoforetti

She was the first Italian female astronaut, and she contacted me just before she left for her six-month stay on the International Space Station.

She said, "I'm going to space, but I want to use the data from the mission to do something meaningful and appeal to people."

An ISS mission collects terabytes of data about just about anything you can think of: Earth orbit data, ISS velocity and position, thousands of data sent live from onboard sensors.

We had all the credible data we could think of, just like the pre-election experts.

People don't care about the data itself, because the numbers don't matter.

numbers are always a means to an end

The story we had to tell was that there was a person in a little box flying through space overhead, and if the night sky was clear, you could actually see it with the naked eye.

So we decided to use data to connect Samantha with everyone who looked up from the ground.

We designed and developed "Friends in Space," which was a web application that allowed you to say "hello" from wherever you were to Samantha and to everyone in the world who was online at the time.

And everyone's "hello" will be marked on the map every time Samantha flies over the ISS and responds in person on Twitter every day.

And it makes people look at mission data from a completely different perspective.

Everything suddenly changed from technology to being about humanity and curiosity.

So data powers experience, but human stories are the driving force behind it.

Seeing the very positive response from thousands of users has taught me a very important lesson: Working with data is about making the abstract and the uncountable visible and tangible, and designing ways to connect them directly to how we live and act, and in the process, when we get so hung up on numbers and the technology that surrounds them, it's hard to see.

On the other hand, there's a lot that can be done to connect the data with the story.

We can get rid of all the technology

A few years ago, I met another woman, Stephanie Posavec, a London-based designer who shares my passion and obsession with data.

We didn't know each other, but we decided to do a very advanced experiment, where we started communicating without words, just with data.

In fact, our only means of communication was through the old-fashioned post office.

For the book "Dear Data," we used personal data to get to know each other every week over the course of a year. Almost every week, we shared personal data about our mundane lives: our emotions, our interactions with our partners, the compliments we received, the sounds around us.

Then I hand-drawn that personal information on postcard-sized pieces of paper and sent it each week from London to New York, where I live, and from New York to London, where she lives.

On the front of the postcard was a drawing of the data, and on the back, of course, was the recipient's address and instructions for interpreting the drawing.

During the first week of this project, I chose topics that were very detached and emotionless.

How many times a week do you think you check the time?

This is the front side of my card, and you can see that each little mark represents a scene where I've checked the time. The marks are ordered by day, by hour.

In the description, on the other hand, I wrote how I included a little bit of detail about each moment.

The kind of mark shows why I was checking the time What I was doing

were you bored or were you hungry

did you think you were late

Did you consciously check the time or did you just look at the clock for some reason?

And the crux of the matter here is that I'm collecting data about myself to represent the details of my life and who I am.

Using the data as a lens and a filter reveals, for example, the fear of being late that haunts me, even if I'm absolutely punctual.

Stephanie and I spent a year collecting handwritten data, focusing on the nuances that computers currently cannot capture, and using the data to look not just at what we do, but at the heart and the words we use.

For example, in the third week, I tracked the "thank you" that I said and was said to, and found that I said "thank you" only to people I didn't know.

I can't help but tell my waitresses and waiters, but I obviously don't say that much to people close to me.

Over the course of a year, consciously watching and counting these acts became a ritual.

This ritual really changed us

I became more in control of myself and became more aware of my actions and my surroundings.

Over the course of a year, Stephanie and I connected on a very deep level through our data exchange journals, and what kept us going was that we put ourselves in the numbers by adding a very personal background to them.

That was the only way to make numbers truly meaningful and self-representative.

I don't mean to tell you to draw your personal data or find a penman across the ocean.

I just want you to see data -- data in all its forms -- as the beginning of the conversation, not the end.

Because data alone will not give us solutions.

That's why we're disappointed with data, because it didn't give enough context to show the subtle, complex, detailed aspects of reality.

We kept seeing these two numbers, and we stuck with them, pretending that the world could be simplified to two numbers and a competition, but on the other hand, the real story -- the story that really matters -- isn't here.

What I call "data humanism" is what you miss when you're looking at stories through models and algorithms only.

In Renaissance humanism, European intellectuals put humanity, not God, at the center of their worldview.

I think the same should happen in the world of data.

Now, data is clearly treated like a god, like a guardian of infallible truths of the present and the future.

What I've learned from the experiences I've shared with you today is that if we want data to truly represent humanity and not further mislead us, we need to design empathy, imperfections, and human nature into the way we collect, process, analyze, and present data.

And ultimately, in the future, instead of just using data to be more efficient, everyone will use data to be more human.

thank you

(applause)

It's my job to "do the future." It's a term I made up -- (Laughter) I came up with it three seconds ago.

It's been about 20 years into the future. When I started, I sat down with everyone and said, "Let's talk about 10, 20 years from now."

I was like, "Like!"

But then, the "future" that we talk about is near, near, and it's getting closer and closer, like two months ago when I met with a CEO, and in our first conversation, he said,

"I love how you think long term. Let's talk about the next six months."

(Laughter) We face a lot of problems.

It's a matter of civilization level

But the problem here is that we can't solve it the way we are, and we can't solve it the way we think about solving problems today.

There's a lot of great technical work going on, but if we're going to really move forward with those big problems, there's a problem that needs to be solved as a prerequisite.

"Short-termism"

Protest demonstrations for anti-short-termism

No protest wristbands, no petitions.

I asked for it once, but no one signed it.

It is wierd, is not it

(Laughter) There are many things that short-termism prevents us from doing.

Short-termism pervades every corner of our real world for many reasons.

Take a moment and think about the challenges you're thinking about and working on.

Personal challenges, professional challenges, world-changing challenges, no matter how far ahead are you thinking about the solution?

Under short-termism, company leaders won't buy very expensive safety equipment.

Because the financial figures are getting worse

That's why things like the Gulf of Mexico oil spill happen.

Under short-termism, teachers can't take the time to teach students one-on-one.

So now in America, one high school student drops out every 26 seconds.

Under short-termism, Congress -- it would be bad if we had a member here -- (Laughter) I don't really feel that bad, but -- (Laughter) we wouldn't invest heavily in infrastructure.

That's why a few years ago, the I-35W bridge over the Mississippi River collapsed, killing 13 people.

It wasn't always like this, the Panama Canal was built.

Global polio eradication

A transcontinental railroad was built and the European Recovery Plan was carried out.

It's not just about having a huge physical infrastructure.

women have suffrage and the right to vote

But in this era of short-termism, everything seems to be happening now, and we can't think beyond the next tweet or timeline post, which creates ultra-reactionaryism.

As for what happens then

Driving away people fleeing their war-torn homeland

Trying to put low-level drug offenders in prison for the rest of their lives.

And without thinking about the commute of the people who live there, they build a papier-mâché mansion, the Mac Mansion.

for quick money

Now, the reality is that there are technical fixes for many of these problems, and there are many of them.

I call such a technical solution "the sandbag strategy."

When a storm is about to come, the embankment is broken, and no one is paying to fix it, so I pile sandbags around my house.

What happens is that it works.

When the storm has passed and the water level has returned, the sandbags are put away, and every time the storm comes, we repeat the process.

What's disgusting here is

The sandbag strategy is to get politicians re-elected.

The sandbag strategy is that we can improve our quarterly earnings numbers.

If we want to move forward into a different future here, we're not stuck yet, because 2016 doesn't seem like the pinnacle of civilization.

(Laughter) There's more we can do.

But the way I see it, it's not going to happen unless we change our thought processes and how we envision the short term.

So I came up with the idea of ​​the "long path," and it's something you do.

Long Pass is not a one-and-done exercise.

I'm sure you've been to an off-site training session that used a lot of sticky notes and whiteboards, and where -- and I don't mean to offend you -- you make a long-term plan, and two weeks later, people forget about it.

don't you Maybe a week from now. Good luck if you remember three months.

Because it's something you don't usually do very often

Any time you make a big decision on a problem you're working on, it's a process of rethinking with multiple different ways of thinking.

Let's look at three ideas here.

The first is cross-generational thinking.

I love the philosophers Plato, Socrates Habermas Heidegger

i grew up with them

But there was one thing they had in common that I didn't think was all that great until I saw this.

What they all used as the unit for determining the reality of what is virtuous and what is good is the human life span, from birth to death.

But there's one problem: we're out of control. The only way we know how to do something good in the world is between birth and death.

programmed to do so

Every book in the self-help section of any bookstore is written entirely about you.

That's fine, but not when you're working on big problems like this.

Transgenerational thinking is like a shared ethic that transcends generations, and that thinking allows us to broaden our thinking about these problems and our role in solving them.

But that's not the sort of thing you have to do at the UN Security Council.

you can do it in your own way

Once in a while, when something good happens, I go out to dinner with my wife, and we have three children under the age of seven.

You can imagine how quiet and peaceful the dining scene was.

(Laughter) All we want to do is sit around the table and just eat and relax.

And the first thing that comes to my mind is my own sandbag strategy.

Reach into your pocket, pull out your iPhone, and give your kids Frozen or some popular game or whatever.

But that's where we have to stop and put on this cross-generational thinking hat.

I wouldn't do it in a restaurant, it's weird, but--I actually did it once and learned that it's weird.

(Laughter) And then you have to be like, "Okay, I can do this."

What can children learn from this?

What if we take out construction paper and have conversations with children?

It's hard, it's not easy, and it's a very personal story.

Entertaining a child at dinner can be a tougher road than tackling the world's biggest problems.

What that action does is connect me to my children today, but it also -- and this is at the core of the transgenerational ethics -- is how they decide how to treat their own children, and it's passed on from generation to generation.

The second is future thinking.

When you think about the future 10 or 15 years from now, what do you think the future will look like?

You don't have to say it, think in your head

What you're likely to see is the lens of the dominant culture that dominates how we think about the future right now: technology.

When we think about problems, we always look at them through the lens of technology, tech-centric, tech ideals. There's nothing wrong with that, but if you want to tackle big challenges and move forward, you have to think deeper, because things aren't always the same.

The ancients had their own way of thinking about the future.

The church, of course, had its own ideas about what the future would look like.

Luckily for mankind, we've experienced a technological revolution.

That's where we got the technology, but then what happened -- by the way, I'm not criticizing you.

i love technology

Everything in the house speaks back to me, kids, speakers, whatever.

(Laughter) So we abandoned the future preached by the great priests of Rome and switched to the missionaries of Silicon Valley.

So when we think about how to address issues like climate, poverty, and homelessness, we tend to think through the lens of technology first.

Look, I'm not suggesting you follow this preacher.

Don't take it bad, I like Joel, but I'm not telling you to follow Joel.

What I'm saying is that we need to change the fundamental idea that we see the future only one way, through the dominant lens.

Because our problem is so big, so vast, that we have to expose ourselves.

That's why I try to avoid one future as much as possible

I try to talk about various futures

it starts the conversation again

When you sit down and think about how to move forward on this big problem, whether it's at home, at work, or internationally, try to think beyond technology's band-aid, because we're more interested in technological evolution than moral evolution right now.

Unless we make that correction, we can't get out of short-termism, and we can't get where we want to go.

And finally, telos thinking, which originated in Greece.

means the ultimate goal or purpose

The only question it poses is what do we aim for?

When was the last time you asked yourself what you're aiming for?

When you asked yourself, how long was the rest of the way?

What used to be a long period of time is no longer enough.

3 or 5 years is not enough

30 years, 40 years, 50 years, 100 years

In Homer's epic, The Odyssey, Odysseus had the answer to the question, "What are you aiming for?"

it was ugly

It was the big vision he wanted—to return to his wife, Penelope.

And because of the nature of my work, you know intuitively that we've lost the edge.

We've lost our "destination" and we're on a hamster wheel.

We're working on the solution, but what comes after the solution?

People don't act if they don't know what's coming

In business operations -- and not just in business -- it's no surprise that we've broken short-termism and run our business consistently -- it's a family business.

Generational, terrorism, and thinking about the future

This is an ad for Patek Philippe. It's 175 years old. What's amazing is that they've embodied this long-pass sensibility with their brand.

Because it's something you cherish for the next generation

I want you to remember that we tend to think of "future" as a noun.

But it's a verb, not a noun.

the future needs action

we have to jump in ourselves

It's not something that comes from the other side

The future is actually in our hands

But in short-term societies, it doesn't feel that way.

I feel stuck

but we can get over

I've learned to accept the inevitable, the inevitable, the inevitable death.

But having these new thoughts and actions, both in the outside world and with our families, and having something to leave behind for our children, makes death easier to accept.

This makes a lot of people nervous, but let me tell you, think it through.

This way of thinking can get you past the inevitable and very uncomfortable.

And it all starts with asking yourself this question: What is my long path?

When you ask yourself this question, whether it's now, or tonight, while you're driving, or in the boardroom, or in the crisis room, I don't know, I want you to think beyond your three- or five-year long-term plan.

Think beyond your life if you can, and you'll be able to do a little more than you thought you could.

we have a huge, huge problem

I believe that this process, this way of thinking, can change us.

I firmly believe that you can make a difference.

thank you

(applause)

I saw the new "Star Wars" movie last year, and it was really great, but there was one thing that stuck with me.

I don't know if you've noticed

There are no AEDs anywhere in that technologically advanced world, which was a shock to me.

For those watching at home, an AED is an "automated external defibrillator."

It's a device that, in the event of cardiac arrest, shocks the heart to restore normal rhythm, or, as one of my students put it, "the one that bangs the heart."

(Laughter) Well, I can't even criticize the Empire, because health and safety regulations are not the Empire's top priority.

But what's worse than not having an AED is when you have an AED and no one knows where it is.

[Current location (ignoring this hole) Where is the AED? ] This device can dramatically increase your chances of survival, but it's like a tauntaun on Hoth.

(Laughter) Although, with a stormtrooper, whether or not you have an AED, it might be tough, because the breastplate seems to be a pain to remove, but the AED, like the Tauntaun, has a very limited amount of time to be highly effective.

With an AED, the first 10 minutes are the game.

If you're a Jedi, on the other hand, clothing doesn't matter.

That outer garment can be pulled off in a second, and the chest can be padded, and once the top right and bottom left chest are padded, you wait for the machine to determine if the AED is working, and then deliver the shock.

But Jedi have problems too.

a protrusion on the head

It's away from your body, so even if you think you're ready, if you happen to touch a tentacle, you'll get an electric shock too.

(Laughter) So, before you press the button, make sure you and everyone else are away.

Let's go back to Stormtroopers. Even if I took off that breastplate in time, what if it's a Wookiee inside? Or an Ewok on his shoulders?

(Laughter) Luckily, I have a razor in my kit, so I can shave the top right and bottom left of my chest.

Wookiees have another problem

it's an accessory

I want to remove anything that's between the two pads, because it runs the risk of creating something called "arcing."

If you don't know what an arc is, remember when the emperor shoots electricity from his fingertips. (Laughter) It's a kind of arc.

By the way, inside his outerwear, he's wearing woolen socks that store electricity.

(Laughter) Even if your chest is very wet, arcing can occur.

Instead of the electricity going to the heart, it goes over the surface of the body.

Let's deal with this problem with the immortal words of Douglas Adams: "Don't panic."

good advice

Metal bikinis — unfortunately, it's hard to avoid panic, but modern underwired bras need to be removed or they will arc so hard that they can burn you.

But this is just as sensitive a question as it is to talk about sequels set in the past.

(Laughter) Just the word "nipple" makes people feel uncomfortable.

By the way, this isn't a nipple, it's a cupcake

(Laughter) When you use an AED, it's most likely to be someone you know.

Everyone has nipples, except Jabba.

(Laughter) But he likes cupcakes.

If Jabba ever needs an AED, just remember that the padding doesn't change without the nipple.

upper right and lower left chest

If you want to go all the way through, you have to prepare, give the electric shock, and then you have to do the heart massage.

Ideally, for every 30 chest compressions and 2 rescue breaths, press down 5-6 cm on the center of your chest between the nipples at a rate of 100-120 per minute.

Because of the size of Jabba's mouth and what Jabba is eating, mouth-to-mouth may be reluctant.

In that case, CPR with chest compressions only is fine.

A good way to learn the rhythm of chest compressions is the Darth Vader theme.

I wish I could sing to you here -- (Laughter) I'm sure you'll be inflicting pain like an interrogation droid.

Yoda is next

I'm small like a baby

You basically treat it like a baby, put one pad on the center of your chest and one on your back.

You don't want to put both pads on the front because they're too close together and can cause a strong arc.

I hope today's story sheds light on the dark side of the use of AEDs in the Star Wars universe, or in any universe, to help you understand.

just one last thing

If you are going to administer an AED to a Wookie, please do not shave it off.

It's taking too long and it's going to piss off the Wookiees.

(laughs) Thank you.

(applause)

Culture was born out of imagination, and our imagination originated with our ancestor, Homo erectus, and was carried to places around the world with the awakening of consciousness.

Our distant relatives, the Neanderthals, who cohabited with our ancestors for a time, were also somewhat intelligent, but benefited from evolutionary catalysts such as brain augmentation and language development, and our ancestors left the Neanderthals in the evolutionary stream.

By the time the Neanderthals disappeared in Europe 27,000 years ago, our direct ancestors had already been burrowing into caves for 5,000 years, creating Late Paleolithic masterpieces under the flickering light of tallow candles.

I spent two months exploring the caves of southwestern France with the poet Clayton Eschlemann, the author of the wonderful book "Juniper Fuses."

When you look at this work of art, you see the diverse societies of the people who painted it.

Beyond that, the murals speak to an intellectual desire that goes far beyond the ritual of hunting.

Clayton put it this way:

He said, "There were times when we were animals, and times when we weren't."

He believed that the archetypes of shamanism were ritual attempts to restore lost connections.

So I thought this piece of art was more of a nostalgic message than just a depiction of a hunting ritual.

When you look at it that way, it reveals a whole different depth.

The most astonishing thing about Upper Paleolithic art is that its expression persisted for nearly 20,000 years.

If it's a message of nostalgia, it's going to be a really long farewell message.

This was also the beginning of dissatisfaction, for all human experience since the Stone Age has been distilled into two words: how and why.

These became the insights that shaped the culture.

All ethnic groups share similar life propositions.

all raise children

We have to face the mysteries of death and the afterlife, and the aging population.

All of these are common human experiences, and it's no surprise, because biologists have finally proven what philosophers have always dreamed of.

that we are all brothers and sisters

All humans are created from the same genetic material.

All humans are probably descended from a thousand or so humans who left Africa about 70,000 years ago.

As a result, if we're all brothers and sisters and we share the same genes, then all humans have a common human ability: intelligence.

So whether it uses that ability to fuel the technological breakthroughs that the West has achieved, or, by contrast, to untangle the intricate threads of memory that dwell in mythology, it's a matter of choice and cultural attitudes.

The human experience is neither evolved nor evolved The human experience is evolved neither

There is no trajectory of progress, no pyramidal hierarchy with Victorian England at the top and those who call it primitive at the bottom.

All peoples simply live differently because of their cultural choices.

So what is a different way of life?

So let's take a tour of the world's great cultural realms of imagination, starting with Polynesia.

10,000 square kilometers of tens of thousands of jewel-like islands in the South Seas

I recently made a film about people sailing between islands in the South Pacific on a ship called Hokule'a, named after a sacred Hawaiian star.

They can still guess 250 stars in the night sky.

They can sense distant atolls beyond the horizon just by reading the vibrations of the waves hitting the hull. Each island in the Pacific has its own knowledge of how waves bend, and their ability to read them is no better than the insight of a forensic officer reading his fingerprints.

These sailors can identify 32 different tidal currents hitting their canoes from the darkened interior of their boat. Distinguishing between local tidal breaks and tidal currents that pulsate across the ocean is as easy as an explorer on land can go down a river and out to sea.

In fact, Polynesia is as capable of understanding the oceans as it was to put humans on the moon.

Then you fly from the world of the sea to the world of imaginary spirits, and you enter the world of Tibetan Buddhism.

I recently made a film called "Buddhist Science of the Mind."

why did you use the word science

Science is the pursuit of truth based on evidence

Buddhism is 2,500 years of empirical observation of the psyche.

I traveled to Nepal for a month with my dear friend, Mathieu Ricard, who once famously said at TED, "Western science is a bloated answer to a trivial need."

We all want to live to be 100 years old without losing our teeth.

Buddhists devote their lives to understanding the meaning of existence.

Our ads are like praising children in their underwear.

Their advertisements are guides, spells of living beings.

Following the prayers of Tulshik Rinposhe, we went on a pilgrimage to foreign lands, accompanied by a great physician.

The destination is a private room in a training hall, where a woman has been practicing her lifelong meditation for 55 years.

On the way we had a darshan from Rinposhe.

Life is suffering, but it's not all bad

there are many things happening

Ignorance is the cause of suffering

The Buddha was not referring to stupidity, but to admonishing the delusion that life is universal and predictable.

The third truth is that ignorance can be overcome.

And the fourth, by far the most important, is the practice of meditation, which shows the transformative potential of the human mind and the state of enlightenment backed by 2,500 years of empirical observation.

And for 55 years, when the door where the nuns shut themselves up opened, it wasn't a madwoman who appeared.

She was a woman who was as clear as the water in the mountains.

Of course, a Tibetan monk said,

"We don't believe you went to the moon, but it's true." We don't believe you went to the moon, but it's true.

You don't believe we'll be enlightened in our lifetimes, but it's true." You don't believe we'll be enlightened in our lifetimes, but it's true."

Flying from the world of spirits to the world of physical strength, we land on the sacred land of Peru. I've always been interested in the relationship between the indigenous peoples, who literally believe that the earth is alive and responsive to their wants and needs.

Humans, of course, have their own symbiotic obligations.

I've lived with the Chinchero for 30 years, and I've heard of events that I've always wanted to participate in.

Only once each year, the fastest boy in each tribe becomes a woman.

Only on this day, the boy wears his sister's clothes and runs all day as a Wairaka crossdresser leading all the men in the village who can run.

Starting from an altitude of 3,500m

Run down to Antakilga at the foot of the sacred mountain

Run up to 4,500m and descend 900m

And climb all 24 hours

Of course, Wairaka also spins thread, and there are sacred mounds along the route, where they worship coca, offer libations to the wind, and attract feminine energy in the form of swirls.

The analogy is clear: as individuals push into the mountains, exhausting and sacrificing, they develop a sense of solidarity and a renewed sense of their role on earth.

At the age of 48, I was the only outsider to participate in this event, and the only one to complete it.

But in this 4,000-year history, I've become the person who chewed the most coca leaves in a day.

The ceremonies of this region spread to the Andes, resulting in great festivals, such as the Coyul-Ritit, which takes place when the Pleiades star cluster is visible in the winter sky.

It's the Andean version of Woodstock, where 60,000 Incas make a pilgrimage to the sacred valley of the Sinacara massif at the end of a gravel road, where the tip of a giant glacier splits in three.

The analogy is clear: the tribal cross-carrying festival, a fusion of Christianity and Pre-Columbian thought.

I stand my cross on the ice, in the shadow of the holiest apus of the Incas, the holiest mountain of the Incas, Ausangate.

And perform a ritual dance to give strength to the cross

These philosophies and events allow us to look at famous, mass-visited places like Machu Picchu from a different angle.

Machu Picchu is not a lost city

This city was completely connected to the 14,000-kilometer royal road that the Incas built over a century.

More importantly, the city was part of the sacred landforms of the Andes.

Intihuatana, called the Tethered Pillar of the Sun, is actually a stone pillar that constantly reflects light and illuminates the sacred Apu of Machu Picchu, the cone-shaped mountain Huayna Picchu.

There is an altar on the south side of Intihuatana

Huayna Picchu also has an altar

If you look north-south, you'll be surprised to see the Intihuatana pillars, and if you look further up you'll see Sarkantay, the second most important mountain of the Inca empire.

Furthermore, beyond Sarkantay, the Southern Cross shines at the southernmost point in the sky, and the Milky Way spreads overhead on its extension line.

On the other hand, what wraps up Machu Picchu from below is

The Sacred River Urubamba, also known as Vilcanota, is the Milky Way on earth and is said to have been walked by Viracocha, the creator god, when he created the universe.

where is the source of the river

Cority's mountainside

Five hundred years after Columbus, the ancient rhythms of the terrain still play through rituals.

At my first TED talk, I showed you this picture of two Kogi men, descendants of the Golden Land.

They are, of course, descendants of the ancient Tayrona civilization.

At the time, I told them that it was the ceremonial ministry that ruled over them, and that the training to become a priest was grueling.

You will be separated from your family in a dark world of shadows and will be imprisoned twice, nine years each, for a total of 18 years. Nine years means nine months in your natural mother's womb.

Meanwhile, the world is an abstract existence, and they are taught the values ​​of society.

The value is that only the prayers they offer keep the universe in balance.

The measure of a society is determined not only by what it does, but also by the qualities it aspires to.

To see if that's true, I thought I'd go back to this mountainous region and test what the great anthropologist Reicher Dolmatov put forward.

I just returned two weeks ago from spending six weeks with the Kogi, and it was without a doubt the most special trip of my life.

Their lives are truly sacred, and their devotion is admirable.

They consume 250 grams of coca leaves per person per day, one of the highest in the world.

Starting with the gourds you see here, everything in their lives is a symbol of something.

Center of their parable is cotton weaving

They said, “This will weave the fabric of my life.”

They use the slope ecosystem, which they call threads.

When you pray to the dead, you make a gesture of spinning your thoughts on heaven with your hands.

You can see the calcium deposits on the head of the gourd.

The gourd is female and the stick is male

The sacred ash in the gourd, the burned limestone powder, is taken with a stick and used to enhance the action of the coca leaves.When chewed with the leaves, the powder alters the acidity of the mouth and aids in the absorption of cocaine hydrochloride.

Even if the gourd is broken, it is not thrown away because each swing of the stick that deposits calcium is a symbol of a man's way of life and has meaning.

When planting crops in the field, one by women in this direction one by women in this direction

The other is planted in this direction by the man, in a metaphor that folds and folds into dough.

They are the descendants of the ancient Tayrona civilization, the best goldsmiths in South America.

There are four tribes: Kogi, Wiwa, Kankawano, and Arawacos.

I spent time with the Arawacos, and it's wonderful that this man, Danilo Vilafagna, looks back for a moment --

The first time I met him was at the Colombian Embassy in Washington, and I couldn't help but say, "You look just like an old friend of mine."

Turns out, he was the son of Adalbert, a friend of mine since 1974 who was killed by the Colombian Revolutionary Army.

I said, "You don't remember, but when I was a little boy, I carried you up and down mountains."

Thanks to Danilo, he took me to the most sacred places, where no outsider has ever been.

It's not the middle of the mountain, it's the top of the snowy mountain, where the pilgrims arrive.

The man sitting cross-legged is now a grown-up Eugenio, a man I've known since 1974.

And this is one of the boys in training

In fact, they didn't spend 18 years in the dark, but they did spend 18 years in a circle of ritual men.

Until the day comes when he leaves for the ritual, this boy will not leave the sacred grounds that surround the men's hut.

In the meantime, the world is an abstract existence, and only prayer can teach society the value of preserving the balance of the universe.

We were cleansed in the springs of the earth before our departure.

A solemn ceremony performed by a saint

As you can see, saints don't wear shoes; their feet must touch the ground directly.

And this is the land where the Great Mother hung the world-spinning thread, pulled up the mountains, and made the homeland they call the center of the world.

We went deep into the mountains, and every time we climbed over the peaks, we found men reading religious meanings in all the terrain.

And just before we reached our final destination, Mamanacana, something happened: the Colombian Revolutionary Army had ambushed us.

So we decided to hide out in the dark in a hut on a side street.

And drop all your gear and make a daring escape at midnight, make a daring escape at midnight

It's like a John Ford western

At dawn, I encountered a revolutionary army patrol and had a terrible experience.

It's going to be a very interesting movie, and what's interesting is that when danger approaches, the men start fortune-telling.

This photo is literally on the run, trying to find a route down the mountain.

Thanks to some people who know how to make films, we continued filming, sent our Wiwa and Arhuaco collaborators to our destination, a sacred lake, shot the end of the film, and set sail with the rest of the Arhuaco, a trip from the highlands to the coast.

So their holy land was full of brothels, hotels, casinos, and yet they pray.

It's amazing that so close to Miami, less than two hours from Miami, there is a civilization of people who pray for all mankind every day.

they call themselves brothers

We who destroy the world, we call them little brothers, and what we do they don't understand.

So let's go to the other end of the world, to the Arctic Circle. I'm interested in global warming.

For me, it was a special reunion with the Inuit, who are not afraid of the cold and use it to their advantage.

A people who use their imagination to grow life in frozen lands.

For them, blood on ice is not a symbol of death, but a sign of life.

Sadly, when you visit the northernmost villages today, you'll be surprised to find that in places such as Qaanaaq in northern Greenland, sea ice that used to be shored in September and lasted until July is now only shored in November and lasts until March.

Their year has been cut in half

What I want to stress is that none of the peoples we're talking about are disappearing.

not a dying nation

On the contrary, if you have a heart to feel and an eye to see, you will realize that the earth is not flat.

The world is a diverse petastry

There are many different spirits in the world

These people don't weave something new or lament the failure of modernization.

Each appeals to its own imagination.

Each one is a unique answer to a fundamental question: What is the meaning of being human?

In response to this question, humanity has raised 6,000 different voices.

Collectively, all those voices are the wisdom to deal with the crises that we humans will face in the next millennium.

Our industrial society is only 300 years old.

With such a short history, we cannot say that we have all the answers to the crises that we will encounter in the next millennium.

Human voices don't lament failure

Each one is a unique answer to a fundamental question: What is the meaning of being human?

Fires are raging on Earth, and as plants and animals die, so does humanity's wisdom.

As I'm sitting in this room right now, half of the 6,000 languages ​​you spoke when you were born are not passed on to your descendants.

You are living in a time when practically half of humanity's intellectual, social and spiritual wealth is being lost.

it shouldn't be

They don't weave a lament of modern failure, strange and vibrant, not let nature take its course.

Both are examples of vibrant peoples being displaced by identifiable forces.

But if that's the case, there's also hope.

thank you very much

Twenty years ago, when I was working in London as a barrister and a human rights lawyer, it was still in this building that the final hearings of those court cases -- "pranks of history," I would say -- were still being held. One day, I met a young man who had just quit his job at the British Foreign Office.

When I asked him why he quit, he told me the circumstances.

One morning, I went to my boss and said, "I'd like to do something about human rights abuses in China."

He said, "We can't do anything because we have trade relations with China."

I kind of withdrew that day, but six months later, I went back to my boss again, and this time he said, "I'd like to do something about human rights in Burma."

My boss gave it some thought, but the answer was the same: "No, we can't do anything. We don't have a trade relationship with Burma."

(Laughter) Hearing this, he decided to resign.

Diplomacy is not only nominal

I was also fed up with the government's willingness to avoid confrontation and tense discussions with other governments while innocent people were being treated unfairly.

We are often told that conflict is bad but compromise is good, conflict is bad but agreement is good, conflict is bad but cooperation is good.

But if you ask me, the world isn't that simple.

In order to judge whether conflict is a bad thing or not, you need to know who you're conflicting with, why you're conflicting, and what you're doing about it.

There can be rotten and dirty compromises, where people who aren't on the table, people who are vulnerable, people who don't have power, who harm the people they're supposed to protect.

Now, some of you may be wondering about a lawyer who sees conflict as good and compromise as a problem, but I'm also a qualified mediator, and I've recently given free ethics lectures.

As bank officials often say, we're going downhill.

But if you take my word for it, it's going to change the course of your own life first, and I'll come back to that later, but it will also change the way you think about big issues like public health and the global environment.

I will explain what

Every middle school student in America, including my 12-year-old daughter, learns that there are three branches of government: the legislative branch and the judicial branch.

James Madison said, "If there is one doctrine that is most sacred in our Constitution, which is true of any free constitution, in fact, that doctrine is the separation of legislative, executive, and judicial powers."

This system wasn't designed just with the concentration and exercise of power in mind.

There is also an intention to remain neutral

So if a judge was involved in making a law, he couldn't decide the constitutionality of that law, or if he collaborated or worked closely with another department, he couldn't hold that department accountable.

A constitution is, in the words of a famous scholar, "an invitation to strife."

It's when these sectors are at odds that the government is working for us, the people.

So this notion that conflict matters isn't just limited to the public sector, it's not just between government departments.

The importance of competition between companies in the private sector is also well known.

Let's say, for example, that two American airlines are collaborating and agree that economy class fares won't go below $250.

It's cooperation, sometimes called collusion. It's not competition.

Similarly, let's say two companies agree, Company A says, "We'll take care of the route between LA and Chicago."

Again, this is cooperation or collusion, and because there is no competition, it hurts us, the people.

Now, the idea that conflict matters is common sense in the context of relationships between government departments, which is the public sector.

It's also the same in the context of relationships between companies, and this is the private sector.

Where this perception is missing is in the context of public-private relationships.

Governments around the world are working with industry to address issues like public health and the environment, but more often than not, they're working with the companies that create and fuel the problems they're trying to solve.

It's been said that this partnership is a win-win relationship that benefits both sides.

What if someone actually loses?

Let me explain with an example

A United Nations agency wanted to raise a serious issue about poor sanitation conditions in rural India's schools.

In doing so, we enlisted the help of the Indian government and local governments, as well as television stations and large multinational beverage companies.

In return for less than a million dollars invested, the beverage company benefited from months of advertising campaigns, including 12-hour TV, with company logos and color schemes all over the place.

From a business point of view, this kind of approach makes sense.

It also helps to improve the image of the company and build brand loyalty.

But I see this as a serious problem for any intergovernmental agency whose mission is to promote a greener way of life.

Increasing the consumption of scarce local water, sweetened with sugar and sold in plastic bottles, in a country already struggling with obesity, is in itself futile from both public health and environmental perspectives.

So in order to solve one public health problem, we're sowing the seeds of another.

This is just one example of dozens of cases that I uncovered during my research for writing a book about the relationship between government and industry.

Another example of the same company's involvement is in calling for physical activity in parks in London and across the UK.

Collaborating and partnering with industry is now the norm in public health, and from an industry standpoint, it makes sense.

Because we can steer the way we look at public health problems and their solutions in the direction that poses the least threat to our interests and is most compatible with our interests.

Thus, obesity is attributed to "personal poor judgment," "personal behavior problems," "self-responsibility," and "lack of exercise."

This way of looking at it doesn't mean that the multinational food supply system involving big companies is inadequate.

On the industry side, it can't be helped

Industries, by nature, develop strategies to make things work in their favor.

But governments have a responsibility to come up with strategies to counter it, to protect our people, to protect the public good.

The mistake that governments are making when they work with industry in this way is by conflating two concepts: the public good and the common ground.

When you're working with industry, you tend to avoid issues that might advance the public interest, but that industry doesn't agree with.

Industry, for example, will not agree to more regulation, unless they are convinced that regulation will allow more regulation to be circumvented or competitors to be pushed out of the market.

But there are some things that companies can't agree on, one of which is raising the price of unhealthy products, because, as I explained earlier, it's against competition laws.

So governments shouldn't confuse "public interest" with "common ground," especially when "common ground" means reaching an agreement with industry.

So let me give you another example. The previous one was a case of overt cooperation. Now, what's happening underground, both literally and figuratively, is the production of natural gas by hydraulic fracturing.

Let's say you buy a piece of land, without knowing that the mining rights for that piece have been sold.

This is before the fracking boom.

He built his dream home on the land he bought, and soon after, he discovered that the gas company was drilling wells on his land.

This is the predicament that the Hallowitch family had.

Within a very short period of time, the family began complaining of headaches, sore throats and itchy eyes, as well as noise, vibration and flashes from natural gas eruptions.

I was complaining strongly, but at some point I became quiet.

Thanks to the local Pittsburgh newspaper from which this photo came, and another one, we now know why.

These two companies filed a court request for information about what happened to the family.

It turns out that a quiet settlement had been reached with a gas mining company.

And it was a one-sided condition: in exchange for offering the family a large sum of money to move out and start over, the gas company gave them the condition that they weren't allowed to disclose what had happened with the gas company, they weren't allowed to talk about their experiences with fracking, and they weren't allowed to talk about any health effects that the hospital tests revealed.

I don't blame the Hallowitch family for agreeing to this one-sided settlement and deciding to start over elsewhere.

I also understand the company's desire to silence noisy residents.

What I want to hold accountable for is the legal and regulatory system. This system is built on a lot of agreements, like the agreements I just talked about that shut people out and shuts down public health and epidemiology experts from taking data. Under this system, even if there's pollution, if landlords and gas companies can come to a settlement, the regulators won't even bother notifying them of violations.

Not only is this setup undesirable from a public health standpoint, it also puts uninformed locals at risk.

The two cases I mentioned are not isolated cases.

It represents the problem of the system as a whole.

You can also point to counter-examples. Public authorities have even filed lawsuits against pharmaceutical companies because they hid the fact that giving adolescents antidepressants made them more likely to have suicidal thoughts.

Some regulators fought food companies because they overstated the benefits of their yogurt as a health food.

I could also tell you the story of a member of parliament who has been on both sides of the political spectrum, pushing for environmental protection in the face of enormous pressure.

Each one is a stand-alone example, but they're like a ray of light in the dark, pointing us in the right direction.

I started by telling you that sometimes people need to engage in conflict.

What governments should do is engage in hand-to-hand struggles against corporations, sometimes going head-to-head.

I'm not saying it's because government is inherently good and business is inherently evil.

both can be good or bad

But it's natural for companies to pursue their own commercial interests, which can either promote or undermine the public interest.

But governments have a responsibility to protect and promote the public interest.

We must insist that governments do their best without compromising.

Because government is in a position to protect the health of its citizens, and it is also in a position to protect the environment. So, government is in a position to protect these essential elements of the public good, and it's for us, and no one else.

thank you

(applause)

In the six minutes that I'm going to talk to you, three mothers around the world have died giving birth to their children.

it's not uncommon

More than a million mothers and babies die each year in developing countries simply because of poor hygiene during childbirth.

My journey began on a hot summer afternoon in India in 2008. After spending an entire day meeting local women and listening to their needs, I entered a thatched house with a midwife.

As a mother, I was very interested in how to deliver a baby at home.

After hearing a deeply compelling story from a midwife about why she believes so strongly that this is her vocation, I ended up asking the question, "Do you have the equipment you need for labor?"

I was shown the equipment.

"This is how you cut the baby's umbilical cord," she said.

I didn't know how to react, and I was dumbfounded with this farm implement.

And I took this picture and hugged her and left.

In my head, memories of the infectious diseases that I had had come flooding back one after another. I remember how as a pregnant woman, I was blessed with the best medical care, but I continued to suffer from the disease for the first year after giving birth.

As a product developer, I started by doing research.

I was very excited to find out that there was a product called the Clean Birth Kit.

I couldn't even afford to buy it for months.

It wasn't built until funding was available.

When I finally got it, I was shocked again.

It was something I would never use when I gave birth.

But to test my intuition, I spoke to women who had experience with this product.

To my surprise, their reaction was the same, if not more.

They say it's better to give birth on the floor than on a bloody plastic sheet.

You're absolutely right, and that can increase the incidence of infectious diseases.

The thread in the kit was a source of bacteria that could pass through the baby's umbilical cord, and the women said they didn't want to keep the razor near them, the kind that men use to shave.

No one bothered to improve this product because it was made for charity.

I was never asked for a woman's opinion.

To my surprise, the demand for the kits wasn't just at home, but also in large-scale vocational facilities.

In remote areas the situation was more difficult.

i had to change this

I made this issue my own

We gathered input, developed prototypes, and worked with a variety of stakeholders who were researching a world-class method of assisted labor.

We consulted women on every prototype to make sure we developed a product that works for women.

Through this process, these women learned that despite their extreme poverty, they place great value on their health and well-being.

their hearts were not poor at all

Like us, we appreciate products that are well designed and developed according to our needs.

After many iterations with experts, health workers and women, it wasn't an easy task at all, but we came up with a simple and beautiful design.

At a price of $3, which is a dollar higher than the products that have been offered so far, we have created a clean and compact birthing kit called "janma."

Janma, which means 'birth', includes a blood-absorbing sheet that a woman lays down when giving birth, a surgical scalpel, a clasp for the umbilical cord, a bar of soap, gloves, and a cloth to wipe the baby immediately after birth.

A beautiful pouch containing all of this is given to the mother to honor the great task of childbirth, and she takes it home with pride as a symbol of prosperity.

One woman responded to this gift by saying,

"Is this really mine? Can I have it?"

Another woman said, "Can I get a different color for my next child?"

(Laughter) And what's even more amazing is that a woman said, "This is the first pouch I've ever had in my life."

Aside from its symbolism and simplicity, the kit is designed around the world's best practices for assisted labor, and serves as a tool to change people's behaviors by simply following the steps consistently.

This can be used not only at home, but also in vocational facilities.

This kit has helped more than 600,000 mothers and babies around the world.

It's heartening to watch the numbers grow, but I can't wait to reach 100 million.

But women's health issues don't end here.

There are many simple problems that require low-cost treatments.

The truth we have to prove is that when we invest in women and give them more health and happiness, we make our communities healthier, happier and more prosperous.

We must start by bringing simple solutions and dignity to women's health problems: reducing maternal mortality; breaking taboos; empowering women to make their own decisions about their lives.

that's my dream

But we can't do that without men and women all over the world being equally involved in problem solving. Yes, we need your help.

I recently heard this poem by Leonard Cohen, "Ring the bells as long as you can.

don't chase perfection

everything has flaws

That's where the light shines through."

This is my little light

need more light

In fact, if we want a better tomorrow, we need a huge spotlight in the field of women's health.

We must never forget that women are the center of our future world and that without women we would not exist.

thank you

(applause)

Let me start by telling you about one of my best friends, Okoroma Madoeushi.

Okoloma lived next door and was like an older brother.

When I found a boy I liked, I used to consult him.

Okoloma died in the Sosoliso crash in Nigeria in December 2005.

just seven years ago

With Okoroma, we were able to quarrel, laugh, and talk frankly.

You're also the first to call me a "feminist."

I was about 14 and got into an argument at his house.

Witnessing a flurry of knowledge from the book I just read

I don't remember why we got into an argument, but I do remember that at the end of the argument, Okoloma said, "You're a feminist."

it's not a compliment

(Laughter) I could tell by your tone, the tone of your sarcastic tone, like, "You're a terrorist."

(Laughter) I didn't know what "feminist" meant.

We quickly changed the subject and continued arguing.

The first thing I did when I got home was to look up "feminist" in the dictionary.

Years later, I wrote a novel about a man who beats his wife, and it doesn't end very well.

When I was promoting the book in Nigeria, a gentleman journalist asked me to give him some advice.

I think most of the Nigerians here know this very well, and they're willing to give advice without even being asked.

He said that my novels had a reputation for being feminist, and he turned to me and shook his head sadly and continued, "You shouldn't call yourself a feminist. Feminists are women who are so unhappy that they can't even marry."

(Laughter) I decided to call myself a "happy feminist."

Then an educated Nigerian woman told me that feminism is not in our culture, it's not in African culture, and that I had been brainwashed by "Western books" to call myself a feminist.

This was funny, because none of the books I grew up with were feminist.

Until I was about 16, I read mostly Harlequin romance novels.

I once tried to read some of the so-called "feminist classics," but I got bored and couldn't finish them.

Anyway, feminism doesn't seem African, so I decided to call myself "Happy African Feminist."

I'm a happy African feminist, but if I'm not a man-hater, I wear lipgloss and I wear heels for myself, not for men.

(Laughter) Of course, I'm half-joking, but the word feminist carries a lot of negative connotations.

You hate men, you hate bras, you hate African culture.

When I was a child

When I was in elementary school, at the beginning of the semester, my teacher said that there would be a test, and whoever got the highest score on the test would be the class president.

The class representative played an important role

When I become a class representative, I get to write the names of noisy kids.

My teacher also gave me a cane, and I use it to patrol around the classroom.

Of course, I wasn't allowed to wield that wand.

It was exciting for me, nine years old.

I really wanted to be a class representative

I got the highest score on the test

But the teacher said that the class representative must be a boy.

I forgot to tell you earlier, and I never thought this would happen

(Laughter) The second highest score was a boy, who became the class president.

What's even more interesting is that the boy was kind and gentle and didn't want to go out on patrol with a cane at all.

But I was a girl and he was a boy, so he became the class president.

I have never forgotten this incident

I sometimes think that what is obvious to me is obvious to others.

For example, my friend Louie

Louie was a wonderful progressive man, and when we talked together, he used to tell me, "Men and women are different, and they say women are at a disadvantage.

Isn't that a thing of the past?"

I couldn't understand why Louis couldn't see something so obvious.

One night in Lagos, Louis and I went out with some friends.

Here's a tip for those who don't know much about Lagos: It's a common sight in Lagos, where you see a lot of bouncy men loitering outside restaurants pompously "helping" you park.

I liked the ostentatious gesture of the man who found our parking space that night.

I decided to give him a tip

I opened my bag, put my hand in, took out my money, which I earned, and gave it to the man.

The man was very happy to take the money from me, and he looked at Louis and said, "Thank you, sir!"

(Laughter) Louie looked at me in amazement and said, "Why are you thanking me? I didn't pay for it."

At that time, Louis seemed to finally realize

The man thought the money I had was made by Louis.

because louis is a man

men and women are different

Different hormones, different sex organs, different biological functions.

women can give birth but men can't

for now

(Laughter) Men have testosterone and are generally physically stronger than women.

Women are slightly more numerous than men, and about 52 percent of the world's population is women.

But most high-ranking positions are held by men.

The late Kenyan Nobel Peace Laureate, Wangari Maathai, put it so well, "The higher you climb, the fewer women there are."

I've heard a lot about the Lilly Ledbetter Act during the recent US presidential election, and when you dig into this well-sounding name, it turns out it's a gender issue, where men were paid more for doing the same job and with equal ability.

Men literally rule the world, and a thousand years ago this might have been fine, because physical strength was the most important thing for human survival back then.

Physically stronger people often took the lead, and men in general are physically stronger.

There are many exceptions

(Laughter) But today's society is completely different.

The physically stronger doesn't necessarily lead the way, the more creative, the more intelligent, the more innovative, the hormones don't matter.

Men and women alike can be intelligent, creative and innovative.

Societies have changed, but I suspect that attitudes toward gender haven't changed.

A few weeks ago, I walked into the lobby of one of Nigeria's finest hotels.

I will keep the name of the hotel a secret.

The doorman at the entrance stopped me and asked me a rude question, saying that a Nigerian woman who comes alone to a luxury hotel is supposed to be a prostitute.

It's a wonder why such a hotel cares more about a sham image than a client who calls a prostitute?

In Lagos, I can't go to a "reputable" restaurant by myself.

A woman cannot enter alone. A man must accompany her.

Whenever I go to a Nigerian restaurant with a man, the waiter only greets the man.

These waiters -- (Laughter) -- there are other women who say, "I thought so too!"

These waiters are products of a society that sees men as more important than women.

I know the waiter doesn't mean anything.

Even if you know it in your head, it's a different story when it comes to your heart

I feel rejected every time I'm ignored

it makes me sad

It makes me want to say that I'm the same person, don't ignore my existence

It's a small thing, but sometimes it's the little things like this that hurt the most.

I recently wrote an article about how young women are treated in Lagos, and the publisher said, "This is an angry article."

Full of anger and rightly so!

(Laughter) I'm angry.

Because gender creates deep inequalities.

everyone should be angry

Anger has long created positive change, but I'm not just angry, I'm also hopeful.

Because I strongly believe that humans can improve themselves.

Gender is a global issue, but I'd like to think mainly about Nigeria and Africa, because it's a place that I know and feel very attached to.

Today, I would like to ask you to start thinking about how to create a new world, a more equal world where men and women can be themselves and be happy.

First of all, I have to change the way I raise my daughter.

I have to change the way I raise my son.

We are harming boys because of the wrong upbringing, we are suppressing their humanity.

They define masculinity so narrowly that they put boys in that hard little cage.

"A man should not be afraid"

Teach them not to show weakness

"Hold on to your true self." In Nigerian terms, "Be a strong man."

In middle school, both boys and girls get the same amount of pocket money in their teens, but when they go out together, there's always an atmosphere that the boys should pay, to show their masculinity.

But I wonder why boys are more likely to steal money from their parents.

But what if we were taught that masculinity and money have nothing to do with each other?

Instead of thinking that "money should be paid by men," I thought it would be better to say "people who have money should pay for it."

Of course, in a male-dominated society that has lasted for many years, men tend to have more, but if we change the way we raise our children now, 50 years from now, 100 years from now, we won't have to prove that masculinity.

But the worst part is that it makes men want to be strong, and that makes the male ego very fragile.

The more I think I have to become a strong man, the weaker my ego becomes.

But what we do to girls is even worse, because we raise them to respond to such fragile male identities.

It teaches you to hold yourself back and to be small. I tell girls, "You can be ambitious, but in moderation."

(Laughter) "Aim for success, but don't be too successful, men will get intimidated."

Even if you're dating a guy and you're the breadwinner, don't act like that, especially in public, because you're going to lose his face.

But why not question the basis?

Why is women's success a threat to men?

Why don't you throw away the phrase "I'm going to ruin a man's face" There's nothing worse than that

A Nigerian acquaintance asked me if I wasn't worried that men would be afraid of me.

I've never been so worried

In fact, I never even thought about it, because I have no interest in men who are afraid of me.

(Laughter) (Applause) But this shocked me.

I'm a woman, and I know I want to get married.

Marriage is also wonderful because it creates a relationship of joy, love and support.

So why are we telling girls that marriage is the best thing, but not boys?

A woman I know sold her house so that a man she might marry wouldn't feel inferior.

I know a single Nigerian woman who wears her wedding ring when she attends a conference, she says, "to gain respect" from other attendees.

I've seen young women make the wrong choices when relentlessly pressured by family, friends, and even the workplace to get married.

If you're a woman of a certain age and you're single, it's considered a disgrace in society as a woman.

When a man reaches a certain age and is single, he says he just hasn't found a good mate yet.

(Laughter) It's easy to say, "Wouldn't it be nice if women could argue?"

But the reality is much more difficult and complicated.

humans are social animals

think about things in terms of social values

It's also reflected in the language we use when we talk about marriage and relationships.

Words that talk about marriage often imply subordination, not equal relationships.

The word "respect" is usually meant by women to men, not by men to women.

In Nigeria, one of the most common expressions used by both men and women, and I find it interesting, is "for marital peace."

When men say this, it's usually when they're doing something they shouldn't be doing.

(Laughter) Married men say it to their male friends to brag about how manly they are and how much they love them, with a bit of a wry smile.

“My wife tells me not to go to the club every night, so I only go on weekends for the peace of my marriage.”

(Laughter) On the other hand, when a woman says, "For marital peace," it's usually about giving up something, like a job, a dream, a career.

We're telling women that in a relationship, women compromise.

I teach girls to compete with other girls, if it's about work or grades, but it's about being popular with guys.

Girls are taught not to express their sexual desires the way boys do.

If you're my son, you'll be fine with having a girlfriend.

But my daughter's boyfriend? no way!

(Laughter) But when the right age comes, I want my daughter to find the perfect marriage partner.

Girls want to be virgins under surveillance, but boys don't. I always wonder how this is possible-

(Laughter) (Applause) First experience usually requires a partner.

There was a recent gang rape of a young woman at a Nigerian university, as some of you may know.

Many young people in Nigeria, both men and women, said, "Of course rape is a crime.

But why was a girl alone in a room with four boys? ”

The reason why I can say such inhumane things is because I have been taught that women are born with a burden of sin.

teach girls to be ashamed

"Close your legs" "Hide your skin"

It makes women feel like they are born guilty.

This is how girls become women without aspirations.

You become a woman who has closed herself off.

They become women who can't speak their minds, and -- and this is the worst thing I can think of -- they grow up to be women who are kind of like decorations.

(Applause) There was this woman who hated housework.

Shortly after we got married, my husband's family started complaining that she had changed.

(Laughter) It's not that I've changed, I'm just tired of lying.

Gender issues arise because we're prescribing what we should be and not acknowledging who we really are.

Imagine how happy I would be, how much easier it would be to be myself without the burden of gender stereotypes.

It's true that boys and girls are biologically different, but societal values ​​force us to do so because they emphasize that difference.

For example cooking

Women generally do more household chores than men today, like cooking and cleaning.

I wonder why?

Is it because women have the gene to cook?

(Laughter) Or is it because for many years cooking was considered a woman's role?

I almost said that maybe women have the cooking gene, but most of the world's most famous chefs, as we call them chefs, are men.

I looked up to my grandmother.

Women have more opportunities today than they did in my grandmother's time, thanks to changes in policies and laws, but that's also important.

What's more important is our attitudes, our attitudes, how we think about gender, what we value.

What if, when raising children, we focused on competence instead of gender?

What if we respected the child's interests instead of gender?

I know a family with a son and a daughter, both academically brilliant, very nice, good kids.

When a boy says he's hungry, the parent says to the girl, "Make ramen for your brother."

(Laughter) My sister doesn't want to make ramen, but she's a girl so she has to.

What if parents were teaching both sons and daughters how to make it from the beginning?

Cooking is a very useful skill for boys.

I don't know why you don't know something so important, the ability to feed yourself. (Laughter) You can live independently.

(Applause) There's a woman who has the same education and the same job as her husband.

When she comes home, she does most of the household chores, and I think many couples do.

But what's amazing about them is that every time their husband changes the baby's diaper, she says, "Thank you."

What if she thinks this is perfectly normal and that her husband should take care of her child?

(Laughter) I'm trying to forget the ideas about gender that instilled in me when I was younger.

Still, sometimes I feel vulnerable when confronted with gender stereotypes.

When I first started teaching creative writing in graduate school, I was worried.

It wasn't that I was worried about the content of the lecture, I was well prepared and excited to teach what I liked.

I was worried about my clothes

I wanted to be noticed

As a woman, I knew I had to prove myself.

I thought it would look sweet if I dressed too feminine.

I really wanted to wear lip gloss and wear pretty skirts, but I didn't.

Instead, I opted for a serious, manly, uncool suit.

(Laughter) Sadly, when it comes to looks, men are the norm.

A man doesn't worry about being too masculine while getting ready for a meeting, does he?

If you're a woman, when you're getting ready to go to a meeting, you have to worry about how you'll look too feminine and underestimate yourself.

I still regret the suit I wore that day

I threw the suit away

At that time, if I had been as confident as I am now, my students might have learned a lot more, because I would have been more true to myself and more me.

I have decided that I will never be ashamed of being a woman or being a woman again.

(Applause) I want to be feminine, but I also want to be respected.

Talking about gender is not easy

Both men and women have a negative reaction when it comes to gender.

Some of you may be thinking, "A woman is a woman after all."

I'm sure some of the men here are saying, "That's an interesting story, but it doesn't resonate with me."

that's part of the problem

Part of the gender problem is that many men don't think about it, or don't realize it.

Many men, like my friend Louie, say that everything is fine now.

The problem is that you don't try to change anything.

If you were a man and you went to a restaurant with a woman and you were the only one to be greeted, would you ask the waiter? "Why don't you say hello to her?"

Because the gender issue is -- (Laughter) I could go on and on about this episode.

Anyway, gender is a very difficult topic to talk about, and there are easy ways to end this topic.

It's the kind of thing that brings up the theory of biological evolution, or the ape story, and the female ape bows to the male, or something like that.

But we're not apes

(Laughter) (Applause) Apes live in trees and eat worms for breakfast, but we don't.

Some people say, "It's hard even for men."

That's true

But that and this -- (Laughter) But that and this are different.

Gender and class differences, in different forms, are acts of oppression.

In talking to black men, I learned how oppression works and how it blinds us to other forms of discrimination.

I was talking to a black man about gender, and he said to me, "Why do I have to say 'female experience'?

Can we say "human experience"? ”

This man often talks about his experience as a black man.

gender is a problem

Men and women experience things differently

what we experience is influenced by gender

but that can change

Some people say, "But women have tricks, they're women's weapons."

To the non-Nigerian people, "woman's weapon" is the use of sexual attraction by women to win over men.

that's not power

"Women's Weapon" is when a woman uses her sexuality to take advantage of someone else's power.

But what if the person you tried to court was in a bad mood, sick, or useless?

(Laughter) Some people say it's part of our culture that women are subordinate to men.

But culture is always changing

I have beautiful twin nieces who are 15 and live in Lagos.

If those children had been born a hundred years ago, they would have been taken and killed.

Because that was the culture, the twins were being killed.

What does culture mean?

It's decorative, it's dance

But isn't it culture that inherits what the people have protected?

I am the person in my family who is most interested in family history, traditions and ancestral lands.

my brother not so much

And yet, I can't even attend a community meeting, I can't speak my mind.

because i am a woman

Culture does not make people, people make culture

So actually -- (Applause) So actually, if our culture doesn't really recognize women as human beings, then let's make it a culture that does.

I think a lot about my best friend, Okoroma Madueushi.

May his soul and the souls of those who died in the Sosoriso plane crash rest in peace.

everyone who loved him will never forget him

He was right the day he called me a feminist.

i am a feminist

I looked up the dictionary that day and it said, "A feminist is someone who believes in social, political and economic equality between men and women."

From what I've heard, my great-grandmother was a feminist.

She ran away from the house of a man she didn't want to marry and married a man of her own choosing.

When she thought she was denied participation, land ownership, etc., her great-grandmother wouldn't accept it and protested and raised her voice.

My great-grandmother didn't know the word "feminist," but I think she embodied it.

A lot of people should take this word back

My definition of a feminist is, "A feminist is a man or a woman -- (Laughter) (Applause) "A feminist is a man or a woman who says, 'We still have gender issues, we have to get them right, we have to fix them.'"

The epitome of a feminist I know is my brother Kene.

He's a sweet, handsome, nice guy, and he's very masculine.

thank you

(applause)

Two months ago, my kids and I were sitting around a cell phone watching "the Game Awards" live on the night of one of the biggest events in the gaming industry.

The nominees for the Impact Award have been announced, which will be given to video games that are socially useful, have a deep message, are meaningful and make you think.

As the envelope was opened, the title of our video game was read out.

Award category

It was an impact award.

It was kind of funny, actually, because I always thought that winning an award like this would make a big difference in my life, but it turned out to be the opposite.

Even on the night of the biggest event, the moment of achievement fades away.

But the memories of the most painful nights of my life haunt me forever, influencing who I am and how I behave.

In 2010, our third child, Joel, was diagnosed with a rare, aggressive brain tumor.

Before the year was over, doctors sat my husband and me down and told us that the tumor had returned, despite the most aggressive chemotherapy and radiation treatments possible.

That night, after the painful news, I learned that Joel probably had four months left to live, and I cuddled up with my youngest son, who was five and three years old at the time.

I told him about a very brave knight named Joel — and his tale of adventures fighting against a terrifying dragon called cancer.

Every night I would tell you the rest of the story, but I would never finish it.

I just wanted to set a background that they could understand. I hoped that our prayers would reach the heavens.

Fortunately, the story didn't have to tell the ending.

I'm past the age when kids want bedtime stories.

Joel's palliative therapy worked better than we expected, and over the course of years, not months, we learned how to love our dying son with all our heart.

I've come to realize the shameful feeling of being reluctant to give all the love you can.

We overcame that self-preservation instinct, because even though love would destroy us, Joel was lovable.

By painfully learning their own fragility—

I've changed more than any award

We spent our days hoping that Joel would live, and we started developing a video game called "That Dragon, Cancer."

It was Joel's story

It was a story of finding hope in the shadow of death.

It was a story of belief and doubt, and a story of recognizing that fighting doubt is part of belief, or even the greatest part of belief.

It was a story that began with a miracle and ended with a mourning.

(music) (laughter) (clap hands) (music) (video) Dad: Do you enjoy jumping around like that?

(Laughter) I love your laughter

(music) (laughter) [Journey to find hope in the shadows of death] [That Dragon, Cancer] (music) In That Dragon, Cancer, you witness Joel's life as you explore the world as his mind captured it, discovering more and more things our family felt and experienced with each click.

Somehow, it feels like deciphering a conversational poem, because game design is all about metaphors, so the more players explore the creator's intentions and why, the richer the experience is.

We've incorporated into the game the human fragility that Joel taught us.

In a video game, the story branches out as you progress, so you can feel that every decision you make matters, and you can actually change the outcome of the game.

We turned this game design on its head by hiding all of the player's choices so that the player realized there was nothing they could do to change Joel's fate.

And the players take this discovery as deeply and poignantly as we do. We made the same discovery, spending hours and nights holding Joel in our arms and praying for a miracle, even though we knew it would be impossible for humans to do it.

We all want to win, but what do we value when we know we can't win?

Making a game was something I didn't expect, but life-changing moments often come as a result of hardship rather than glory.

Back when Joel was still alive and well, I let my husband make the games.

I've only intervened now and then to endorse or make suggestions on a few occasions.

But after the night that Joel died, that passion -- the possibility of sharing Joel's life through gaming -- made me irresistible.

I started adding stories, attending team production meetings, pitching ideas, and overseeing scene production.

Making video games is about telling stories, but I've learned that it's telling stories in a whole new language.

Elements like imagination and symbolism are identical, except that they are tied to the player's actions and the system's response to them.

Difficult but rewarding

It takes a whole new way of thinking, but it's fun.

If it wasn't for Joel, I wouldn't have known.

It might come as a little surprise to you that we chose to expose the story of terminal cancer through a video game.

You might think, I've heard many people say that cancer is not a game.

But if you've ever had a child with cancer, you've probably let medical gloves blow up like balloons, syringes like spaceships, or allowed your child to ride around an IV stand like a racing car.

Because when you're with a child, everything becomes a game.

When young children have to go through traumatic and painful experiences, parents go to great lengths to make their lives feel like a game, because children naturally experience the world around them through play.

Cancer can take a lot out of your family, but it shouldn't take away your sense of fun.

If you hear my story and imagine a family centered around children who don't have long to live, and you can't imagine a shred of joy in that, then it was the right thing to share our story with you.

At times it was unspeakably painful, but at the same time it was pure hope and deep love and joy, something I haven't experienced since.

Our video game was an attempt to share that kind of world with strangers, because it's a world we couldn't even imagine until we experienced it ourselves.

We made a video game that's painful to play.

it will never be a big hit

Players must be prepared to be emotionally moved knowing the story will be heartbreaking.

But when the heart breaks, the heart heals in a slightly different way.

My broken heart is being healed with a new and deeper compassion, a compassion that wants to be there for those who are suffering, to listen and help them and help them know that they are not alone.

On the night that "That Dragon, Cancer" won the Impact Award, we cheered and smiled and talked about Joel and the impact he had on our lives.In the many hard, hopeful nights we spent together, he changed our hearts and taught us a lot about living, loving, believing, and having a purpose.

The award is not worth as much to me as a picture of my son, but it represents the thoughts of all the people who were touched by his life, even though they are complete strangers.

Sometimes I get emails

He says he misses Joel, who he never met.

Knowing that there are people who have cried for my son makes the burden of grief lighter just a little bit, because I know that there are people who share my burden: a 10-year-old watching games on YouTube, a doctor playing on his phone on an airplane, a professor introducing Joel to a first-year philosophy student.

We made a video game that hurts to play

But I feel that it's all right, because the hardest moments in life change us more than any moment of accomplishment.

Tragedy has changed my mind more than any dream come true.

thank you

(applause)

About 30 years ago, I went to Yale School of Architecture, and it just so happened to be across from this amazing art gallery designed by the great architect Louis Kahn.

I liked the building very much and used to visit it often.

One day, I saw a security guard patting his hand against a concrete wall.

I was struck by the way he stroked and the look on his face.

I realized that the security guard was moved by the building, and that architecture has the power to move people.

I got it, and I remember thinking, "How can we make architecture move people?"

In graduate school, I was studying design, but the scene was emotional.

it touched the core of my heart

People want beauty, they want sensual pleasure, they want atmosphere, they want emotional response.

It is a world that cannot be expressed in words and cannot be measured.

That's what people live for.The chance to challenge has come.

In 2003, there was an open competition to design a Baha'i temple in South America.

This is the first Baha'i temple in all of South America.

It was one of the main temples, one on each continent, and it was a very important landmark for the Baha'i Order, because it was the last of the main temples on each continent, and after this, they would build temples in countries and regions around the world.

The specifications were deceptively simple and unique in the context of Baha'i history: a circular chamber, nine sides, nine entrances, nine entrances, allowing people to enter the temple from any direction.

There is no pulpit, there is no preaching, because the Baha'i Faith has no priests.

In a world where walls are built everywhere, the design of this temple had to represent the exact opposite of that trend.

Its design had to be open and open to people of all faiths, classes, backgrounds, or no religion.It would be a whole new form of sacred space, with no anchoring style or archetype.

It's like designing the first church in Christianity or the first mosque in Islam.

Now we live in a secular world

How do we design sacred spaces today?

How do we define what is sacred today?

I came across a beautiful passage in the Baha'i writings that speaks of prayer.

"If your prayers reach God and God answers—which is interesting enough so far—the pillars of your heart will begin to shine."

I found this to be a good idea of ​​what's inside and what's outside. It's like when you look at someone and you say, "He's glowing."

I thought, "How can I build something based on these words? Can I build a building that is in the light?

If you bring the light closer to Alabasta, it will come to life."

And so I drew this sketch, it's two-layered, semi-transparent, and it catches the light in the middle of the layer.

The only way we can imagine light divergence as a pure, single shape is a dome.

(Laughter) Or an amorphous mass.

It's an endless quest, and we wait for the moment of surprising discovery.

I remember that moment very well, and when I stumbled across a short video of plants growing toward the light, it got me thinking about the movement of reaching out, the idea of ​​giving the movement of reaching out to our temples as we would to reaching out to God.

You can also see that motion in a circle means not only motion, but also stillness, even in space, and we see it everywhere.

(Laughter) But rotation isn't enough, because you need shape.

In the Baha'i scriptures it is written that the temple has been pondering what perfection must be as perfect as human beings are capable of.

And then I stumbled across this picture of a Japanese basket, and it made me realize that I had to question the concept of perfection in the West.

And then we sketched and built a model. These lines come together at the top. They're soft lines. They fold and stack like curtains or translucent veils.

And then it started to take on an interesting shape, and I carved the base to make the entrance.

And here it is.

This temple has two layers, nine luminous veils, containing the light, and the soft flowing lines are like a graceful cloth with radiant pleats.

Out of 180 submissions from 80 countries, this proposal was selected.

And then we moved on to the next step How to build this

In the application proposal, I was planning to use alabaster (allabaster).

Alabaster was too soft, so we experimented with different materials, trying to figure out how we could get that kind of soft light, and we ended up with hardened glass.

As you know, hardened glass is a very strong material. By breaking a hardened glass rod like this and melting it at the right temperature, we got a new material. It took us two years to make this new cast glass.

This material had the properties that we were looking for: contained light, but in the interior, we needed a softer light, like the lining of a jacket.

The surface must be protected from the outside world, but the inside is touchable.

We found a small dike in a huge quarry in Portugal. This is a beautiful stone. It's been sitting unused for seven generations.

Look at this stone, it must be beautiful

Please look at the part where light is applied.It becomes translucent.

this is the skeleton of the building

let the light in

When viewed from above, the nine wings are connected, and it's not only structurally strong, but it's also symbolically strong. It's a great symbol of fusion. It's pure geometry. It's a perfect circle.

Take a look at how the building came to be: 2,000 steel joints, 9,000 steel plates, 7,800 stones, 10,000 sheets of hardened glass, each with a different shape. Using aerospace technology, every drawing, design, and assembly of this superstructure was done on a robotic, fully mechanized line. within a margin of error of 3 percent

(Applause) Nine wings that connect to form a nine-pointed star that moves through space as the sun moves.

this is the finished building

(Audience) Wow!

(Applause) I hope this is a fitting answer to this beautiful quote: "Prayers answered." It's open on all sides, the blue light of dawn, the white tent light of the day, the golden glow of the afternoon, and of course the opposite at night.

As for the location, it's interesting, 14 years ago, when I applied, the candidate site was against the backdrop of the Andes Mountains.

No land was found in the Andes Mountains. But nine years later, as originally planned, the temple was built. The outline of the temple stands against the purest of nature.

Last October, the opening ceremony was held. In a beautiful and sacred ceremony, 5,000 people from 80 countries gathered, and the flow of visitors continued like a river, with indigenous peoples from all over South America, some of whom had never left their villages.

Of course, this temple belongs to the people, and the people are a collection of people of different cultures, classes, and faiths.

If even a few of the visitors act like those guards, then this temple will truly belong to them.

i hope it happens

thank you

(applause)

I would like to share with you one of the most frustrating moments in my years working as a palliative care physician.

that was two or three years ago

I was referred to see a woman in her 70s who was a former professor of English with pancreatic cancer.

I saw her because she was complaining of pain, nausea and vomiting.

I went to see her, and I talked to her about these symptoms, and during the interview, she asked me if I thought medical marijuana would work.

I remembered everything I learned about medical cannabis in medical school, and the reason it didn't take me long was because I didn't learn anything at all.

So I told him everything I knew, and I said that medical cannabis didn't help me at all.

She smiled and nodded, reached into the bag next to her bed, and pulled out a dozen randomized controlled trials that showed the benefits of medical marijuana for symptoms like nausea, vomiting, and anxiety.

She handed me the paper and said, "Maybe you should read this before commenting...

gentlemen"

(Laughter) That's what I decided to do.

I read all the papers that night and found a few more.

When I saw her the next morning, I had to admit that there seemed to be some evidence that cannabis could be medically useful, and I said, if you're interested, try cannabis.

What do you think he said?

This 73-year-old former English professor?

It's like, "I tried it about six months ago.

it was great

I've been using it every day since

It's the best drug I've ever found

I wonder why it took 73 years to find such a wonderful thing."

(Laughter) In that moment, I realized that what I learned in medical school had nothing to do with reality, and I needed to learn about medical cannabis.

I started reading more papers, I started talking to researchers, I started talking to doctors, and most importantly, I started listening to patients.

I've written a book based on these conversations, and in fact the book is based on three surprising things, which were a surprise to me.

The first, which I've already mentioned, is that medical cannabis actually has some utility.

Its benefits may not be as big and surprising as medical cannabis enthusiasts claim, but it certainly works.

The second surprise is that medical cannabis carries some risks.

This risk may not be as big and frightening as some opponents of medical marijuana say, but it certainly exists.

The third surprise is the biggest, but...

I've spoken to many patients who have sought help from medical marijuana, and in the end, they turned to medical marijuana not because of its benefits, not because of the balance of risks and benefits, not because they thought it was a silver bullet, but because they could control their disease.

With medical cannabis, a patient's health can be managed in a productive, efficient, useful and body-friendly way.

Let me introduce you to another patient to show that.

When I met Robin, she was in her early 40s.

I only looked like I was in my late 60's.

For the past 20 years, I have suffered from rheumatoid arthritis, my hands are arthritic and gnarled, my spine is curved and I have had to rely on a wheelchair to get around.

He looked emaciated and frail. Physically, he might have been, but emotionally, cognitively, and spiritually, he was one of the strongest people I've ever met.

When I sat next to her at a medical marijuana dispensary in Northern California, and asked her how she got started on medical marijuana, how it worked for her, and whether the medicine helped her, she started saying the same things as the patient I had asked her before.

The medicine eased my anxiety and lessened my pain, and helped me sleep.

I've heard them all

She said something I'd never heard before: medicine gave me control over my life and my health-

She was taking her medication at the dose and frequency that seemed to work when she needed it.

if it didn't work i'll try to change it

it was all up to her

Most importantly, she said, you don't need anyone else's permission, no doctor's appointment, no doctor's prescription, no pharmacist's orders.

it all depended on her

she was managing

For someone with a chronic illness, it seems like a small thing, but it's not.

When we're faced with a serious chronic illness, whether it's rheumatoid arthritis, SLE, cancer, diabetes, cirrhosis of the liver, it's out of our control.

Notice how I said "when..." instead of "if..."

All of us, at some point in our lives, will face a chronic, serious illness that is out of our control.

Your physical and cognitive functions will decline, and you will no longer be able to take care of yourself or do the things you want to do.

Our bodies betray themselves, and in the process, we lose control.

that's scary

It's not just scary, it's shockingly scary, it's terrifyingly scary.

When I talk to palliative care patients, many of them face a deadly disease and have a great deal of fear -- pain, nausea, vomiting, constipation, fatigue, fear of dying.

But more than anything else, they fear that at some point, tomorrow or a month from now, they'll be out of control of their health, their life, their health care, and they'll be dependent on others.

So it's no surprise that patients like Robin, whom I met at the clinic I just mentioned, turn to medical marijuana in an effort to slowly regain control.

But what are you doing there?

How can a medical marijuana dispensary, like the one where I met Robin, get the patient back in control?

What would you do in a way that a normal hospital or clinic could not, at least for Robin?

What's the secret?

So I decided to find out the truth

I went to a shady clinic in Venice Beach, California, and I was able to become a medical marijuana patient and buy medical marijuana.

got the certificate

I got the certificate illegally, because I'm not a California resident and I should say so.

For the record, I never used that certificate to buy drugs. Hello DEA. (Laughter) Great job.

(Laughter) But even if you didn't use it to make the purchase, the certificate is valuable because it allows me to be your patient.

That's what allows patients like Robin to have the same experience they had when they went to a medical cannabis dispensary.

And what I experienced there, the experience that hundreds of thousands of people like Robin go through every day, was truly astonishing.

From the moment I walked into a clinic and walked into one of those clinics and pharmacies, it felt like it was meant for me.

I started by asking questions about who I am, what I do, what my goals are when looking for medical cannabis prescriptions and medications, what my priorities are, what my desires are, how I think this might help me, my expectations, and what my fears are.

That's a question patients like Robin are constantly asked.

It's a question that I can be sure the person I'm talking to is asking because they really care about me, they want to understand me.

The second thing I've learned from these clinics is that you can get an education.

Education not only from the people who work in the pharmacy, but also from the people in the waiting room.

Sitting next to me, I met very happy people like Robin, who were more than happy to tell me about themselves, why they use medical cannabis, what it does, how it works, and give me advice and suggestions.

This waiting room is a really lively place for interaction, advice and support.

The third is the pharmacists.

I was amazed at how these people, at times, would go to lengths and gleefully sequence these nuances to me -- the difference between the characteristics of this drug and that drug, the difference between smoking and inhaling, the difference between edibles and ointments -- all while I had no desire to buy them.

Think about the last time you went to a hospital or a doctor's office, and someone spent hours explaining it to you.

The fact that patients like Robin go to those clinics, go to those pharmacies, get that kind of personal attention, education, services, should be a wake-up call to the healthcare system.

People like Robin are turning their backs on conventional medicine and going to medical cannabis dispensaries because these dispensaries give them what they need.

Even if this is a wake-up call for established medical institutions, many doctors can't hear it, and they don't want to hear it.

When I talk to my fellow doctors about medical marijuana, they say, "We need more evidence.

We need more research into its benefits and more evidence of its risks.”

What should I say? it is reasonable

it really makes sense

We really need more evidence about the benefits of medical cannabis.

It also asked the federal government to make cannabis legal under the Controlled Substances Act, and completely changed its treatment rules to allow for its research.

Besides, the risks of medical cannabis have to be studied even more.

The risks of medical cannabis -- the risks of recreational use -- are well known, but almost nothing is known about the risks of medical cannabis.

That's where the real need for research comes in. But the argument that we need research, but we don't need to make a change now, is completely irrelevant.

People like Robin aren't getting into medical marijuana because it's a silver bullet, or because they think it's completely risk-free.

Because the channels of distribution, the formulations and the actual situations in which they're used give us the control we need for the rest of our lives.

This is a wake-up call that we really need to pay attention to.

But the good news is that there are lessons we can learn from medical cannabis dispensaries today.

that's what we really have to learn

Pharmacies are often small businesses run by people with no medical training at all.

We have a billion-dollar health care system that is disappointingly under-delivered, and these clinics and pharmacies are responding to the needs and needs of patients.

At least three lessons can be learned from that small pharmacy.

First, finding ways to give patients more self-control is a small but important thing.

When and how to interact with health care providers How do medications help patients?

In my own practice, I've taken a more creative and flexible approach to thinking about how patients can safely use drugs and manage their symptoms.

Many of the drugs I prescribe are narcotic pain relievers and tranquilizers that can be dangerous in overdose.

but this is important

Excessive use of these drugs can be dangerous, but if they do not meet the patient's wishes and needs, they cannot be expected to be effective.

If drugs are administered safely, that flexibility can be invaluable to patients and their families.

that is the first

Second is education

From these medical cannabis dispensaries, there's a huge opportunity to learn how to educate patients and spend less or no doctor's time. It's also an opportunity to rethink what the medicines we use are and why they're used, the prognosis and prognosis of the disease, and most importantly, the opportunity for patients to learn from each other.

How can we recreate what's happening in that clinic or pharmacy waiting room?

How do patients learn from each other and exchange information?

It's also important to treat patients first, like a medical marijuana dispensary, to empower them to speak up about their wishes and needs, and that's what we medical professionals are here for.

Ask patients about their hopes, fears, goals and preferences.

As a palliative care physician, I ask every patient what they want and what they fear.

but this is important

Patients don't have to wait until they have a chronic, serious illness that's close to death until someone asks them, "What do you want?" "What are you afraid of?"

don't wait

It should be firmly integrated into the healthcare system.

it's possible it's really possible

Medical cannabis dispensaries and clinics across the country understand this Medical cannabis dispensaries and clinics across the country understand this

They know that the large, conventional healthcare system is years behind.

But we can and must learn from it.

Put your pride aside -- ignore your thoughts for a moment -- because we have many professional titles behind our names, and we are responsible for the delivery of care within a large healthcare system, and we know all there is to know about how to meet the needs of our patients.

we set aside our pride

I need to visit some medical cannabis dispensaries.

understand what's going on there

We have to understand why so many patients, like Robin, are forgoing regular medical facilities and going to medical marijuana dispensaries instead.

We have to understand the secrets and what their tools are, and we have to learn from it.

If you learn that -- you can, and I believe you should definitely learn -- every patient will have a better treatment experience.

thank you

(applause)

"Universe, it's the ultimate frontier"

The first time I heard these words was when I was only six years old.

I wanted to explore this strange new world.

find new life

I wanted to see everything that came from outer space.

Guided by these dreams and words, I walked the path of discovery Guided by these dreams and words, I walked the path of discovery.

Now, I've learned two amazing things, one of which is a bit of a disappointment that I learned during my PhD.

It's just that I won't be able to fly a spaceship myself in the near future.

But I also learned that the universe is strange and wonderful and vast, too vast to be explored in a spaceship.

So I decided to study astronomy with a telescope.

What you're looking at is a picture of the night sky.

It's something you can see all over the world

All you see here are stars in the galaxy we live in.

If you look at the darker parts, if you go to a pitch-dark place like a desert, you might be able to see the center of the Milky Way galaxy, with hundreds of billions of stars spread across it.

very beautiful image

colorful

But after all, this is just a tiny corner of the universe.

I can see something like a strange dark dust spread out to the side.

This is the locally distributed dust that obscures the light emitted by the star.

But we have advanced technology.

Even with the naked eye, we can explore the corners of this universe.

It is possible to see better

This is an amazing telescope, the Hubble Space Telescope.

Here's an image stitched together by a cosmologist.

The "Hubble Deep Field" is a tiny patch of sky that has been observed over hundreds of hours, with a field of view no larger than the size of your thumb on an outstretched arm.

There are thousands of galaxies in this image, but it's believed that there must be hundreds of billions of galaxies in the entire universe, some very similar to ours, some very different.

I know you think you got it right, but my quest continues.

It's very easy to do with a very smart telescope, and you just look up at the sky and you're good to go.

But that alone can actually lead us to overlook things.

And that's because what I've been talking about so far uses only visible light, which is what the human eye can see, and that's just a tiny bit of information -- a tiny fraction of what the universe is emitting.

Observations with only visible light have two major problems.

In addition to missing another physical process that produces different types of light, there are two other underlying problems.

The first is about the dust I mentioned earlier.

Dust blocks visible light from reaching us.

So the farther you try to explore space, the weaker the light that reaches you.

dust is blocking the light from reaching us

But when we explore the universe with visible light, there's actually a strange problem.

I'm taking the story out of space for a moment.

Let's say you're standing on a busy street corner.

car passes by

as the ambulance approaches

I hear a high-pitched siren

(mimicking the sound of a passing siren) It sounds like the pitch changes when an ambulance passes by.

The ambulance driver didn't purposely change the sound of the siren.

This is what the listener feels

As the ambulance approaches, the sound waves are compressed and raised in pitch.

Conversely, as the ambulance moves away, the sound waves are stretched and their pitch is lowered.

the same thing happens with light

Light waves emitted by objects approaching us are compressed and appear more blue.

As the object moves away, the light waves spread out and appear more red.

We call these effects blueshift and redshift.

Now, because the universe is expanding, all objects are moving away from each other, and everything appears to be redshifted.

It's also very strange that the farther you look into space, the farther away you look at an object, the faster it is moving away and the redder it appears.

Now, back to the Hubble Deep Field, if you're going to continue looking into the distant universe using just the Hubble Space Telescope, you're going to run into a problem when you reach a certain distance and everything starts to look red.

When you get very far, eventually everything shifts into the infrared and you can't see anything.

something must be done

Without the means, my journey ends there

I wanted to explore the entire universe, not just the celestial bodies visible before redshift disturbed me.

We have the technology for that

It's called radio astronomy.

Astronomers have used this technique for decades.

great technology

Introducing the Parkes Radio Telescope, affectionately known as "The Dish"

Some of you may have seen it in the movies

waves are great

you can see the farthest universe

It's not blocked by dust, so you can see everything in space, and redshift is less of an issue, because you can build a receiver that picks up a wide band of signals.

So what would you see if you pointed the Parkes telescope at the center of the galaxy?

It should look great, right?

I see something really interesting

the dust fades away

As I said, radio waves can pass through dust, so it's not a problem.

but it looks very different

You can see the center of the Milky Way shining brilliantly, but this is not starlight.

It's called synchrotron radiation, and it's caused by the spiraling motion of electrons in the cosmic magnetic field.

So the galactic plane glows with synchrotron radiation.

You can also see strange clusters emanating from it, and celestial bodies that are invisible to visible light.

But analyzing this image is very difficult because, as you can see, the resolution is very low.

Because the wavelength of radio waves is long, the resolution is low.

Also, this image is in black and white, so I don't know the color.

Let me give you the latest

We can build telescopes that can overcome these problems.

What I'm showing you is a picture of the Murchison Radio Observatory, which is the perfect place to set up a radio telescope.

It's flat, dry, and most importantly, no radio waves. No cell phones, no Wi-Fi, nothing.

The telescope I've been working with for the last few years is called the Murchison Widefield Array, or MWA, and I'd like to show you a little bit about how it was built.

This is a team of undergraduate and master's students in Perth.

We call it the Student Corps, a group of volunteers working to build radio telescopes.

No course credits

they're building a dipole antenna

It only receives low frequency radio waves, like FM radio and television.

Deploying this in the desert

It ended up covering 10 square kilometers of desert in Western Australia.

Interestingly, there are no moving parts.

It's just a mesh of these little antennas, like a birdcage net.

can be made quite cheaply

The cable takes the signal from the antenna and sends it to the central processing unit.

Speaking of the size of the telescope, it's the size of an entire unfolding desert, and it has a higher resolution than the Parkes Radio Telescope.

All the cables are connected to one device, which sends signals to a supercomputer here in Perth, and that's where I come in.

(sighs) This is radio data.

For the last five years, I've been wrestling with data that's very troubling, but very interesting, the kind of data that no one has ever worked with before.

We spent a lot of time calibrating the data, spending millions of hours of supercomputer CPU time trying to understand what the data contained.

Using this telescope and its data, we have completed a global observation of the entire Southern Hemisphere, called the Galactic, Exo-All Sky MWA Observation, which I named GLEAM.

i'm so excited

These observations have not yet been published, but they will be published soon, and you will literally be the first people to see the entire Southern Hemisphere night sky.

It's nice to see the images from this observation.

Imagine you've been to Murchison, sleeping under the stars and looking south.

If you look at the south pole of the sky, the galaxy is going up.

If you turn off the radio and the lights, you can make observations like this.

The galactic plane is no longer obscured by dust.

Shining with synchrotron radiation, thousands of dots can be seen in the night sky.

The closest galaxy to our Milky Way, the Large Magellanic Cloud, looks orange instead of the familiar bluish-white color.

You can see a lot more. Let's zoom in.

We're going back to the low-resolution, black-and-white images of the Galactic Center from the Parkes Radio Telescope that I showed you earlier, and then gradually transitioning to the GLEAM images, which are 100 times higher resolution.

You can see the night sky in color, it's the color of nature.

Not false color (composite color)

It's the true color of radio waves

The lowest frequencies are represented in red, the highest frequencies in blue, and the middle frequencies in green.

Now you can express it like a rainbow color

More than just a false color

The colors in this image tell us about physical processes taking place in the universe.

For example, if you look along this plane of the galaxy, it's glowing with synchrotron radiation, and it looks reddish orange, but if you look more closely, you can see a little blue dot.

If you zoom in, you can see that this blue dot is ionized plasma that's glowing around a very bright star, and here it's blue because the star is blocking the red light.

From here, you can learn about the regions in our galaxy where stars are born.

These things are easy to find

If you look at a galaxy, you know it's there by its color.

You can see little soap bubble circular images around the plane of the galaxy, which are supernova remnants.

When a star explodes, its outer shell scatters, collects matter, and spreads out into space, forming tiny shells.

The whereabouts of supernova remnants has long been a mystery to astronomers.

To produce the synchrotron radiation we're observing, there must be a large amount of high-energy electrons on the emitting surface, likely produced by supernova remnants, but not in large numbers.

Luckily, GLEAM can detect supernova remnants with great precision, so hopefully we'll have another paper out soon.

So far so good

We've explored a very small part of the universe, but I wanted to explore deeper, farther into the universe.

I wanted to explore beyond the galaxy.

We're lucky enough to see a very interesting object in the upper right corner, which is the nearby radio galaxy Centaurus A.

If you zoom in, you can see two giant plumes sticking out into space.

If you look at the central part between the two plumes, you can see a galaxy similar to ours.

There is a dust absorption belt in a spiral galaxy-

a normal galaxy

But this jet can only be seen on radio waves.

In visible light, we don't even know it exists, even though it's thousands of times the size of the galaxy itself.

What's happening? What Creates Jets?

We know that every galaxy has a supermassive black hole at its center.

Black holes are so called because you can't see them.

You can see how the light flying around it changes its orbit. Sometimes, when a star or gas cloud gets into its orbit, it is torn apart by tidal forces, forming what is known as an accretion disk.

The accretion disk emits powerful X-rays and a powerful magnetic field that releases matter into space at nearly the speed of light.

We can see this jet on radio waves, and this is how it affects our observations.

We got to see one radio galaxy, which is pretty cool.

But if you look at the top part, you'll see another radio galaxy.

It's a little smaller, just because it's farther away.

two radio galaxies

It's good to see radio galaxies.

So what's the other point?

Stars?

no it's not

They're all radio galaxies.

Every dot in this image is a distant galaxy, millions to billions of light years away, with a supermassive black hole at its center, pushing matter into space at nearly the speed of light.

it's surprising

This observation actually covers a much wider area than what I've shown you so far.

If you zoom out and look at the entire field of view, you can see that there are 300,000 radio galaxies.

It's a really big space trip.

That we found all these galaxies behind the first discovered supermassive black hole

I'm very proud of this achievement, which will be published next week.

but that's not all

In this observation, I explored the most distant galaxy, but there's something else hidden in this image.

Now let me take you to the beginning of the universe.

After the big bang, which was the birth of the universe, the universe was filled with hydrogen, neutral hydrogen.

As the very first stars and galaxies began to form, the hydrogen was ionized.

The universe, which was neutral, was ionized.

Its remnants are left in the radio waves that surround us.

Wherever we are, it penetrates our bodies in the same way that forces act.

Because it happened so long ago, the signal has been redshifted and is now a very low frequency signal.

It's in the same frequency range that we observe, but it's a very weak signal.

It's about one billionth of the signal emitted by the celestial bodies we observe.

Our telescopes may not be sensitive enough to pick up this signal, but

Introducing a new radio telescope

I can't go on a spaceship, but I would like to use one of the largest radio telescopes in the world.

We're building a new radio telescope, the Square Kilometer Array, that's a thousand times larger than MWA, a thousand times more sensitive, and a thousand times better resolution.

I'm sure we'll find tens of millions of galaxies.

Perhaps, in that signal, we'll be able to see the first stars and galaxies born in the universe, just as the universe began to tick.

Thank you

(applause)

tell a story about a girl

I can't reveal my real name

call me Hadiza

Hadeeza is 20 years old

He's a shy type, but he has a wonderful smile, and when he smiles, his face brightens up.

But I'm in constant pain

You'll probably be on drugs for the rest of your life.

Why do you think?

Hadiza is a resident of Chibok April 14, 2014 Abducted by Boko Haram terrorists

He managed to escape by jumping out of the truck carrying the kidnapped schoolgirls.

When I landed, I broke both my legs and had to crawl on my stomach and hide in the bushes.

He said he was so scared that Boko Haram would come looking for him.

Hadeeza was one of 57 girls who jumped off the truck that day.

This incident, of course, sent ripples around the world.

People like Michelle Obama and Malala protested. I was living in London at the time, and at about the same time, I was sent from London to Abuja to cover the World Economic Forum, the first ever to be held in Nigeria.

When I arrived, the town was talking about this kidnapping.

we put pressure on the government

I asked tough questions about what they were doing to rescue hostages.

Understandably, the government didn't like the series of questions, and let's just say that the answer was "another truth."

(Laughter) At the time, some of the most powerful people in Nigeria told me that I was naive and that I was ignorant of the political situation in Nigeria.

Not only that, but he also claims that Chibok's kidnapping of schoolgirls was a hoax.

Sadly, this hoax persists, and some people still believe that there were no kidnappings in Nigeria.

But I've spoken to people like this picture, devastated parents, who said that the day their daughters were kidnapped by Boko Haram, they chased the truck they had kidnapped into the Sambisa Forest.

I took a machete, but Boko Haram had a gun, so I had to turn back.

Two years inevitably changed the focus of the news, and for two years there was little coverage of the abducted students.

everyone thought he was dead

But last April, I got this video.

A still from a video taken by Boko Haram to prove that the girls are alive. The video originated with a source.

But before I could go public, I had to go to the northeastern part of Nigeria to talk to parents and verify my identity.

I was immediately confirmed

One of the mothers watched the video and said that if she could reach into the screen and pull her child out of the computer, she would.

If you're in the room with a child like I am, you know the anguish the mother was feeling.

This video started negotiations with Boko Haram.

A Nigerian legislator said it was because of this video that the negotiations had started, because it had long been believed that the Chibok schoolgirl was dead.

21 schoolgirls were released last October.

Sadly, nearly 200 people remain missing.

To be honest, I couldn't help but get emotional when reporting it.

It makes me furious to think that I wasted my chance to rescue the girls.

I get furiously angry when I think about what I've heard from parents who said that if they were the children of the rich and powerful they would have been searched much sooner.

And I am furious with the "hoax" theory, which I believe is one of the reasons for the delay in the investigation, one of the reasons for the delay in returning the girls.

This highlights the deadly danger of fake news.

What can be done about it?

Google and Facebook have brilliant employees and engineers who use technology to stop the spread of fake news.

But in addition to that, you and I and everyone here has a part to play.

We are the ones who share the content of the news.

We are the ones who share news stories online.

In this day and age, we're all publishing media, and we have a responsibility.

As a journalist, my job is to investigate and back out

While trusting your own intuition, question the essence

"Why is this person talking to me like this?"

"What is the benefit of giving me this information?"

"Do you have hidden motives?"

I strongly believe that we all need to start scrutinizing information on the internet more rigorously.

Research shows that when people share an article, some people don't even read the headlines.

Anyone remember?

I am

But what if we stopped taking the information we found with a grain of salt?

What if we pause for a moment and think about the consequences of the information we give out, the potential for violence and hatred to emerge from it?

What if you could pause for a moment and consider the real-world consequences of the information you share online?

Thank you for your attention

(applause)

Right out of college, I joined a consulting firm.

During the orientation, I received a lot of advice from my seniors.

In it were simple and unforgettable words.

That is "be an easy-to-handle employee"

At that time, I was naive and took this advice obediently.

I said to myself, "Okay, I'm going to be the ultimate team player.

I'll do whatever you say

I will be an easy employee to work with.”

It wasn't until I went to graduate school and saw first-hand the criminal behavior of scientists and engineers in the Flint, Michigan water crisis that I realized how dangerous and surprisingly common this kind of thinking is.

Indeed, the Flint water crisis is one of the most serious and unfair environmental pollutions of our time.

For more than 18 months, the tap water used by 100,000 citizens, including thousands of young children, was contaminated with high levels of lead.

Lead is highly neurotoxic, causing cognitive and developmental problems, and is especially dangerous for growing fetuses and infants.

We've known about the dangers of lead since the Roman Empire.

We had a ton of health problems, one of which was that 12 people died from Legionnaires' disease.

Flint's water infrastructure was a complex underground network of pipes that had been severely damaged.

The water quality is gradually improving, and the water pipes are being replaced, but it's been over two years and it's still not safe to drink.

Residents are still in shock

Ask yourself, "How did this happen?"

In a nutshell, the crisis began when the Michigan governor's appointed emergency manager decided to switch water sources to local rivers to save money.

But the problem persisted because scientists and engineers from Michigan and federal agencies didn't follow federal regulations on water treatment.

Instead, they actively evaded the law and tried to cover it up.

They ignored residents who asked for help and openly claimed that the smelly, brown water that came out of the tap was safe to drink.

Governments at the local, state, and federal levels did nothing to protect the most vulnerable, leaving residents to fend for themselves.

In this unjust situation, the residents have united.

And the best of all were the women of Flint, the mothers who were worried about their children, and they launched a number of grassroots movements, and these groups started protesting for change.

Outside scientists were asked to help, and some scientists responded.

One of them, Miguel del Toral, a water expert with the US Environmental Protection Agency, wrote a scientific memorandum to the state of Michigan and the federal government to draw attention to this issue.

But he was treated as a "troubler's employee" and silenced.

Our investigative team at Virginia Tech worked with residents of Flint, led by Professor Mark Edwards, and students and scientists tested water quality across the city of Flint to prove that the water supply is indeed polluted and some households are being supplied with toxic water.

Resident complaints from months ago have been substantiated and made available to the world on the internet.

When I got involved with this problem, I had no idea what was ahead of me.

But the whole process was a valuable experience.

This was science for the public good

That's why I went to graduate school, and that's what I want to dedicate my life to.

A rare coalition of citizens, pastors, journalists, and scientists emerged to uncover truth through science, problem-solving, and activism.

A local pediatrician found that in crisis-ridden Flint, cases of lead poisoning among children had doubled.

Michigan was forced to acknowledge the problem and set out to fix it.

The work of many of these groups saved the children of Flint.

A few months later, President Obama took issue with it and declared a state of emergency, and Flint is now receiving more than $600 million in subsidies to improve health care, nutrition, education, and improve water infrastructure.

But the arrogance and indifference to public health displayed by government scientists and engineers is incredible.

They're steeped in unhealthy practices, and they're more concerned with coordinating regulations and checks than protecting public health, and it's really, really bad.

This is an email sent by an Environmental Protection Agency official, and the sender wrote, "Is Flint an area that we should be so deeply involved with?"

It's all too clear that you're neglecting the entire population.

Compare that to the code that engineers should follow above all else, and I think it's also the code that we should follow as human beings: put public health, safety and well-being first, above anything else.

These "Hippocratic Oaths" are largely unrecognized, much less adhered to.

As a result, when scientists and engineers do something wrong, people can get hurt or even die, just as doctors do.

Society pays a heavy price when professionals, or even students, fail to understand the importance of normative adherence.

There's one engineer who's been lost to history, and I admire him: Peter Palczynski.

was an engineer in the former Soviet Union

Because he was so naive, he got him into trouble again and again, without hesitation in pointing out that the Soviet Union, which was blindly pursuing rapid industrialization, was in big trouble.

Everyone was expected to obey orders from above.

No one was welcome to ask questions or make comments.

The Soviet Union created the world's largest army of engineers, but many of them were nothing more than cogs in a gigantic machine pushing forward.

But Palczynski appealed to the engineers to think about the economic, political, and social consequences of their actions, which is to say, pay more attention to the public.

Palczynski's rational and courageous voice was seen as a threat by the establishment, and Stalin executed him in 1929.

Palczynski's view of the technical bureaucracy is very different from the image that is still widely held: the stoic researcher working in a detached laboratory, or the geeky engineer working in a cubicle.

They're smart, yes, but they're cut off from the world and show very little emotion, like Spock from "Star Trek."

this is spock

(Laughter) Spock says hello with his fingers,

i can't do it

I don't think I can become Spock

rather fortunately

(Laughter) I was reminded of this difference by a recent article in a respected scientific journal that saw our work in Flint as a "Hollywood sensibility for drama" driven by "youthful idealism."

The article calls on scientists to protect research funding and institutions at all costs, no matter how just the cause.

And if you think you should get involved in any issue, even if it's an emergency, before you get involved, find an activist group or an NGO and seek full support from the academic community, whatever that means.

It doesn't say a word about our ethics or our professional duty to prevent public harm, nor does it mention the expertise and resources that we have, or the fact that, for some, tenure is the way to do this job.

I'm not saying that all scientists should be activists.

In fact, there are times when people are put in a difficult position because they have raised their voices.

But denying this possibility altogether and trying to protect research funding is nothing more than the scream of a selfish coward. That's not the ideal I want my students to inherit.

You might be thinking, "Yes, it sounds good, but you can't completely change the culture of an organization. You can't get students and professionals to change their minds and make science work for the public good and serve the public as their goal."

maybe

But I think a big reason for that is that we're not training our students properly?

If you look hard enough, today's education system is all about creating what former Yale professor Deresiewicz calls "excellent sheep," young people who are smart and ambitious, but risk-averse, timid, directionless, and sometimes only thinking about themselves.

As kids, we fell in love with science, but somehow in high school and college, we spend so much time just getting credit, and not really thinking about what we want to do or what we want to be, instead of focusing on things that make our resumes look better.

As a result, measures of empathy levels among college graduates have fallen dramatically over the last 20 years, while measures of narcissism have risen.

There is also a growing trend that engineering students and the general public do not interact.

We're trained to build bridges and solve complex problems, but we're not taught how to think, how to live, how to be a citizen.

My university life was undoubtedly a period of preparation for employment, and at times I felt suffocated.

So some people think that becoming a good engineer or a good scientist requires more specialized training.

maybe

But where are the debates about ethical decision-making, character-building, right and wrong?

I have a project that I love and admire.

"Heroic Imagination Project"

It was conceived by Dr. Phil Zimbardo, the man behind the Stanford Prison Experiment, and it's an attempt to make school-age kids around the world think they're heroes in the making, and they're training to be heroes.

These children develop skills and virtues over time, and when the opportunity presents itself, they will stand up and do the right thing, whatever the opportunity may be.

It means that anyone can be a hero.

just think about this idea

Why can't science and engineering be taught like that? Because just as heroism and public service are core values, in fact, heroism is often the antidote not only to public indifference, but also to systemic evil, like the one we saw in Flint.

So please share my dream. It's a dream about the ideal 21st century scientist and engineer. They believe that they do science to serve society. They also recognize the power of their own knowledge and decisions.

Like we did with Flint, they will stand up, altruistic, trustworthy people who want to do basic good instead of being heroes and saviors in the media.

Let's think about cultivating a way of thinking that values ​​the public nature through classrooms at universities and high schools, volunteer activities, and so on. So that even after you enter society, you can hold onto your ideals in your youthful heart. Whether it's a consulting firm, academia, policymaking, or even becoming the president of a country.

The most significant challenges facing humanity lie before us, and drinking water pollution is just one example.

What we could use more of, but what we desperately need are people who stand up for their compassion, scientists and engineers who strive to do the right thing for the public, not easy people.

thank you

(applause)

last year…

it was the worst

(Laughter) It was my first time eating Nigerian Jolof rice.

(Laughter) No, seriously, I was in a mess.

I was under tremendous stress and was suffering from anxiety attacks.

Some days I can't work at all

There were days when I just wanted to lie in bed and cry

My doctor told me to talk to a mental health professional about my stress and anxiety.

mental health?

I straightened my mouth and shook my head in resistance.

I felt a tremendous sense of embarrassment

it was a heavy stigma

I had a loving and supportive family and some very loyal friends, but I just couldn't accept the idea of ​​telling someone about my painful feelings.

I was suffocating in the rigid architecture of African masculinity.

"People really have problems

That's all there is to it."

The first time I heard the word "mental health" was when I arrived from Ghana and immediately entered boarding school at Peddy School in New Jersey.

I had just had a rough experience losing seven loved ones in the same month.

The doctor in the nurse's office was concerned about what I was going through -- thank goodness -- and asked me about my mental health.

"Is she sick?" I thought.

You don't know I'm an African man, do you?

(Laughter) Like Okonkwo in the novel "Crumbling Bonds," African men don't care about emotions and they don't express them.

I can handle my own problems

(Applause) I can handle it myself.

I called my siblings and laughed at "oibo" (white people) and their weird ailments -- depression, ADD and all that "weird stuff."

For anyone who grew up in West Africa, the word "mental" conjured up a madman, someone with dirty dreadlocks, half-naked and dizzying down the street.

We all know this person

parents warned

"Mommy why did he go crazy?"

"It's because of the drugs!

Just looking at the medicine will make you look like that."

(Laughter) If a child gets pneumonia, the mother will rush the child to the nearest hospital for medical treatment.

But if you confess that you're depressed, the local pastor will exorcise you and blame the village witch.

According to the World Health Organization, being mentally healthy means being able to handle life's normal stresses, be productive and rewarding at work, and contribute to your community.

Mental health is a state of emotional, psychological and social well-being.

Globally, 75% of mental illness cases are found in low-income countries.

Yet in most African countries, governments spend less than 1 percent of their healthcare budgets on mental health care.

To make matters worse, there is a severe shortage of psychiatrists in Africa.

For example, it is said that there are 200 psychiatrists in Nigeria, despite the population of nearly 200 million people.

Across Africa, 90% of people have no access to treatment.

As a result, we suffer alone and are silenced by the stigma of dishonor.

We Africans often distance ourselves from mental health issues, we ignore them, we feel guilty, we fear and we get angry.

In a study by Arboleda Flores, in response to the direct question, "What causes mental illness?"

Thirty-four percent of Nigerian respondents said it was drug misuse, 19 percent said it was divine punishment and God's will -- (Laughter) and 12 percent said it was witches and spirit possession.

But few people cited other causes of mental illness, such as genetics, socioeconomic status, war, conflict, and the loss of loved ones.

As a result of the social stigma attached to mental illness, patients are often marginalized and demonized.

Photojournalist Robin Hammond documented this brutality.

Uganda, Somalia and here in Nigeria

In my case, the stigma is my own.

2009 I received an unusual phone call in the middle of the night.

My best friend in the world -- a bright, philosophical, charming, cool young man -- was diagnosed with schizophrenia.

I saw my childhood friends drift away

giggle

I heard a whisper

"Did you hear he was crazy?"

(in Kuru English) "He's gone crazy!"

It's a derogatory and demeaning comment about his condition, words I would never say to someone with cancer or malaria.

Somehow, when it comes to mental illness, ignorance takes away empathy altogether.

People kept their distance from him, but I was by his side, and our love never wavered.

I became passionate about mental health

Inspired by his struggles, I helped start a group of college alumni interested in mental health.

Also, during my time as a live-in staff member in graduate school, I helped many undergraduates with mental health issues.

I've seen students in Africa suffer and have no one to talk to.

But even with this knowledge and their experience, I still found myself struggling and unable to talk to anyone when I faced my fears.

All of us, especially us Africans, need to realize that mental suffering doesn't make us masculine, and trauma doesn't make us strong.

Mental health should be seen as important as physical health.

We must stop suffering in silence

We must stop stigmatizing disease and harming those who suffer.

let's talk to friends

talk to loved ones

let's talk to the experts

accept your weakness

Do it proudly 'cause you're not alone

When it hurts, let's say it

Being honest about how we feel doesn't make us weak, it keeps us human.

Let's put an end to the stigma attached to mental illness.

Next time you hear the word "mental," don't think of someone who is simply insane.

think of me

(Thank you for applause

(applause)

How does a group make something happen?

How can a group of people consistently produce something of lasting value without falling into chaos?

This problem is what economists call the cost of coordination.

Coordination costs include all the financial and organizational issues involved in arranging work for the group.

The traditional solution to the cost of collaboration is to organize the work of a group of people to coordinate their work, to gather resources.

establish something private something public

For-profit, non-profit, big, small

The common point of consolidating resources

Create an organization and use that organization to coordinate the activities of the group.

Recently, the cost of people in a group communicating with each other has dropped dramatically. The cost of communication is a large part of the cost of collaboration.

that's what i want to talk to you about today

I'll use very specific examples, but I'm always looking at the broader subject.

Let's start by trying to answer the question you will one day ask yourself, the purpose of which the Internet was created: How do you collect pictures of roller-skating mermaids?

Every first Saturday of summer in New York City, Coney Island, a local old-fashioned amusement park, hosts a "Mermaid Parade," in which members of the public gather from all over the city to dress up.

Some people don't dress up like that

Old people to young people Dancing in the street

Colorful people, everyone enjoys this moment

It's fascinating, but it's the pictures that I want you to focus on, not the mermaid parade itself.

This wasn't taken by me, so where is it from?

The answer is Flickr

Flickr is a photo-sharing service that allows people to upload their photos and publish them on the web.

Flickr recently added a new feature called tags

The tag is Del.icio.us on Social Bookmarks and

Joshua Schacter spearheaded

Tags are a cooperative infrastructure solution to the classification problem.

If I had done this talk last year, I wouldn't be able to show you this one because I couldn't find the pictures.

Instead of hiring a team of librarians to organize uploaded photos, Flickr decided to leave the task of characterizing the photos to the user.

So I was able to collect photos tagged "Mermaid Parade" on Flickr, a total of 3,100 photos taken by 118 people, sorted by date and time under this lovely name.

I dropped it and made this little slideshow.

What is the hard problem being solved here?

In very abstract terms, it's a matter of coordination.

There are a huge number of people on the Internet, and only a very small percentage of them have pictures of the Mermaid Parade.

How can I get them to contribute?

The traditional way is to structure an organization.

It's about bringing those people together in a well-organized organization with a clear purpose.

Note that this method of organization has side effects.

First, creating an organization creates management problems.

It's not enough to just hire staff, you also need to hire people to manage those staff and make them work in line with your organization's objectives.

Second, we need to create a structure

need an economic structure

legal structure required

Requires physical structure

This will result in additional costs

Third, building an organization is inherently exclusive.

We can't collect everyone who has a photo

It is impossible for one company to hire everyone.

You can't hire everyone in one agency

some people will drop

Fourth, as a result of this sorting out, a group of professionals will be formed. Note the change here.

We're changing from people with photos to photographers.

A group of professional photographers was created with the goal of capturing mermaid parades or whatever.

If you build collaboration into your infrastructure, which is how Flickr did it, you can pull the problem towards people without changing the way people are, instead of moving people.

You can collaborate within a group and achieve the same results without the problems associated with organizing.

The organization's chain of command will be lost

You don't have the right to dictate the work that people do on their own initiative, but you also get rid of the cost of organizing, which gives you a lot of freedom.

What Flickr did was replace planning with collaboration.

This is a common aspect of cooperative systems

I'm sure you've experienced the same thing yourself when you picked up your phone.

"I will call you when I arrive"

"Call me when you're done."

This is a person-to-person replacement of planning for collaboration.

we can now do this in groups

Instead of saying, "We need to plan ahead," or "Let's have a Wikipedia five-year plan," we can simply say, "Let's coordinate the work of the group and steer it as we go. We've got enough coordination that we don't have to decide in advance what we're going to do."

Let me give you another example, a little more brooding.

Photo tagged "Iraq" on Flickr

The problem of coordination costs, which was difficult in the Mermaid Parade, will become even more difficult.

there are more pictures there are more photographers

over a wider geographical area over a longer period of time

photo is taken

And above all, the number on this slide, 10 per person, is a lie.

It's mathematically correct, but it doesn't make a lot of sense, and in a system like this, averages don't really mean much.

This is what makes sense

This is a graph of 529 people who took 5,445 photos tagged as Iraq.

They are arranged in order of the number of photos taken.

The person in this corner who has taken the most photos is about 350, and there are a few people who have taken more than 100.

Then there are dozens of people taking dozens of photos

Around here, there are less than 10 people, and they have long, flat tails.

Beyond the middle, there are hundreds of people with only one photo.

This is called the power law

It's very common in open-ended social systems, where people can contribute as much or as little as they want, and this is what happens.

The mathematical property of the power law is that at the nth position the value is 1/nth of the 1st

So the 10th person who takes the most pictures is 1/10th of the 1st person, and the 100th person is 1/100th of the 1st person.

Even if the slope of the leading part of the curve changes slightly,

This property gives it a steep incline and a flat, long tail.

The interesting thing is that systems like this don't converge as they get bigger, they just get more divergent.

Larger systems have larger heads, longer tails, and more unbalance.

This curve, as you can see, is heavily skewed to the left, and how skewed is the top 10 percent of people taking three-quarters of the photos, just the top 10 percent.

60% of the top 5% of people alone

Even if you take the top 1 percent of people and discard the other 99 percent, you still have nearly a quarter of the photos.

Because of this left bias, the mean is actually all the way to the left around here.

This may seem strange, but in reality, 80 percent of people are below average.

This seems strange because we think the average is somewhere in the middle.

This is the math behind the 80/20 rule.

This is what it means when you hear about the 80/20 rule.

20% of the products, 80% of the revenue, 20% of the users, 80% of the resources they're talking about is in the shape of this graph.

Organizations have only two tools: the carrot and the stick.

And 80 percent of it can't use carrots or sticks.

The cost of running an organization means that the contributions of these people are not readily available within the framework of the organization.

The organizational model always takes the form of staffing the people on the left.

The organization's mentality is that if you hire 10 percent, you'll get 75 percent of the results, and I would do the same.

On the other hand, why do we throw away 25 percent in our infrastructure model of cooperation?

I ask that if you have to give up a quarter of the value of a system, you should rebuild it.

get those people's contributions avoiding the cost of getting in the way

Create a system where everyone can contribute as much as they want

So in the context of collaboration, the question is not whether they are staff, but the value of their contribution itself.

There is a Flickr user called Psycho Milt who has only one photo tagged Iraq

Here's a picture of it, titled "A Bad Day."

The question is, do you want this picture?

Psycho Milt is not a hire or not

There's a tension between organizations as "enablers" and organizations as "obstacles."

If you're just dealing with the left end of this distribution, if you're dealing with people who spend a lot of time trying to build a lot of what they want here, it's organization as an enabler.

You can hire those people on your staff and coordinate their work and get results.

But for those who only provide one picture per Psycho Milt, organization becomes a barrier.

Organizations hate being called a disability

If you try to solve the problem by organizing, whatever the nominal purpose of the organization, the primary purpose of the organization quickly shifts to self-preservation.

And the actual purpose of the organization is the second and so on.

So there's another way to align around value, and when an organization is told it's an obstacle, the response of the organization goes through the Kubler-Ross stages (Laughter) of denial, anger, bargaining, and acceptance of someone who's been sentenced to a terminal illness.

Many corporate systems don't seem to last long enough to reach the "acceptance" stage.

Many organizations stay in the "denial" stage, but these days we also see "anger" and "deals."

There's a great example in progress right now

In France, a bus company is suing people who are carpoolers, saying that working together to create value is hurting the company's bottom line.

of the Guardian

You can read more on the site It's a lot of fun

The bigger question is what to do with the value of this tail.

how to get it

organizations can't afford it

Microsoft CEO Steve Ballmer used to criticize Linux a few years ago, saying, "It's a hoax to have thousands of programmers contributing to Linux."

If you look at the people who contribute to Linux, many of the patches are made by programmers who only have one contribution.

It's this distribution that he complains about.

I can understand why it seems like a bad idea to him.

The hired people drink company coke and play foosball, and they've only done one job in three years.

(Laughs) I lost my job.

(Laughter) The question for Psycho Milt is whether its contributions are good.

What if it's a security patch?

What if it's a security patch for the buffer overflow vulnerability that Windows also has?

You want that patch?

Ballmer would be terrified if a programmer improved Linux just once, without an employment relationship with an organization, and never showed up again.

Because you can't get that kind of value in a traditional organizational framework, but you can in open source, file sharing, collaborative systems like Wikipedia.

There's a service called Meetup that allows users to find people in the same area who share their interests and hobbies, and meet them in person at cafes, pubs, etc.

When Scott Heiferman created Meetup, he was thinking about railroad buffs and cat lovers, old hobby groups.

Inventors don't know their inventions

Do you know what is the most active group with the largest number of cities, chapters, members on Meetup?

We are a housewife group (Stay At Home Moms)

In a suburbanized, double-income America, stay-at-home moms have lost the social connections they once had with extended families and neighborhoods.

So that's why we're playing it back with this tool.

Meetup is a platform, but what's valuable here is the social foundation.

If you want to know what technology is going to change the world, don't look at 13-year-old boys, look at young mothers, because they won't stand for technology that doesn't actually improve their lives.

It's not flashy, but it's a lot more important than the Xbox.

i think this is a revolution

I think this is a fundamental shift in how we organize relationships.

I use this word thoughtfully

This is a revolution that will break the balance.

It's a whole new way of doing things, but it also has new drawbacks.

In America right now, a woman named Judith Miller is in prison for not revealing her sources to a federal grand jury.

Journalists take to the streets to improve confidentiality laws

Confidentiality laws, which are actually a patchwork of state laws, are laws that help journalists avoid disclosing their sources.

But against the backdrop of the rise of blogging, this happened.

Blogs are a representative example of mass amateurization.

We deprofessionalized the dissemination of information

What if you wanted to get your thoughts out into the world today?

You can do it for free at the touch of a button

This has dragged the professional class of publishing down to the mass amateur class.

And so the Confidentiality Act is becoming more and more inconsistent, even though we want it, we want a professional class that tells the truth, because the organization is inconsistent.

There are people in America right now who are trying to figure out if bloggers are journalists.

And the answer is that it doesn't matter, the question isn't right.

Journalism was the answer to an even more important question: How do we keep society informed?

How do societies share ideas and opinions?

If the answer lies outside the framework of professional journalism, then there's no point in asking whether this widely distributed class can be called a professional.

So we're calling for confidentiality laws, but the institutions they're linked to are becoming more and more inconsistent.

Let me give you another example

It's a group called Pro-ana

This is a group of teen girls, working on blogs, message boards and other collaborative infrastructures, creating support groups for people who are willing to become anorexic.

They post pictures of thin models and they call it "Thinspiration."

It has slogans like 'hunger is salvation'

There's even a bracelet like Lance Armstrong, and that red bracelet is a statement in this small group, "I'm trying to maintain my eating disorder."

They also give each other tips, like, "If you want something to eat, clean the litter box or the cat litter box, it will kill your appetite."

We thought support groups were a good thing.

support groups are inherently good

But the support groups themselves are value-neutral.

A support group is just a small group within a larger group that wants to maintain a certain way of life.

If the big group is a group of drinkers and the small group is people who want to stay sober, that would be a great support group.

But I'm shocked by teenage girls trying to become anorexic themselves.

The goals of the old support groups that we're used to are determined by the institutions that support them, not by the infrastructure.

When the infrastructure becomes generally available, the support group structure becomes accessible to anyone who pursues such a cause.

So these changes are both good and bad, although in the current situation we have to lightly allude to the actions of anti-American activists who seek to influence and exploit international relations.

This is a social map of the 9/11 perpetrators and their associates.

It was created by analyzing the patterns of communication using many of these tools, and I have no doubt that the world's intelligence agencies are doing the same thing right now in the wake of last week's attacks.

Now, I've come to the point where I have to tell you what happens as a result of all this, but I'm running out of time, but don't worry, I don't know the answer.

(Laughter) Just like the printing press, if this is really a revolution, it's not going from point A to point B.

From point A it transitions into chaos.

The printing press caused 200 years of turmoil, from the order given to political power by the Catholic Church to the Treaty of Westphalia and the discovery of a new unit, the state.

I'm not saying there will be another 200 years of chaos.

Over the next 50 years, loosely coordinated groups will gain greater leverage, anticipate what's going to happen, and gain even more leverage by surpassing the command lines of traditional organizations in terms of what they're going to do and their profit motivation.

Organizations are going to be under more and more pressure, and the more tightly controlled and dependent they are on a monopoly of information, the more pressure they're going to face.

And that's what happens, domain by domain, organization by organization.

So the point is not, "This is great," or, "We're going to see a shift from a world of just organizations to a world of just collaboration."

becomes more involved

But the point is, it's going to be a big reorganization.

You know it's coming, so why not be prepared?

thank you for listening

(applause)

"look at me!"

These words made me an eye contact coach.

I am the mother of Ivan who is 15 years old.

Ivan has autism and cannot speak, so he communicates through his iPad, where his world of words unfolds in the form of images.

Ivan was diagnosed with autism when he was two and a half years old.

I still remember that day painfully.

My husband and I were at a loss and didn't know where to start.

We didn't have the internet at the time, we couldn't search for information, so we took the first step on a sheer instinct.

Ivan stopped making eye contact, lost his once-learned language, didn't respond when his name was called, when he asked something, it was as if his words had become noise.

The only way to know what was going on with him, how he felt, was to make eye contact...

That bridge has broken

How do you want me to teach you how to live?

When I do something Ivan likes, he looks at me and we're connected.

So I did my best to work with Ivan on things he liked and try to make more eye contact.

I used to play tag with Ivan's sister Alexia for hours when I said, "I got you!"

Ivan turned and looked at us, and in that moment I could feel him alive.

We spent a record amount of time in the pool.

Ivan has always loved water.

I remember when he was two and a half years old, it was a rainy winter day, and I was taking him to the indoor pool.

I took the wrong exit on the highway

Then Ivan suddenly started crying and he couldn't help but keep crying until I turned back.

calmed down

How did a two-and-a-half-year-old child who doesn't even respond to his name know the right way in the rain and fog? I couldn't see anything

That's when I realized Ivan's extraordinary visual memory, and I knew this was the way to go.

I took pictures of everything, and I started showing them to you, one by one, to show you what life was like.

Ivan still talks like that to this day, telling him what he wants, what he needs, how he feels.

But if Ivan makes eye contact, that doesn't mean it's okay.

I also need eye contact from everyone else

I wondered how we could get people to see not only Ivan's autism, but who he was, how he could give, what he could do, what he liked and what he didn't like, in the same way that we did.

It required self-sacrifice

I had to have the strength to let him go, and it was very painful.

When Ivan was 11 years old, he went to his neighborhood for treatment.

One afternoon, while I was waiting for him, I entered a greengrocer, a typical local shop that sells a little bit of everything.

While shopping, I started chatting with the owner, Jose.

I told him about Ivan, that he has autism, and that I wanted him to be able to walk around the city without help.

That's when I decided to ask Jose, every Thursday around 2:00, if Ivan could come into the store and help me put the water bottles on the shelves, because Ivan loves to organize things.

As a reward, Ivan buys his favorite chocolate cookie and goes home.

Jose willingly agreed

So for a year, Ivan would go to Jose's store and help arrange the water bottles so that the labels would all be pointing exactly the same way, and he'd happily leave with a chocolate cookie.

Jose is not an autism expert

You don't have to be an expert or do anything heroic to welcome someone in.

(Applause) (Applause stops) You don't have to be heroic -- you just have to be there.

If you have any concerns or don't understand anything, just ask.

Be curious, don't be indifferent

Have the courage to look into each other's eyes.By looking, you can open up a new world of connection.

(Applause) (Cheers)

When I was 14, I stole money from a game machine in a bowling alley, and when I was about to leave the building, security grabbed my arm and I fled.

run down the street and jump over the fence

When I thought I was standing on top, I fell to the ground under the weight of the 3,000 quarters I had in my bag.

And then the security guard came over and said, "Hey you naughty kid, next time you steal, you'll only have what you can afford."

(Laughter) I was taken to juvenile detention, but when I was released under my mother's custody, the first thing my uncle said was, "Why were you arrested?"

"My bag is getting too heavy."

"Because I'm going to take all my quarters home."

"Because it's a small coin, what should I do?"

My uncle took himself 10 minutes later to steal coins from another game console.

because the gas bill was paid

I used to live like that

I was raised in Oakland, California, by my mother and close cocaine-addicted relatives.

Around me, I had family, friends, and shelters for the homeless.

Dinner often consisted of bread and soup as alms for the needy.

My best friend used to say, "Money rules the world, and everything is worth it.

Gold is king in this block

If you keep up with money, you might meet bad guys, and maybe even good guys."

Shortly after that, I committed my first crime, and for the first time, I felt someone who told me I had potential and believed in me.

No one ever told me that I was going to be a lawyer, or a doctor, or an engineer.

I don't know how to read, write, or spell What the hell can I be?

I'm uneducated

So I always thought I had nothing but crime.

One day, when I was talking with my friends, we were talking about a robbery that we could do.

So we committed crimes together.

The reality is, I grew up in America, the most economically powerful country in the world, but I also saw my mother standing in line at a blood bank, selling blood to earn $40 to buy food for my children.

To this day, proof of that is the injection marks on my mother's arm.

The local community didn't care

people who don't care about me

People who go to great lengths to get what they need: drug dealers, robbers, blood banks.

everybody was selling blood for money

I had no choice but to do that if I needed to.

Knowledge of finance ruled the world, and I was a child slave of that world, following the bad guys.

When I was 17 and I was arrested for robbery and murder, I quickly learned that money reigns in prison more than it does in the city, and I wanted to step into this world.

One day, I hurriedly grabbed the sports section of the newspaper and had my prison mates read it to me, and by chance I opened the economics section.

"Hey young man, are you going to do stocks as well?" said the old man.

I answered, "What?"

"This is where white people keep their money," they say.

(Laughter) That was the first time I had a glimpse of hope, a glimpse of the future.

He gave me a brief explanation of what stocks are, but there was only a glimmer of hope.

So what should I do

I can't read, write, or spell

The only skill I've honed is to hide it, and that didn't work here.

Even as I fought for the freedom I never had, I was a prisoner of prey to the marauders.

I lost myself, I got tired, I had no choice

And when I turned 20, I tried the hardest thing of my life.

I picked up a book, and when I was trying to learn to read, it was the most painful time of my life, because I felt ostracized by my family and my best friends.

it was hard

you had a hard time

I didn't realize that I was in the process of receiving abilities I never dreamed of: self-esteem, knowledge, self-control.

I excitedly read one thing after another, everything from candy wrappers to clothing logos to street signs.

I kept reading

(Laughter) I kept reading.

Excited to know how to read and spell

When my best friend asks, "What are you eating?"

I replied "C-A-N-D-Y candy"

(Laughs) Even when they said, "Give it to me," I said, "N-O no."

(Laughter) It was great.

For the first time in my life I can read

If I had to say what I felt at that time, it was the best

When I turned 22 and started to feel more self-conscious and confident, I remembered what that old man had said.

opened the economic page of the newspaper

These guys wanted to find a white rich man.

(Laughter) I was able to pursue that little bit of hope.

As I got more experience, I started teaching finance about money and investing, and I realized that I had to take responsibility for what I had done.

In fact, I grew up in a very difficult environment, but crime is the result of my choices, and it's my fault.

I thought I should take responsibility for that, so I did.

I created a curriculum for a course that taught prisoners how to use the money they earned while in prison.

Proper lifestyle management is knowledge that can be taken out of prison, and that prisoners should be able to use when they are reintegrated to manage their money in the same way that most innocent people do.

I later learned that MarketWatch magazine said that more than 60% of Americans have less than $1,000 in savings.

More than 60% of NBA and NFL players are bankrupt, according to Sports Illustrated magazine

40% of divorces start with money issues.

It's terrible~

(Laughter) People can't afford to work all their lives, buy cars, clothes, houses and all sorts of things and save money?

Can the people who make up our society support rehabilitated ex-offenders? If they can't manage their money, what do we do?

That's why I took it

(Laughter) I needed a better plan.

Because it didn't seem to work that way

Therefore…

thought

I have an obligation to blend and support both on my reintegration journey.

It never occurred to me that I would care for my community.

Lack of financial knowledge is a social disease that has robbed minorities and low-income members of society of their freedom for generations, and we should be outraged about it.

Think about it: in a country driven by economic prosperity, what if 50 percent of Americans don't know anything about finance?

Being treated fairly, having social standing, being able to live a decent life, having transportation, being able to eat, all depend on money, and a lot of people don't have control over it.

It's funny!

An epidemic of disease, more dangerous to public safety than anything else.

According to the California Department of Corrections, more than 70 percent of prisoners are accused of committing money-related crimes: robbery, burglary, fraud, theft, extortion, and much more.

Let's find out: The typical inmate follows the California prison system, is paid 30 cents an hour, earns more than $800 a year, doesn't learn how to use money, has no real expenses, and has no savings.

When you get out on parole, you're given $200, and you're told, "Good luck, don't get in trouble, you're not going back to jail."

He's not properly prepared, he doesn't know how he's going to spend his money in the long run, so what's he going to do?

When you turn 60?

Either you get a good job or you start committing crimes and you're back in jail.

Taxpayers, it's your choice.

No, it may be determined by his upbringing.

How do we cure the disease of this society?

As a co-founder, I am a program for optimizing the sense of money by controlling emotions.

I founded FEEL, which teaches us to not let emotions influence our spending decisions, and four immutable rules of personal finance: how to save properly, how to manage our expenses properly, how to borrow effectively, and how to diversify your finances so that money does you better than it drives you.

Prisoners need these life skills before being reintegrated into society.

Without these life skills, there can be no full rehabilitation.

It's absolutely ridiculous that you can't invest or manage your money if you're not a professional.

(Applause) A professional is someone who knows their profession better than anyone else. You know the best about how much money you need, how much money you have, how much you want to spend, so you're a professional.

Knowing how to spend money is not a skill, folks-

it's a lifestyle

financial security is just a by-product of the right lifestyle

Financially sound prisoners can become tax-paying citizens, and economically sound taxpayers can remain so.

And then we'll have a real connection with the people we have a relationship with, family, friends and their children, who still believe that crime and money are related.

Forget the fears and anxieties of money jargon and other harsh things you hear on the street.

Take responsibility for understanding the core issues that are crippling society and managing a better life.

So why not run a simple, easy course that gets you to the core of "Emotional Control of Money (FEEL)"?

So if you've taken that course and you're like, "Well, that's not for me, I don't agree," take my class.

(Applause) Thank you very much.

(applause)

Patients remember their doctor, but it's easy to forget the nurse's name.

i remember one

I was diagnosed with breast cancer a few years ago, and somehow managed to get through surgery and survive the early stages of treatment.

cover up what's going on

The surroundings weren't supposed to know anything

I could walk to school with my daughter, I could go out to dinner with my husband, and I could fool everyone.

But then the chemotherapy program began, and I was scared, because I knew that the chemotherapy I was going to take would make me lose all the hair on my body.

I can no longer pretend that nothing happened

I was scared

I knew what it was like to be treated like a boil by everyone, but I just wanted to feel normal.

with chest port

I had my first day of chemo, and I was in a shambles mentally.

My nurse, Joanne, walked in through the door, and I felt so sick that I wanted to get up from my chair and run away.

But Joan looked at me and talked to me like an old friend.

And he asked me, "Where did you get that highlight?"

(laughs) Are you kidding me?

How can you say that when you're about to lose your hair?

I got a little angry and said, "What? You're losing your hair."

She shrugged and said, "It will grow again."

At that time, she said one thing that I had overlooked was that when the time came, my life would return to normal --

she really believed it

That's why I believed

In the first place, it may seem silly to worry about your hair when you're battling cancer, but it's not just about how you look.

I'm sick of the fact that everyone cares

She made me feel normal for the first time in six months.

We talked about her boyfriend, looking for an apartment in New York City, my reaction to chemotherapy, and much more.

And I always wondered how she knew how I felt

Joan Staha and her admiration for her began my journey into the world of nursing.

A few years later, I was asked to start a project to celebrate the work that nurses do.

I started working with Joan, and met with over 100 nurses across America.

I spent five years interviewing nurses, photographing and filming them, producing books and documentary films.

My team and I decided to visit sites across the United States that are associated with some of the country's biggest public health problems: an aging population, war, poverty, and prisons.

And then they went to the places where patients with these problems were most concentrated.

I asked hospitals and institutions to recommend the best nurses to represent them.

One of the first nurses I met was Brigitte Canberra.

She was the eldest of four children born in Cameroon.

My father fell from the 4th floor at work and seriously injured his back.

My father told me what it was like to be in bed and not get the care he needed.

That's what drove Bridget to become a nurse.

Now, as a nurse in the Bronx, I care for a diverse group of patients from all walks of life, ranks and religions.

She's dedicated her working life to promoting understanding of the impact of our cultural differences on our health.

He told me the story of this patient, who was Native American and wanted to bring a bunch of feathers into the intensive care unit.

That's how I found peace of mind

She expressed her support for him, saying that she has patients of many different religions and uses a wide variety of objects as talismans, and that whether it's a holy rosary or a symbolic feather, we need equal support.

This is Jason Short

A home nurse in the Appalachian Mountains, Jason grew up with his father, who owned a gas station and auto repair shop.

So he used to work locally as a car dealer, but now he works there as a nurse.

When he was in college, there was no trend for men to become nurses, so he avoided it for years.

He drove a truck for a little while, but his life always dragged him back to being a nurse.

As a nurse in the Appalachians, Jason goes where ambulances can't even get to.

In this picture, he's standing on what used to be a road.

Because of the mine at the top of the mountain, the roads were flooded with water, and now the only way for Jason to visit the black lung disease patient who lives in the house is by driving an SUV through the creek-like current.

The day we were together, the front tire mudguard came off.

The next morning, he got up, put the car on the lift, fixed the mudguard, and left for the next patient visit.

I witnessed Jason care for this gentleman with so much compassion, and I was once again struck by how empathetic nursing can be.

When I met Brian McMillan, he was a newcomer.

I had just returned from an assignment, and I hadn't yet settled down enough for life in San Diego.

He told me about his experience as a nurse in Germany, tending to soldiers who had just returned from the battlefield.

For many soldiers, he was the first person they saw when they woke up in the hospital.

The patients lay amputated, and the first words they uttered when they saw Brian were, "When can we go back? We still have our friends over there."

Brian had to say, "I'm not going anywhere."

"I've done enough"

Brian is a combat soldier and a nurse.

So he's in his unique job of empathizing and caring for wounded veterans.

This is Sister Stephen, who runs a retirement home in Wisconsin called Villa Loretto.

In that home you can see the whole life cycle.

She grew up wanting to live on a farm, so when given the chance to adopt the local livestock, she enthusiastically raised them.

When spring comes, animals give birth to babies

Sister Stephen uses baby ducks, goats, and lambs to give animal therapy to the residents of Villa Loretto, and sometimes even old people who can't even remember their own names enjoy cuddling baby sheep.

The day I was with Sister Stephen, I had to take her out of Villa Loretto to film part of her story.

Before we left the home, she entered the dying patient's room.

In the patient's ear, I said, "I have to go out today, but if Jesus calls me, I will go.

Go straight to Jesus' house."

And when I saw that, I thought, it was the first time in my life that I saw people show their love by letting them go to heaven.

There's no need to forcibly withdraw

At Villa Loretto, I met many lives that I have never encountered before in my life.

When it comes to healthcare, we're going through difficult times.

It's easy to lose sight of the need for quality of life, not just length of life.

As new life-saving technologies are created, the decisions we make become really complex.

Technology does save lives, but it also prolongs the process of pain and death.

How are we supposed to get out of this predicament?

we need any help

Because of the time spent at the patient's bedside, nurses have a truly unique relationship with the patient's family.

While you're at your bedside, there's something like a feeling of openness.

It was August 9th this summer, my father died of a heart attack.

My mother was devastated, she couldn't even imagine a world without my father.

Four days later, she collapsed, broke her hip, needed surgery, and found herself fighting for her life.

Once again, I was on the receiving end of a nurse's care, this time for my mother.

She went into intensive care, and then my siblings and I stayed at her bedside for another three days.

When we finally decided to honor my mother's wishes, we found ourselves relying on what the nurses were telling us.

And the nurses didn't let us down here either.

In the last four days of my mother's death, the way they cared for me was full of great care.

They brought comfort to my mother and eased her pain.

My sister and I were told to dress her in a beautiful gown, which later became important to her, but it also meant a lot to us.

They came to me and woke me up in time for my mother's last moments.

They knew exactly how long I should be left alone in the hospital room after my mother died.

I don't know why, but I feel a lifelong gratitude to them for guiding us once again.

thank you very much

(applause)

There's a phenomenon called the "Law of Unintended Consequences."

I thought it was just a saying, but I think it actually exists.

I have even published papers

i am a designer

I don't like unintended consequences.

My clients hire me with exactly what they want, and they want me to help them achieve the results they want.

so i fear the unintended consequences

So I'm going to talk about "intended consequences" and "unintended consequences."

It happened when I got a call from a group called Robin Hood requesting a call.

Robin Hood is an amazing New York-based charity that lives up to its name, like a hero.

We are working to give the money we get from the rich to the poor.

This time, we're going to be working with all of New York's public schools. They're very big institutions, and they're responsible for educating more than a million children.

Robin Hood wanted to fix the building in some way, but when it came down to it, it would cost a fortune to fix it.

It turned out to be impractical, so as an alternative, we thought that in as many school buildings as possible, we would pick just one room in each one, and fix that room to make the children's school life more comfortable.

As a result, I came up with the idea of ​​renovating the library, called the Library Initiative.

Every child visits the library

because there is a book

The library is the heart and soul of the school.

That's why

Robin Hood got together an architect, and he started with 10 people, and it grew to over 20 people, and it became a wonderful undertaking, and he assigned an architect to each library, and each of them reimagined what a library should be.

Training for librarians was also conducted

And so began the grand undertaking of transforming public schools through library renovations.

Meanwhile, I also received a call requesting cooperation.

I asked for details

I was asked to be the lead graphic designer.

It's all about logo design

I know how to do it and that's my job

That's why the request comes

So I started designing

Designing a logo is easier than doing architecture or being a librarian.

You make a logo, you contribute, and that's it, and you're like, "I'm the best!"

Wonderful people like me want to feel exhilarated by serving others.

Aiming for results that exceed expectations

So I'm going to show you three logos that were based on one idea.

I made 3 options

all are great

The basic idea was a new library for a public school in New York City, and because it was new, I thought it should have a new name.

I wanted to dispel my stereotypes of the library as an old, musty, boring place, but it's not like it was in my grandparents' time.

no more

Instead of being boring, I'm going to make it a new and exciting library.

Option one: don't think of it as a library, think of it as a place to talk and make noise.

It will be a space that is unrelated to cautions such as "Shhh, be quiet!"

I'm going to call it the "reading room"

This is option 1, then option 2

Option two is -- I'll give it to you right now, it's OWL.

"See you at OWL"

"I'm going to OWL to borrow a book." "After school at OWL."

It is good, is not it? So what does OWL stand for?

One World Library, Open, Wonder, and Learn

Well, you can just ask the librarian to guess whatever word comes to mind, because they're familiar with words.

There are more, right?

And this way it looks like an owl's eye

I can't get enough of my favorite person

But I have another idea

Option 3

Ideas based on wordplay

Read (to read a book) is spelled the same in both the present tense and the past tense, but the past tense is pronounced the same as red.

So why not call it the "Red Zone"?

"See you in the Red Zone"

"Did you red?" "Let's red."

"It's Super Red"

(Laughter) I really like it, but there's one thing I've overlooked. Librarians are very strict about spelling, so it might be a bad idea to read as red.

(Laughter) But sometimes, tact is more important than spelling, and I thought this would be the case.

Usually, when I give a presentation like this, the reaction is always something like, "Wow, thank you so much!"

But this time it was more like, "Oh, you're kidding me, aren't you?"

Because, they say, this proposal is primarily about kids getting bored with old, musty libraries.

I assume

In the first place, the children had never seen anything that looked like a "library".

Libraries in public schools, if they existed, were a mess, so before I got bored.

Because the library itself doesn't exist

In other words, stop thinking of new names.

I wanted to try again, so I chose the "library room".

that's what it is

So give it a little dynamism

can you include an exclamation point

Plus, I'm smart, so I moved the exclamation point to the i, made it red, and voila, the "library initiative."

And so the logo was done, and I thought, mission accomplished.

What's interesting about this logo -- the unintended consequence here is that there was no need to actually design it. You can type it in any font, you can handwrite it, and eventually it's used in emails, but you just press shift and 1 and you can create your own logo.

I'm fine with that-

I thought you could use it freely

Then we started the actual construction, working with architects one by one to put this logo on the entrance to the library.

this was a big deal

Working with various architects

And I started talking to architects, not just Robin Hood.

"Put this logo on the door"

"Put this logo on both doors"

"Put this logo next to the door"

"Put this logo all the way up"

Everything was fine, and my job was just to repeat, "This logo..."

Meanwhile, one of the architects, Richard Lewis, said, "I have a problem as a graphic designer.

I got a call saying, "Can you solve this?"

When I heard the story there

"The problem is the space between the bookshelf and the ceiling," he said.

It seems to be an architectural problem, so it doesn't seem to be related to me, but I heard more.

Richard said, "The bookshelves must be at a height that a child can reach, but the school building I am in charge of is a large old building with very high ceilings. There is a considerable amount of space from the top of the bookshelf to the ceiling, so I want something like a mural."

I couldn't help but think, "Oh, I'm a logo designer.

It's not Diego Rivera or anything

I'm not even a muralist."

I said, "I'll ask you something about that."

I suggested, "Well, why don't you take a picture of the child and put it in the blank? It might work."

I asked my photographer wife, "Dorothy, I don't have the budget, can you take a picture of my school in East New York?"

My wife agreed. If you go to Richard's library, which was the first one to open, you'll find pictures of lively children adorning the walls beautifully. Oversized children overlooking the library will make you feel like you're in a dollhouse.

The subjects were selected by principals and librarians — bright children.

Now the library has a glamorous atmosphere. Above you are joyful children. Below you are a quiet space.

Of course, all the librarians at other schools saw this and said they wanted a mural.

I understand

I didn't think we could use the same design for every school. I asked my wife to take a few pictures, but I needed more help, so I called an illustrator I know, Lynn Polley, and she drew these beautiful pictures of the children.

Then I asked Charles Wilkin of Automatic Design,

made a beautiful collage

Rafael Esquire drew a nice silhouette for us.

It's a collection of fun little silhouettes out of a book, based on the meaning of the words that the children thought up for themselves.

Peter Arkle talked directly to children, asked them for their favorite books, and put their words on wall decorations.

Stefan Sagmeister has collaborated with Yuko Shimizu to create a beautiful cartoon-style message that circles the wall: "All honest people are funny."

The talented illustrator Christoph Niemann created the art for the series, creating art that embedded the books in the characters, scenes, and places that appear in the books.

And Mayra Kalman also provided us with this magical work of enclosing a wall of objects and words that will continue to fascinate children as long as it's on display.

I was very happy with the results. My job here, in a nutshell, was to take the dimensions of the wall, give it to the artist, and say, "The dimensions are 1.0m by 4.5m, use whatever you want.

Please let me know if you have any trouble."

Then you will create a work It was already the best

But the really cool thing is that every once in a while, I get an invitation in the mail, made of colored paper, and it says, "You're invited to the opening of our new library."

when you enter the library

There will be balloons, a representative of the children will welcome you, there will be a speech, there will be a reading of a poem that was specially written for the opening, and an honorable person will award the children.

loved to participate

Standing in such an outfit, which obviously feels out of place, people ask me, "Who are you?"

I replied, "I'm part of the library renovation team."

I was asked, "Did you make a bookshelf?"

When I said, "No," he said, "Isn't that the picture on the bookshelf?"

"wrong"

"Then what?"

"It's the sign above the door when you come in."

"A sign that says library?"

(Laughs) "Yes, that's right!"

Then I got a response like this, "I wish I could do that as a job."

Participating in such a small opening was very satisfying. It was mostly ignored and embarrassing, but it was fun to be a part of, so I suggested to the people in my office who were involved in this project, the illustrators and the photographers, "Let's all rent a van, drive around five neighborhoods in New York, and spend a day exploring the library."

In total, there were about 60 places.I think I was able to visit about 6 places over a full day.

But the best part was getting to meet the librarians who ran the library, and they were the masters of the library, acting as if it were their own stage, in an effort to engage children and show them the joy of books.

That's how I spent the day, and I went to the last library.

It was still winter, so the sun went down early, and the librarian said, "We will be closing soon. It was a pleasure to meet you."

Would you like to see how it goes out?"

I responded

"I'm doing something special," he said.

He showed me, the librarian turned off the lights one by one.

The last remaining light was for the children's faces, and the librarian said, "This is always the last light to be turned off. I want to remember why I came to work."

When I first got involved in this project, I thought I was just going to create a logo and give it a nice new name.

I'd like to take credit for the unintended consequences here, and I like to think that I could do it on purpose, but I can't.

On the other hand, completely out of sight were the librarians, and the chain reaction of the triggers we created spun around to encourage the librarians to do their jobs, and as a result, they ended up doing very, very good work.

40,000 children a year are affected by libraries.

The chain of influence has been going on for more than a decade now, and librarians have thus turned a generation of children's attention to books -- so what struck me this time was the discovery that sometimes the unintended consequences are the best consequences.

thank you

(applause)

Pope Francis Taken in Vatican City Premiered at TED2017 Good evening or good morning I don't know what time it is.

Anyway, I'm very happy to be at your conference.

I really like the theme of this event, "The Future You," because it invites you to look to tomorrow, start a dialogue today, and gain insight into the future through yourself.

It's your future you. The future is made up of each you. The future is made up of many encounters. Because life flows through relationships with others.

Over the years of my life, I've become very convinced that each person's existence is deeply connected to the existence of others. Life isn't just the passing of time.

When I meet people and listen to them -- whether they're sick people, or immigrants facing great hardships looking for a brighter future, or prisoners with hellish pain in their hearts, or millions of young people struggling to find work -- the question I often ask is, "Why them and not me?"

I myself was born into a family of immigrants. My father and grandfather, like many other Italians, fled their homeland to Argentina and met the fate of those who were left behind with the clothes on their backs.

I could have ended up in the same situation as the "thrown away" people of today.

That's why I always ask myself, deep down, "Why are they and not me?"

First of all, I want this gathering to remind you that we all need each other, that none of us are like isolated islands isolated from each other, that we can only build the future when we all stand together.

We may not think about it often, but everything is connected and we need to restore our healthy relationships to each other.

The acrimonious views I hold secretly about my brothers and sisters, the open wounds that never heal, the mistakes I can't forgive, the grudges that only torture me, these are all examples of the conflicts I carry inside me, the smoldering fires I must extinguish lest they flare up and burn everything up.

Today, many people seem to think that there is no such thing as a happy future.

Such fears should be taken seriously, but they are not insurmountable.

If you don't close the door to the outside world, you can get through it.

Happiness can only be achieved as a result of the individual elements working together as a whole.

Even science -- and you know it better than I do -- is trying to understand the world as a place where each element interacts and interacts with everything else.

Now let's move on to the second message.

How wonderful it would be if the advancement of science and technology could lead to a more equal and inclusive society.

How wonderful it would be if, while discovering a planet far, far away, we could rediscover the need for our fellow countrymen around us.

How wonderful it would be if the beautiful but sometimes inconvenient word "solidarity" became a basic attitude not only in welfare work, but in political, economic, scientific choice, in interpersonal, interethnic and interstate relations.

Only through education that seeks true solidarity will humanity be able to overcome a "culture of waste". Waste is not only about food and goods, it is first and foremost about people. People who are left behind in our current technological and economic system.

"Solidarity" is a word that many people wish they could erase from their dictionaries.

But solidarity is not a mechanical mechanism.

cannot be programmed or controlled

It's a free reaction in people's minds.

That's right, it's a free reaction

If you realize that life is a gift, that love is its source and meaning, despite its many contradictions, how can you resist the urge to serve your fellow countrymen?

Doing good requires memory, courage and creativity.

I know that TED will bring together a lot of creative people.

Yes, love requires an attitude of being creative and being specific.

Good intentions and habits are often used to satisfy our consciences, but they're not enough.

Let's help each other and remember, it's not statistics or numbers.

the other person has a face

The "counterpart" is always a real person, a human being to be cared for.

There is a story Jesus told to help us understand the difference between those who live without hassle and those who take care of others.

I'm sure you all know the parable of the good Samaritan.

When Jesus was asked, "Who is your neighbor?" -- that is, "Who should be cared for?" Jesus told the story of a man who had been attacked, stripped, beaten, and left in the street.

Priests and Levites, who were influential people at the time, passed by without stopping when they saw him.

A short time later, a Samaritan, a race so despised at the time, passed by.

Seeing a wounded man lying on the ground, the Samaritan didn't dismiss him as if he wasn't there.

I felt sorry for this man, but I couldn't help but take concrete action.

The Samaritan poured oil and wine into the helpless man's wounds, took him to an inn, and paid for his treatment himself.

The story of "The Good Samaritan" is about what we now call humanitarian issues.

Everything revolves around money and goods, not people, and people are walking the path of hardships.

And, as is often the case with people who consider themselves to be of considerable status, they leave thousands, and sometimes entire communities, on the side of the road without taking care of others.

Luckily, there are people out there who are trying to build a new world by taking care of others, even at their own expense.

In fact, Mother Teresa said, "You can't love someone without sacrificing yourself."

We have a lot of work to do and we have to work together.

However, how can you do that while dealing with all kinds of evil every day?

Thankfully, no system can quench the desire to open our hearts to goodness, compassion, and the power to fight evil, because it comes from deep within us.

But you might think, "That's fine, but I'm not the Good Samaritan or Mother Teresa."

On the contrary, each and every one of us is a precious being.

Each one of us is unique in God's eyes

Each and every one of us can be a bright candle, a bright light in the darkness of today's discord, reminding us that light can overcome darkness and never lose.

For Christians, the future has a name, and that name is hope.

To be hopeful is not to be optimistically naive, or to turn a blind eye to the tragedies facing humanity.

Hope is the virtue of the heart, the virtue of not being trapped in the dark, not clinging to the past, not just surviving in the present, but looking to the future.

"Hope" is the door that opens to the future

"Hope" is a seed of life that grows quietly and inconspicuously, eventually becoming a big tree.

Hope adds flavor and color to every aspect of life, much like the invisible yeast that lifts the entire dough.

Hope is a powerful force, because even the slightest glimmer of light, the food of hope, is enough to shatter the shields of darkness.

One person is enough to keep hope alive, and that person could be you.

From there, another "you" and another "you" will join and become "we".

So does hope begin when it becomes "we"?

wrong

Hope begins with "you" alone

Reformation begins when we become "we"

The third message I want to share with you today is about reform, the kindness reform.

What is "kindness"?

Kindness is love that is close and real

It's a movement that starts in our hearts and travels through our eyes, ears, and hands.

Kindness is seeing others with your own eyes, listening with your own ears, listening to the children, the poor, the uncertain about the future.

It is also listening to the muffled laments of our common home, the diseased and polluted planet.

Kindness means comforting others with your own hand and heart, caring for those in need.

Kindness is the language of young children, the language of those who need others.

A child's love for their parents grows through their hands, eyes, voices and kindness.

I love hearing parents talk to their babies and communicate with them on the same level.

This is kindness, putting yourself in the shoes of others

God appeared as Jesus to put himself on the same level as us.

This is the same path that the "Good Samaritan" took—

It's the same path that Jesus himself took.

I put myself in human form, lived a human life, and practiced the true and unwavering teachings of love.

Yes, kindness is the path chosen by the strongest and bravest men and women.

Kindness is not weakness, it is fortitude

It's a way of solidarity, a way of humility.

Let me say it out loud: the more power you have, the greater the impact your actions have on others, and the greater your obligation to be humble.

Be humble, power will harm you and you will harm others.

There is an Argentinian proverb, "Power is like gin on an empty stomach."

If we don't exercise our power with humility and kindness, we end up feeling dizzy, drunk, out of balance, and hurting ourselves and those around us.

On the other hand, when exercised with humility and unwavering love, even the highest and most powerful powers can serve well and become a force for good.

The future of mankind doesn't just rest in the hands of politicians, great leaders and big corporations.

They certainly have a big responsibility.

But the future rests, above all, in the hands of those who see others as partners and see themselves as part of a whole.

we all need each other

So please think of me with kindness too, so that I can fulfill my duties for others, for everyone, for all of you.

thank you

What do Harry Potter, Katniss Everdeen and Frodo have in common with the heroes of mythology?

What if I told you that all three are the same hero in disguise?

do you believe

Joseph Campbell believed

He studied myths from all over the world and published a book. In his book, The Hero with a Thousand Faces, he showed that many stories fit into a single mythological mold, and that mold is the Hero's Journey.

So what is a “Heroes Journey”?

imagine a circle

The journey begins and ends in the hero's ordinary life, but in the meantime the hero ventures into a special, extraordinary world.

Key events occur along the way.

Think of your favorite novel or movie

Do you fit this mold?

Your current location is the starting point

1 o'clock Invitation to adventure

Hero receives a mysterious message

Invitation or challenge?

2 o'clock Aid The hero asks an older sage for help

Departure at 3:00 The hero crosses the boundaries of his familiar hometown and steps into a world of extraordinary adventures.

Saying goodbye to my hometown

4 o'clock ordeal It's not easy being a hero.You must solve mysteries, defeat monsters and escape traps.

Five o'clock approaching It's time to face the greatest test, the greatest danger to the hero.

6:00 Crisis The most painful hour for a hero

Sometimes they die, but they always come back to life in the end.

7 o'clock Treasure At last the hero gets the treasure, gains power and honor.

8:00 Ending This part varies depending on the story

The enemy may surrender to the hero, or may pursue the hero fleeing from the extraordinary.

9:00 return At the end of the adventure, the hero returns to the everyday world.

10:00 Newborn Adventures change the hero He grows

11 o'clock resolution, it's time to unravel the intricate plot of the story.

12:00 I'm back where I am, but it's not the same as before.

Because you've had the experience of being a hero.

Many famous novels and movies follow this format.

Check it out in The Hunger Games.

When did Katniss receive the "adventure invitation"?

When my sister was chosen by lottery

Next is "Aid"

who helped her?

it's haymitch

What is "departure"?

Has she left her hometown?

I'm on the train to the Capitol

you understand

So what does "you" have in common with Harry, Katniss, and Frodo?

it means we are the same person

The Hero's Journey exists in every culture, and it continues to be updated every day, because when we think about the world, we see our own lives as symbolic stories.

It's about leaving your comfort zone, having transformative experiences, reviving and trying again.

We don't actually fight dragons or Voldemort, but we face equally strong foes.

Joseph Campbell said, "Treasures lie in dreadful caves."

What is your “cave”?

A school audition?

baseball tryouts?

Or love?

Look for this type in any book, movie, or TV show.

I'm sure you'll find

and in my life

listen to the invitation to adventure

accept the challenge

Overcome threats and get treasure

That repetition is life

My palms are sweaty, my heart beats fast, my stomach tightens

can't ask for help

Not only is my throat so sore that I can't breathe, but it's embarrassing to do that.

No, you're not being targeted by a monster -- you're speaking in public, and some of you might be better off dead.

When you're dead you don't feel anything, but when you're on the podium you get up.

But we all have to overcome public speaking at some point in our lives.

First, let's understand what it means to "go public."

Humans are social animals, and we care about what others think of us.

Public speaking may affect your reputation.

Before you even start talking, you'll think, "What am I going to do if people think I'm the worst kind of idiot?"

This fear of not being considered stupid is a compulsive response of a primitive part of the brain that is hard to control.

Self-defense, known as the fight-or-flight response, is present in a wide variety of animals, but most animals do not speak.

We have a smart partner in our research on getting nervous.

Charles Darwin conducted a fight-or-flight experiment in front of a snake exhibit at the London Zoo.

In his journal, he writes, "When I imagined dangers I had never experienced, 'When I imagined dangers I had never experienced, my will and powers of reason were powerless.'"

He concluded that his reaction was an ancient reaction unaffected by the nuances of modern civilization.

Speech is like a snake to those of us who are conscious these days.

The rest of the brain is built to the law of the jungle, and when you recognize the likely outcome of a speech blunder, when you recognize the likely outcome of a speech blunder, it's time to run for your life or fight for your death.

The hypothalamus, which is common to all vertebrates, stimulates the pituitary gland to secrete the hormone ACTH, which releases adrenaline from the adrenal glands into the blood.

Stiff neck and back

Lean forward, limbs tremble as muscles prepare to attack

I sweat and my blood pressure soars

to muscles and organs

Digestion stops to ensure that enough nutrients and oxygen are delivered, leaving your mouth dry and pounding.

Your pupils will dilate, making it harder to read things like notes up close, but making it easier to see far away.

This is what it means to stand up in public

What should I do?

change your perspective first

this is not a reaction in your head

It's a natural hormonal response of the body that's under automatic control of the autonomic nervous system.

Social anxiety also has a lot to do with genetics.

John Lennon has performed in concert thousands of times.

He was so nervous that he was throwing up.

Some people are more afraid of doing things in public than others.

Public speaking is natural and inevitable, so focus on what you can control.

Practice a lot Practice a lot Long time ago in a production-like environment

Practicing anything helps you get used to it and it eases your anxiety, so when it comes time to speak in front of people, you can be confident and do what you have to do.

Steve Jobs practiced his eloquent speech for weeks and hundreds of hours.

If you know what you're talking about, you can capture the energy of your audience, and you're not afraid of signals from the hypothalamus that say, "That's lunch for a carnivore."

I have millions of years more experience than you, so be careful before you go on stage.

You have to trick your brain with your cunning hand. Spread your arms and take a deep breath.

This encourages the hypothalamus to relax.

Tensions usually rise just before a presentation, so stretch and take a deep breath just before a presentation.

When you approach the mic, your voice should be clear and your body should be relaxed.

Convince a rough audience that you're a charismatic genius with a well-prepared speech.

But why?

I didn't get over being in public, I just got used to it.

And the truth is, no matter how self-contained you are, in your brain you're still a wild animal, a wild animal who can think deeply and speak well.

Think soft, freshly baked cookies, hard, sweet candies, melty cakes, and heaps of soft serve ice cream.

is your mouth moist?

Want something sweet?

Why?

What's going on in your sweet-obsessed brain?

Sugar is a general term for organic compounds called carbohydrates, and it's found in a wide variety of foods.

Check out the labels on sweet treats

Glucose Fructose Sucrose Glucose Fructose Sucrose Glucose Fructose Sucrose Maltose Lactose Maltose Lactose Dextrose Starch Dextrose Starch These are all types of sugar

High fructose corn syrup Fruit juice High fructose corn syrup Fruit juice Raw sugar And honey are also types of sugar Raw sugar and honey are also types of sugar

Sugar is not only found in candies and desserts, but also in tomato sauce, yogurt, tomato sauce, yogurt, dried fruit, fruit flavored water or granola bars.

Because sugar is so ubiquitous, it's important to understand its effects on the brain.

what happens when sugar touches your tongue

Does eating less sugar make you want to eat sweeter foods?

One bite of corn flakes

The sugar inside activates the sweet taste receptors that are part of the taste buds on the tongue.

These sweet taste receptors send signals to the brainstem, and from there they distribute to many parts of the frontal lobe, one of which is the cerebral cortex.

Different parts of the cerebral cortex process different taste sensations: bitter, salty, umami, bitter, salty, umami, bitter, salty, umami, and in this case, sweet.

From here the signal activates the brain's reward system.

The reward system is a series of electrical and chemical pathways across different parts of the brain.

It's a complicated network, but it's for that warm, fluffy feeling when you eat chocolate cake that your grandmother made.

It answers simple, implicit questions like, "Should I have another chocolate cake?"

It's the reward system saying, "You should eat!"

It is also activated by food

Socializing, sexual activity, and drugs are just a few examples of things and behaviors that activate the reward system.

But if you overactivate this reward system, it can trigger unfortunate events, such as loss of self-control, uncontrollable cravings, and increased sugar tolerance.

Let's go back to the example of taking a bite of cornflakes.

Corn flakes travel down the stomach and eventually into the intestines.

and what will happen

In fact, there are sweet taste receptors here as well.

These aren't taste buds, but they send signals to your brain that you're full or that you need to make more insulin to deal with the extra sugar you've ingested.

The main nerve in the reward system is dopamine, which is an important chemical or neurotransmitter.

There are many dopamine receptors in the frontal lobe, but they are not all evenly distributed.

Many sites are packed with receptors, and these are dopamine hotspots, part of our reward system.

Drugs like alcohol, nicotine, and heroin over-activate dopamine, making you want to stay "high" all the time, which is addicting.

Sugar also releases dopamine, but not as intensely as drugs.

Sugar is one of the few foods that stimulates dopamine release.

Broccoli, for example, doesn't do anything, so maybe it's hard to get kids to eat vegetables, so maybe it's hard to get kids to eat vegetables.

When it comes to healthy foods, for example, when you're feeling hungry and you decide to eat a balanced diet.

Dopamine spikes within reward hotspots

But if you eat the exact same food every day, your dopamine levels will gradually decrease and eventually stop increasing.

So when it comes to food, the brain has evolved to pay special attention to new or different tastes.

Why

There are two reasons. First, it senses whether food has spoiled.

Second, eating a wide variety of foods makes it easier for us to get the nutrients we need.

To maintain variety, you need to be able to recognize new foods, and more importantly, you need to want to keep eating new foods.

So when you get bored with eating the same food every time, your dopamine levels drop.

Let's go back to the balanced diet example.

What would happen if you ate sugar-rich foods instead of eating a healthy, balanced diet?

If you don't eat a lot of sugar, or don't eat a lot of it at one time, the effect is similar to eating a balanced diet.

But in people who eat too much sugar, dopamine levels don't go down.

So eating more sugar means you'll continue to feel rewarded.

In this case, sugar acts a little like a drug.

This is one reason why people are addicted to sugary foods.

Now let's think about other types of sugar.

Each one is unique, but whenever any sugar is consumed, it triggers a domino effect in the brain that triggers one reward sensation after another.

Eating too much or too often can lead to overactivity.

So overconsumption of sugar is addictive to the brain, but eating cake once in a while is fine.

When you pay for something, it's not good to take out a piece of paper, isn't it?

Unless, of course, that piece of paper is a $100 bill.

So what makes banknotes more attractive and more valuable than other forms of paper?

Banknotes by themselves are not useful for anything.

if you can't eat

can't make anything

And if you burn it, it becomes a crime.

What's so great about banknotes?

Some of you may know the answer

A hundred-dollar bill is printed by the government and recognized as its official currency, and no other paper has that kind of backing.

But this only gives it legal validity.

It's the quantity in circulation that determines the actual value of a $100 bill.

Most historical currencies, including the U.S. dollar, were tied to valuable goods, and their circulation depended on government holdings of gold and silver.

But in 1971, the United States abolished this system and the dollar became so-called fiat money, meaning that it was disconnected from other resources and the amount in circulation was determined solely by government policy.

So which government agency decides this policy?

Executive branch? Legislative branch? Or judicial?

Surprisingly, they are all different

Monetary policy is actually set by an independent body, the Federal Reserve, or the Fed for short.

The board is nominated by the president, and the board is nominated by the president, approved by the Senate, and the board reports to the House of Representatives.

But it's not directly controlled by a government agency to keep it from being affected by the daily political strife.

So why isn't the Fed printing endless amounts of money to keep everyone happy and prosperous?

Because then the paper money loses its value.

Let's take a look at what currency means, that it can be exchanged for goods and services.

If the total amount of a country's currency in circulation grows faster than the total value of its goods and services, the same banknote can buy relatively less than it did before.

This is called "inflation"

On the other hand, as the production of goods and services increases while the money supply stays the same, the relative value of paper money rises. This is called deflation.

Which one is worse?

If inflation goes too high, the money in your wallet today will be worth less tomorrow, and you'll want to spend it quickly.

This stimulates the economy, but it also leads to over-consumption and hoarding of commodities like food and gasoline, which in turn pushes up prices and the lack of supply further fuels inflation.

On the other hand, during deflation, the desire to save money reduces consumer spending, which in turn reduces corporate profits, which in turn leads to higher unemployment, which in turn lowers spending and causes the economy to shrink.

That's why many economists believe that both are dangerous if taken too far, but that sustained moderate inflation is necessary to support economic growth.

The Fed uses vast amounts of economic data to determine the supply of money, including historical inflation rates, global trends, unemployment rates, and more.

Like the English fairy tale "The Three Bears," we need to get it just right, so that we can foster growth, secure jobs, and avoid excessive inflation.

The Fed doesn't just determine the value of the bills in everyone's wallets, it also determines the size of the opportunities to get a job to get that money.

Do you know? Remember that whenever a musician plays an instrument, there are fireworks all over his head

At first glance, musicians may appear to be calm and focused, reading music and performing the precise, disciplined movements that are required.

But there's a carnival going on in your brain.

How do you know?

Yes, neuroscience has made great strides in the last few decades, with devices like FMRI and PET scanners allowing us to monitor the brain in real time to understand how it works.

When a person hooked up to one of these devices performs a task, such as reading a book or solving a math problem, they can observe the activation of the relevant parts of the brain.

But when they asked their collaborators to listen to music, the scientists saw fireworks.

As the person decomposed, reassembled, and integrated into the musical experience the sonic elements of melody and rhythm, multiple areas of the brain lit up at once.

The brain does this in the split second between when we first hear the music and when we tap our feet to match it.

But when scientists turned from listening to music to playing music, the little backyard fireworks turned into a big celebration.

Listening to music has some pretty interesting effects on the brain, but it turns out that playing an instrument can even be compared to "full-body exercise" for the brain.

Neuroscientists have discovered that multiple areas of the brain are sparking and processing all sorts of complex information at the same time, surprisingly quickly.

But how does playing music activate the brain?

This is still a fairly new study, but neuroscience is finding powerful clues.

Playing an instrument engages virtually every brain region in the brain, especially the visual, auditory and motor regions.

And like any other activity, rigorous and systematic practice of playing an instrument enhances brain function, which in turn strengthens other activities.

The most striking difference between listening to music and playing music is that playing requires fine motor skills controlled by both the right and left hemispheres of the brain.

Performance also combines linguistic and mathematical precision, which the left hemisphere is more involved with, and creative activities, which the right hemisphere is more adept at.

For these reasons, we found that playing music strengthens and activates the connections in the corpus callosum, which serves as a bridge between the right and left hemispheres of the brain, and facilitates faster and more diverse routes of information transfer in the brain.

So musicians may be able to solve problems more effectively and creatively, both academically and socially.

Because playing music involves creating and understanding its emotions and messages, many musicians have excellent executive functions. Their continuum of work involves planning, strategizing, and paying attention to detail, and requires both cognitive and emotional analysis at the same time.

This ability also affects how the memory system works.

And musicians are able to form, store, and retrieve memories faster and more effectively, and they show very advanced memory functions.

Research has shown that musicians seem to use multiple tags in their memories -- conceptual tags, emotional tags, phonetic tags, contextual tags -- and coordinate them in a highly coordinated way, using their brains like a good internet search engine.

So how do we know that these benefits are unique to music compared to, say, sports or painting?

Or were people who got into music smart to begin with?

Neuroscientists are studying these issues, but so far we know that the technical and artistic aspects of learning to play an instrument are different from any activity studied, including other artistic activities.

And when they randomly assigned participants who had similar cognitive and neural processing abilities at the beginning of the study, they found that those who studied music for a period of time had stronger brain regions than those who didn't.

Recent research into the mental benefits of playing these instruments has advanced our understanding of mental function, revealing the inner rhythms and complex interactions that make up the amazing orchestra in our brains.

One of the most remarkable aspects of the human brain is its ability to recognize and express patterns.

Perhaps the most difficult pattern to understand is the concept of turbulence in fluid dynamics.

German physicist Werner Heisenberg said, "If I were to meet God, I would ask him two questions: 'Why did you create relativity and turbulence?'

I believe God knows the answer to the first question."

Turbulence is difficult to understand mathematically, but art can describe it.

In June 1889, Vincent van Gogh painted a pre-dawn scene from the window of his room at the Saint-Paul-de-Mozole psychiatric hospital in Saint-Rémy-de-Provence, where he had been hospitalized after cutting off his own ear for morbid behavior.

In "The Starry Night," his arcing brushstrokes depict a night sky filled with swirling clouds and stars.

Van Gogh and other Impressionists represented light in a different way than in previous generations, capturing the movement of light.

This effect is due to luminosity - the intensity of the light on the canvas.

The more primitive parts of the visual cortex see light in terms of contrast and movement, not colors, and if they all have the same intensity, they can't tell different colors apart.

But the part of our brain that's unique to primates recognizes contrasting colors without blending them.

Because these two interpretations are happening simultaneously, the light in many Impressionist works appears to pulsate, flicker, and radiate in a strange way.

In this way, the works of Van Gogh and other Impressionists rendered the movement of light very realistically through their masterful brushwork.

Sixty years later, Russian mathematician Andrei Kolmogorov advanced the mathematical understanding of turbulence by proposing that the energy in a turbulent flow of length R is proportional to R to the fifth power.

Although a full explanation of turbulence remains an open question in physics, experimental measurements have shown that Kolmogorov's theory is an extremely accurate description of turbulent behavior.

Turbulence is self-similar when there is an energy cascade—

In other words, a large eddy energizes a small eddy, chaining to the next smaller eddy.

Examples of this include Jupiter's Great Red Spot cloud formation and interstellar dust.

In 2004, using the Hubble Space Telescope, scientists observed a distant cloud swirl of dust and gas around a star that was reminiscent of Van Gogh's "The Starry Night."

This inspired scientists in Mexico, Spain and England to study in detail the luminosity of Van Gogh's paintings.

They found a characteristic pattern of turbulent structures close to Kolmogorov's law in many of Van Gogh's paintings.

The researchers digitized the painting and measured the change in brightness between two pixels.

They concluded from curves derived from measured data for pixel separation that Van Gogh's paintings during his psychotic period were strikingly similar to fluid turbulence.

No such match was found in Van Gogh's self-portrait with a pipe, written during the quieter period of his life.

Nor did other artists' works, such as Munch's "The Scream," which at first glance seem equally turbulent, disagree.

It's easy to say that Van Gogh's turbulent genius enabled him to depict turbulence, but it's difficult to capture the true beauty of reality in the face of intense suffering.

In your day-to-day life, you walk through power structures that others have constructed.

have you noticed?

Do you understand "power"?

Do you understand why it matters?

Talking about "power" is often uncomfortable.

Especially in civic life, that's true, and that's living in a community.

In a democracy, "power" is said to exist with people and with time.

And when we talk more about power and who actually owns it, it seems a little nasty, even evil.

But power comes from nature, just like fire and physics can't be lit, it's not good or bad-

it just exists

Power is exercised in order for all forms of government to function.

Those in power will eventually set the rules of the game.

So knowing how power works is critical to being able to operate effectively, to be taken seriously, and not to be taken advantage of.

In this lesson, we'll look at where power comes from, how it's exercised, and what you can do to become more powerful in public life.

Let's start with a basic definition

"Power" is the ability to make other people do what you want them to do.

Of course, this power extends to all areas of life, from family to work to romantic relationships.

We're going to focus on the realm of civic life here, and "power" here means the power to make a community choose to do what you want it to do.

There are six sources of civic power

First, physical force and violence.

Restraining the use of force is the most primitive force, whether it's the police or the military.

The second source of power is wealth

You can get achievements with money, you can buy most of the "power".

The third form of power is the act of state, or government.

This is the use of laws and bureaucracy to force or discourage certain actions.

For example, in a democracy, in theory, we the people give sovereignty to the government through elections.

In a dictatorship, state power derives not from the consensus of the people, but from military pressure.

The fourth power is social norms, what people approve of.

Norms have no centralized political machinery.

Norm is something that builds more softly from person to person.

Norms do indeed change people's behavior, they even change the law.

Consider how the norms of marriage equality have evolved today.

The fifth form of power is thought

The ideas of individual liberty and racial equality - if given enough incentive to change behavior - can create immense power.

And the sixth source of power is numbers, the crowd.

The voice of the crowd comes into play when many people collectively show interest and advocate for legitimacy.

Think about the momentum of the Arab Spring or the Boston Tea Party.

the crowd was powerful

These are the sources and powers of the six main types of power.

Now let's think about how power works.

There are three rules of power worthy of examination.

Rule 1: "Power is not static"

In the civil realm, it's always growing and declining.

So even if you're not acting, you're always being forced to act.

Rule 2: "Power is like water"

It flows like water in everyday life.

Politics is the job of steering the tide as you please.

Policymaking is the effort to freeze and contain the flow of power.

Policy is the power to freeze

Rule 3: "Power is Complex"

Power creates more power, but it can also neutralize it.

It all depends on how we apply Rule 1 and Rule 2 to make Rule 3 work, so that it doesn't create a situation where one person has all the power.

What kind of rules can we set to ensure that a few people can't concentrate too much power and permanently secure the privilege of policy?

It's a matter of democracy, and as the news shows, each rule works.

Low-wage workers unionize for higher incomes

Oil companies push to secure large pipelines

Gay and lesbian couples want their right to marry

Inner-city parents demand lower school fees

You will have pros and cons to these efforts.

Getting what you want depends on how you wield power, and ultimately it teaches you how to have more power in public life.

If you think about it in terms of "literacy," which is easy to understand,

What I want you to learn is the ability to read and write.

"Reading" is about being able to pay attention to as many letters as possible-

It's not just about books

It means looking at society as text.

What about campuses, cities, countries, etc.?

Know who has what power and what systems work

Understand the WHY and WHO made it the way it is - and who wants it to stay that way.

Learn strategies others have used in such situations Frontal or indirect attacks Alliances Charismatic authority, etc.

read so you can write

In order to write about power, you must first believe that you have the right to write, that you are a transformative writer.

you do

Learn to express yourself and speak your truthful voice in any writing.

organize your thoughts and organize others

practice consensus building

It's about training for conflict.

When it comes to writing skills, practice is everything

There are opportunities around you and beyond to practice every day.

Set a goal and raise it

Observe patterns and read what works

take it and repeat

this is what citizenship is

In this short lesson, we've explored the sources of civic power, how it works, and how to practice exercising it.

One big remaining question is the "why" of power.

Do you want power that benefits everyone? Or do you want power that only benefits you?

Is the purpose social? Or is it anti-social?

This question is not a strategy

It's a matter of character. Let's talk about that for another lesson.

But remember this: when you combine power and character, you make a good citizen, and you have the power to be that citizen.

It's often said that elephants never forget, but this majestic animal is much more than a giant walking memory device.

As we learn more about elephants, we realize that their excellent memory is just one aspect of their superior intelligence that makes them some of the most creative, social and friendly animals on the planet.

This proverb about elephant memory is scientifically correct, unlike many proverbs.

Elephants remember everyone in their herd and can recognize up to 30 by sight and smell.

This is useful when traveling in groups or when encountering other elephants that may be hostile.

Elephants can learn and recognize signs that warn them of danger, and they can also remember important places they've been to long ago.

But non-survival memories are even more interesting.

Elephants remember well not only their own herd mates, but also other creatures that make a strong impression on them.

In one example, two circus elephants, who had only performed together for a short time, were overjoyed to see each other again after 23 years.

It's not just other elephants that show this kind of memory.

Elephants can also recognize deeply bonded humans even decades later.

All of this shows that elephant memory is more than a response to stimuli.

If you look inside an elephant's head, you'll understand why.

Elephants have the largest brains of any land mammal and a high encephalization quotient (EQ).

EQ is the ratio of the actual brain size to the size of the brain expected from the size of the animal, and the EQ of elephants is comparable to that of chimpanzees.

Although they are evolutionarily distant from humans, due to convergent evolution, the elephant brain is very similar to the human brain, with as many neurons and synaptic connections as humans, a highly developed hippocampus and cerebral cortex.

The hippocampus is strongly associated with emotions that help us remember and engrave important experiences in our long-term memory.

It's this ability to discern important things that makes an elephant's memory more complex and adaptable than a mechanical memory.

Elephants that survived drought at an early age are able to recognize signs of danger as adults, which is why groups with older female leaders have higher survival rates.

Unfortunately, because of this memory, elephants are the only animals other than humans to suffer from post-traumatic stress disorder.

On the other hand, the cerebral cortex enables problem-solving, and elephants demonstrate this ability in many creative ways.

Elephants also work together to solve problems, sometimes outmaneuvering researchers and manipulating other elephants.

Elephants understand basic mathematics and can tell which basket has the most fruit after several times in and out of two baskets.

This extraordinary combination of memory and problem-solving ability explains some of the most intelligent behaviors in elephants, but there's still a lot we don't know about what's inside the elephant's mind that we're just beginning to understand.

To communicate, elephants use everything from gestures and vocalizations to infrasonic sounds that can travel miles and are inaudible to humans.

Elephant's ability to comprehend syntax suggests that it has its own language and grammar.

This sense of language goes beyond mere communication.

Elephants carefully select and combine different colors and elements to create art.

Elephants can also hear 12-note scales and reproduce melodies.

There's actually an elephant band.

But perhaps the best thing about elephants is their abilities, which are more important than their intellect: empathy, altruism and a sense of justice.

Elephants are the only non-human animals that mourn their dead by burials and visiting graves.

Elephants also show compassion for other creatures.

One elephant refused to put wood in the pit the dog was sleeping in while working, and another elephant that meets an injured human defends him and gently pampers him with his trunk.

On the other hand, elephants sometimes attack human villages, but it's considered revenge because it usually follows large-scale poaching.

Taken together, all of this evidence, and the fact that elephants are one of the few animals that can recognize their own reflection in a mirror, the conclusion that elephants are sentient, intelligent, and emotional animals is inevitable.

Unfortunately, human treatment of elephants does not reflect this: habitat destruction in Asia, ivory poaching in Africa, and elephants being captive and abused all over the world.

Given what we know about elephants, and what they can tell us about animal intelligence, it's all the more important to ensure that elephants, described by the English poet John Donne as "nature's great masterpiece," do not disappear from the great canvas of the world.

It's already 4:00 a.m. I have an important exam in 8 hours, and after that there's a piano recital.

I've been studying and practicing for days, but I still don't feel like I'm ready.

What shall I do?

I could have another cup of coffee, cram and practice for a few more hours, but don't be surprised, I'd rather close the book, turn off the music, and go to bed.

Sleep occupies a third of our lives, yet many of us surprisingly pay little attention to it.

This kind of neglect often stems from a big misunderstanding.

Sleep isn't lost time, it's not just a break when you've finished an important task.

Instead, sleep plays an important role, during which the body balances and regulates vital functions, regulates respiratory function, and regulates everything from circulation to growth to the immune response.

That's great, but why don't we think about it after the exam is over?

so don't rush

Sleep is also important for the brain, because one-fifth of the blood that circulates in your body goes to your brain when you fall asleep.

And during sleep, there's a lot of restructuring going on in the brain that's so important to how memory works.

At first glance, the ability to remember things doesn't seem all that great.

The 19th-century psychologist Hermann Ebbinghaus proved that we forget 40% of new memories in the first 20 minutes, a phenomenon known as the forgetting curve.

But this forgetting can be prevented by memory consolidation, a process that moves information from fragile short-term memory to long-lasting long-term memory.

This memory consolidation is done by a major part of the brain called the hippocampus.

That the hippocampus forms long-term memory was shown in the 1950s by Brenda Milner in a study done on a patient named H.M.

When the hippocampus was removed from this patient, H.M.'s ability to form short-term memory diminished, but he was able to remember physical movements with repetition.

Removing the hippocampus also compromised H.M.'s ability to form long-term memories.

What this experiment shows is that the hippocampus is specifically associated with the consolidation of long-term declarative memory, which is the memory of facts and concepts that you memorize for exams, whereas procedural memory is like fingering on the piano that you have to do for a presentation.

Milner's findings, along with Eric Kandel's work in the '90s, led to our current model of memory consolidation.

Perceptual data is first converted into signals in the brain and temporarily stored in neurons as short-term memory.

From there, it moves on to the hippocampus, and cortical neurons get stronger and take on a higher role.

Thanks to a phenomenon called neuroplasticity, new synaptic sprouts form, new connections are made between neurons, and the neural network becomes stronger, where information becomes long-term memory.