I was bold and hopeful, even though some of my therapists said my goals were too high -- I couldn't push such a small button.

I watched in amazement as my daughter slowly learned how to use it, bending her little thumb to press buttons for the words she wanted.

And it's not so fun, but I also taught them prepositions, like "of," "on," and "in."

I've been working on it for weeks

And then I remember sitting around the table with a bunch of relatives, and out of nowhere, Fiona used an iPad app and said, "Poop in the toilet."

(Laughter) I don't know if it's good or bad.

(Laughter) My child is just human.

it means a lot

thank you

(applause)

I'm David Hanson, and I'm building robots with personalities.

In other words, by developing robots with individuality, we aim to ultimately enable robots to respond to human emotions.

And we've integrated a variety of technologies to create a robot with a personality that can interact with you.

In a series of technological developments, the robot's facial expressions became more realistic and required less energy than before, making it the first "android" capable of walking on two legs.

By simulating the major muscles in the human face, you can create all sorts of facial expressions, run on a small battery and are very light.

Now, this material called Flubber is the battery-powered facial expression that's made possible by three big innovations.

It's the hierarchical structure of the pores and the nanoscale macromolecular porosity.

It's time to start walking

This is a pattern at the Korea Advanced Institute of Science and Technology.

I developed the head, they developed the body.

The goal of my research is to make machines sensitive, not just to understand emotions, but to be able to respond to them.

We are collaborating with the Machine Cognition Lab at the University of California, San Diego.

They're really good at facial expressions, and they can recognize intent from human facial expressions.

It also recognizes human orientation and head orientation.

We mimicked the main human facial expressions and made them controllable in software, which we call the Character Engine.

Introducing some of our technology

Now, I'm going to show you how to actually move it and read my facial expressions.

yes i am laughing

(Laughter) Next is the frown.

The lights are bright here

ok i will move on

sad expression

Yes, laugh and frown

That he perceives a person's emotions is very important for realizing a robot that responds to emotions.

Robots can become so frighteningly powerful that they can even kill people, right?

Scary robots can't respond to emotions

Billions of dollars have been spent on such research.

From the seeds sown in character robotics, we may be able to aim for a robot that responds to emotions.

If robots were as intelligent as humans, or even smarter than humans, they could be the seeds of hope for our future.

I developed 20 robots in 8 years before I got my Ph.D.

And then I founded Hanson Robotics, and we're developing it for mass production.

Here's an example of one of our robots that was on display at Wired Nextfest a few years ago.

It distinguishes between multiple people in its field of view, remembers where each one is, performs individual identification, and remembers who they are.

we focus on two factors

The first is human recognition, and the second is natural interfaces, and the more natural interactions we have with humans, the more intuitive it becomes to control robots.

It seems like it's alive and conscious.

In this project, we combined these elements to make an android look like science fiction author Philip K. Dick, best known for his books like "Do Androids Dream of Electric Sheep?"

It's from the movie "Blade Runner"

In the novels, robots think of themselves as humans and have a kind of consciousness.

So we put a huge database of his documents, his letters, his interviews, his correspondence, and a lot of that information and put it through natural language processing so that we could actually have a conversation.

It's kind of creepy, because he talks like he really understands humans.

This is the most exciting product in development, this little robot called spokesbot, aimed at friendly artificial intelligence, machine intelligence.

We are now in mass production

We designed it to be manufactured with the lowest possible materials, and we want it to be a good friend to our children.

I get smarter every year because I can connect to the internet.

As artificial intelligence advances, so will the intelligence of robots.

Chris: Thank you. That was a great story.

(applause)

It's my first time giving a talk at TED. I'm an advertising man, and I usually give talks at TED's secret organization, the money-making side, called Evil TED.

It is held in Myanmar once every two years.

One of my favorite speeches was Kim Jong-il's "How to get young people to start smoking again."

(Laughter) After working in advertising for many years, I've noticed that the intangible value that advertising creates—perceived value, or brand value, subjective value, or any other kind of intangible value—is a little demonized.

When it comes to living in a material-poor environment in the future, there are basically two options.

live in poverty, which is generally shunned

Living in a world where intangible value is a large proportion of total value, in many ways intangible value is a much better choice than using up labor and limited resources.

One example - from London to Paris

About 15 years ago, I asked a bunch of engineers how to make train travel more comfortable.

We've come up with a brilliant solution: a £6 billion, completely new line from London to the coast, shortening the three-and-a-half-hour journey by 40 minutes.

I'm just an ad man

Just shortening the time is not very imaginative as a plan to make train travel more comfortable...

So what kind of comfort would you get if you spent £6 billion on something other than tracks?

This is an advertising man's naive proposal, but

How about hiring some of the world's top male and female supermodels to whisk you around in the car, serving you fine wines throughout the journey?

(Laughter) (Applause) It's about three billion pounds, and passengers will tell you to slow down the train.

(Laughter) Here's another naive question from an advertiser.

From this story, we can see that engineers, medical workers and scientists are obsessed with solving real problems, but in practice, once social prosperity reaches a certain threshold, it's mostly a matter of perception.

one more question here

What's so bad about placebos?

It costs less to develop, and it looks good.

The effect is outstanding

Even if there are side effects, you can safely ignore them because they're just your imagination.

(Laughter) I discussed this on Tyler Cohen's blog, Marginal Revolution.

Somebody took this idea even further and proposed placebo education.

Feeling well educated is better than being taught something

It's that it works, so a sense of arrogance based on unfounded confidence can lead to great success later on.

So welcome to Oxford

(Laughter) (Applause) But the point of placebo education is interesting.

How many problems in life can be solved just by tweaking the way we feel? Much better than tedious, time-consuming, and cumbersome work that changes reality

There's a good example in history: one king had an idea, and it turned out to be Frederick the Great of Prussia.

He highly recommended potatoes to the German public, because he realized that having two carbohydrate sources, wheat and potatoes, would reduce bread price volatility.

It also reduces the risk of starvation because you can rely on two grains.

The only problem is that potatoes are bad.

Eighteenth-century Prussians rarely ate vegetables, much like the Scots of today.

(Laughter) The Great Emperor tried to coerce the potatoes.

The Prussian peasants said, "Neither dogs will eat this.

It's bad and it's useless."

Some farmers were even executed for refusing to grow potatoes.

Emperor's next plan

The idea was to position the potato as a royal vegetable, something only royalty could eat.

Potatoes were grown in the royal fields, and sentries were commanded to guard the fields day and night, but not to overwatch.

(Laughter) For 18th-century peasants, the undeniable rule was, "Watch is evidence worth stealing."

Large-scale black potato cultivation will soon begin in Germany.

Daitei revived the potato brand

It was a masterpiece

When I told this story, a Turkish man said, "Great marketing, but not as good as Ataturk."

Like Nikola Sarkozy, Ataturk tried to modernize Turkey by banning the veil.

I would have simply banned the veil if I had no talent

There would have been so much backlash and so much resistance.

Ataturk, free-thinking,

Require prostitutes to wear veils

(Laughter) (Applause) Whether or not this is true-

It's the solution to environmental problems Child sexual abusers have to drive a Porsche

(Laughter) Ataturk realized two fundamental things.

First, all values ​​are relative

Perceived value

Below this sign is in Spanish

The dollars are actually in pesos, but clever street vendors in Buenos Aires decided to price discriminate against British and American tourists.

I applaud you as an ad man

What this story shows is that all values ​​are subjective.

Second, persuasion is more effective than obligation.

Even with flashing speed indicators, newer types like the one on the bottom right are evocative with smiles and frowns.

The great thing about this indicator is that it's 10 percent cheaper to maintain than a speeding camera, and it prevents twice as many accidents.

The funny thing that confuses traditional economists is that this funny smiley display is more effective at changing your behavior than a £60 fine and a three-point penalty.

A little bit of behavioral economics - in Italy penalties are demerit points

It will be subtracted from 12 points

Because loss aversion has a stronger impact on what people say and do.

In England, "I got 3 points again"

Not so in Italy

Another great example of how intangible values ​​can replace market and material values ​​-- this is the goal of environmentalism -- also from Prussia, circa 1812 or 1813.

To aid the war against France, the wealthy donated their jewellery.

I was given a cast iron replica instead.

In this example, the inscription reads, "I offered gold and received iron."

Interestingly, for the next 50 years, it wasn't gold or diamonds that allowed you to flaunt your status in Prussia.

It was cast iron jewelry.

Rather than the intrinsic value of owning gold jewelry, they have symbolic brand value.

It's a testament to the great sacrifices families have made in the past.

This is what it looks like in modern times

(Laughter) But for some things, the more expensive and rare they are, the more valuable they are.

Come to think of it, the Shakers were the archetype of environmentalism.

According to Adam Smith, in 18th-century America, the display of wealth was strictly prohibited, which could have stymied the economy of New England, because even wealthy farmers had no use for their money without incurring the discontent of their neighbors.

It's entirely possible to create social pressure to make a more egalitarian society.

Another interesting thing is that products that have more intangible value, or message value, than intrinsic value, are often quite egalitarian.

A good example of how symbolic value replaces material value, in terms of clothing, is probably denim.

Many of you may be left-wing and don't like Coca-Cola, but Andy Warhol.

The comments should keep in mind, "It's good that the President of the United States and the homeless drink the same Coke."

You take it for granted, but it's a great achievement to create something so democratic.

So I have to change my point of view a little.

The real value comes from manufacturing, labor, engineering, and using finite materials.

have a basic idea

It is said that added value etc. is a deception by pretending

It is reasonable to doubt

it clearly looks like an advertisement

But now the media is more diverse, it's easier to add value, and it's fairer.

I tried to represent my childhood media environment with food.

On the left is the exclusive distributor, only media mogul Rupert Murdoch or the BBC.

(Laughter) On the right is the masses that rely on media companies to thank them for whatever they give them.

(Laughter) Now users are also participating.

In the digital world, “user-generated content”

In the world of food, it is called "agriculture"

(Laughter) It's called a "mashup," where you take someone else's content and do something new with it.

In the world of food, it is "cooking"

This is Food 2.0, food to share with others.

"Mobile food" that the British are good at

Fish & Chips Wrapped Meat Pie Sandwich

invented by us British

Italian tastes better, but you can't carry it

(Laughter) By the way, the Earl of Sandwich invented

It's actually a toasted sandwich

Count Toast (Laughter).

Take Pernod for example

Every country has its own local drink, France's Pernod.

It's delicious when you drink it in Japan, but it's totally bad when you drink it elsewhere.

(Laughter) So is Unicum in Hungary.

The Greeks made retsina, which you can't drink in Greece.

(Laughter) But today's information can be customized, it can provide useful information, it can influence people.

It's the best persuasive technology ever, he says, that gives you instant, timely information based on your current location and situation.

If we have tools like this at our disposal, we have to think of smarter ways to use them, like some of the most famous engineers in the world.

I'll give you one example

If you had a big red button on the wall of your house, and every time you pushed it, $50 would go into your pension, you could save more money.

Ease of doing things basically determines what you do.

Advertising has done a great deal to create impulse buying opportunities.

But the opportunity to impulsively save has never been created

Many people would be able to save more if

If you just change the process by which people make decisions, the choices themselves will also change.

As an advertiser, I don't want you to save money, but you're just postponing spending unnecessarily.

(Laughter) But if you want to do that, you need a basic tool to change human behavior.

Now let me give you an example from Canada.

Hunter Somerville, an intern at advertising agency Ogilvy Canada, was doing comedy in Toronto, but he got a part-time job in advertising, promoting cereals.

This is the best example ever of creating intangible value without changing the product at all.

Shredded's are weird square whole grain cereals from New Zealand or Canada or England.

Only available in countries loyal to the British Empire

(Laughter) He came up with this for Shreddies' relaunch.

Video: (Buzzing sound) Man: Shreddies are supposed to be square

(Laughter) I don't think this diamond type will ship.

(laughs) New Diamond Shreddies

The same delicious diamond-shaped 100% whole wheat flour

(Applause) This is a perfect example of intangible value creation.

It's a masterpiece

Of course, some market research is required.

Man: Shreddies is developing a new product, and all the employees are excited.

New Diamond Shreddies

(Laughter) First of all, what was your first impression when you saw the diamond-shaped box?

(laughs) Woman: Wasn't the front square?

2: What do you mean? Woman 3: It looks square.

Man: It's a matter of perspective

It's like turning a 6 and a 9 upside down, although it looks like a 9 when turned upside down.

6 is very different from 9

Woman 3: Like M and W Man: Exactly

Man 2: It looks like it's just turned around, but it looks more interesting from this angle.

Man: Please try both.

the square first

(laughs) Man: Which do you prefer? Man 2: 1st

Are you the first?

(Laughter) Of course, there's controversy when this happens.

Not surprisingly, Canadian conservatives refused to "invade" this product.

As a result, the manufacturer came up with a compromise "combo pack."

(Laughter) (Applause) (Laughter) If that's interesting, you're talking about the National Institute of Wine Economics.

So from now on, let's hide the brand and drink

This makes me laugh, but it's also an important rationale: we're going to need more of these values ​​in the future.

Focus on valuing what already exists and don't worry about what else you can do.

I will end with two quotes

The first is, "Poetry is about bringing the new closer and making the familiar new."

It's a good definition of what we're going to do next: introduce people to the unfamiliar, enhance the value of what already exists, and get them to appreciate it.

Social networking also helps

because people can share news

To give value to the trivial activities of everyday life

It's magic that you don't have to spend a lot of money to show off, and you can do small, simple things to entertain people around you.

The second is a quote by G.K. Chesterton, "It's not enough to admire, it's not enough to admire." Those involved in technology will agree.

One final word: If you start to value things like health, love, and sex, and give them physical value to things you've never considered before, just because they're invisible and intangible, you'll find yourself incredibly blessed.

thank you

(applause)

Our mission is to build a detailed and realistic computer model of the human brain.

Over the past four years, we've done proof-of-concept tests on small pieces of rodent brains. With this demonstration, we are now trying to scale this project up to the human brain.

Why do we do this?

There are three important reasons.

First, understanding the human brain is essential to functioning well in society. I also think it's an important step in evolution.

The second reason is that we cannot continue animal experiments forever. All data and knowledge must be integrated into the working model.

It's Noah's Ark and it's like an archive.

The third reason is that 2 billion people on earth suffer from mental illness. Most of the drugs in use today are empirical,

I think we can find very specific answers about sickness benefits.

Now, even at this stage, we can use models of the brain to explore fundamental questions about how the brain works.

Here at TED, for the first time, I'd like to share our work with one theory -- there are many theories -- one theory of how the brain works.

According to that theory, the brain creates and constructs a version of the universe. It then projects this version of the universe, like a bubble, onto everything around it.

This is of course the subject of centuries of philosophical debate.

But for the first time, we can actually tackle this problem with brain simulations and ask a very systematic and rigorous question, can this theory really be true?

The reason the Moon is huge on the horizon is simply because our bubble of perception doesn't extend 380,000 kilometers.

It goes beyond the limits of space.

So we compare with the building, within the bubble of perception, and judge.

We judge that size, though not that size.

What this shows is that judgment matters. Judgment sustains and keeps the bubble of our perception alive.

You cannot see, think, or feel without judgment.

You might think that anesthetics work by lulling you into deep sleep or by blocking receptors so you don't feel pain. But the reality is that most anesthetics don't work this way.

What it does is introduce noise into the brain, making it impossible for neurons to understand each other.

Neurons are confused. Then you can't judge.

So while you're still undecided, the surgeon is long gone, ripping your body apart.

I am having tea at home.

(Laughter) Now, when you walk in the door and open it, you have to make an immediate decision to perceive. It's about making thousands of decisions about the size of the room, the walls, the height, and the objects in the room.

Ninety-nine percent of what you see is not what you see.

That's what you reasoned about that room.

So, with a certain degree of certainty, we can say, "I think, therefore I am."

But we cannot say, "You think, therefore you are." Because "you" are in my bubble of perception.

You can ponder and philosophize here, but in the next hundred years you don't really need to.

We can ask very specific questions.

"Can the brain construct such perceptions?"

Do you have the ability to do so?

Is there an entity for that?

This is what I am going to talk to you about today.

It took the universe 11 billion years to build the brain.

I had to improve little by little.

I had to add it to the forehead so that I could get the instinct. Because it's meant to be dealt with on land.

But the real big step was the neocortex.

New brain. I needed this.

needed by mammals. This is because of parental roles, social interactions and complex cognitive functions.

So the neocortex can actually be considered the ultimate answer for this universe as we know it today.

It is the apex and final product of this universe.

Evolutionary success has increased the number of neurons from mice to humans by a factor of about a thousand, producing this almost astonishing structure.

Its evolution has not stopped yet.

In fact, the neocortex of the human brain is evolving at a tremendous speed.

When we zoom in on the surface of the neocortex, we discover that it is made up of small modules. It's like the G5 processor in your computer,

There are about a million of them.

Since we succeeded in evolving, we replicated it over and over again and added it to our brains, so our skulls were full.

And the brain began to fold itself. This is why the neocortex is highly convoluted.

Increasing the number of neocortical columns by packing them into pillar structures allows them to function more complexly.

So, as an analogy for the neocortex, think of it as a giant grand piano, a grand piano with a million keys.

Each of these neocortical columns will produce a certain sound.

You inspire it and create a symphony.

But it is not just a symphony of perception.

A symphony of your universe, your reality.

Of course, it takes years to master a grand piano with a million keys.

So you have to send your child to a good school. Hopefully eventually to Oxford.

But it's not just about education.

It's also genetic.

Maybe you were born under a lucky star, which means you're adept at working with neocortical columns and can play a wonderful symphony.

In fact, there is a new theory about autism. Called the "intense world" theory, it suggests that the neocortical column is something special.

They are highly reactive and hyperplastic, which is why people with autism can build and master symphonies in ways they never thought possible.

But you can understand, if there is a disease in any of these columns, the sound will be off.

The symphony that is created, the perception will be disturbed and the symptoms of disease will appear.

So the holy grail of neuroscience really is understanding the design of neocortical columns -- and not just neuroscience. Maybe understanding perception, understanding reality, maybe even understanding physical reality.

So over the past 15 years we have been systematically tearing the neocortex apart.

It's a bit like going to a rainforest and cataloging a piece of it.

how many trees are there?

what is the shape of the tree?

How many trees of each type are there? where are you located?

Rather than just cataloging, you actually have to describe and discover all the rules of communication. Connectivity rules. Neurons don't want to connect to any neuron.

Neurons choose very carefully who they connect to.

And don't just catalog it. Because, in reality, we have to build these three-dimensional digital models.

We did this for tens of thousands of neurons. We built digital models of every type of neuron we encountered.

Once we have that, we can actually start building the neocortical column.

Here we are rolling them up.

But in doing so, it turns out that branches can actually cross over millions of times and form synapses at each of these crossing points.

Neurons communicate with each other chemically at synapses.

These synapses come together to form networks, or brain circuits.

You can think of this circuit as the fabric of the brain.

When we think of the fabric of the brain, how is that structure constructed and what is the pattern of the carpet?

You will find that this poses a fundamental challenge to any theory of the brain. Especially to the theory that some reality emerges from this carpet, this particular carpet with a particular pattern.

That's because the brain's most important design secret is diversity.

All neurons are different.

Same as forest. All pine trees are different.

There may be many different types of trees, but all pine trees are different. It's the same with the brain.

No neuron in my brain is the same as any other neuron. Also, my brain does not have the same neurons as yours.

No two of your neurons are exactly the same in direction or position.

You may have more or less neurons.

So it's almost impossible, people with the same fabric, the same circuits, etc.

So how can we create a reality in which we can understand each other?

No need to think about it.

We can now probe all ten million synapses.

You can examine the fabric, you can change the neurons.

Different variations of neurons can be used.

You can place the neurons in different places and turn them around in different places.

You can have less or more.

In doing so, we have found that the circuit changes.

However, the pattern of how to design the circuit does not change.

So the fabric of the brain, whether we have a small brain or a large brain, whether we have different types of neurons or different morphologies, we actually share the same fabric.

We believe this to be species specific. This means that we may be able to explain why we cannot communicate across species.

Let's flip the switch. But to do that, you have to activate it.

Use a formula to activate it. A lot of calculations.

In fact, the formula for turning neurons into electrical generators was discovered by two Nobel Prize winners at Cambridge.

So we have the math to activate neurons.

We got more mathematics. It's the mathematics that describes how neurons gather information and how they generate little lightning bolts to communicate with each other.

And when it reaches the synapse, what is effectively done is literally shocking the synapse.

It's like an electric shock, and chemicals are released from these synapses.

This process can also be described mathematically.

As such, we can describe the transmission of information between neurons.

It's literally just a handful of mathematical formulas, all that's needed to simulate the activity of the neocortex.

However, it requires a very large computer.

In fact, one laptop is needed for all computations of just one neuron.

That's why we need 10,000 laptops.

Where are you going? You go to IBM. for supercomputers. IBM knows how to squeeze 10,000 laptops into the size of a refrigerator.

So I got this Blue Gene supercomputer.

Load all the neurons, assign each one to its processor, fire it and see what happens.

Ride on a magic carpet.

When activated, as you can see for the first time, when there is a stimulus, this is what is happening in the brain.

This is the first sight.

When you see this for the first time, you may think, "Wow, how does reality come out of this?"

But in fact, you can start creating your own reality without training this neocortical column.

"Where are the roses?"

You can ask, "Where is it in this if I inspire you with a picture?"

Where inside the neocortex?

Ultimately, if you stimulate it, it will be there.

So the way we look at it is to ignore neurons, ignore synapses, and just look at raw electrical activity.

because that is what was created.

You are creating an electrical pattern.

So when I did that, for the very first time, I saw a ghost-like structure. An electrical object appeared inside the neocortical column.

These electrical objects hold all the information, whatever stimulated them.

And when you zoom in, it's unmistakably cosmic.

So the next step is to take these brain coordinates and project them into perceptual space.

When you do this, you can step inside the reality that was created by this machine, by this one brain.

Let's wrap up. I think that this universe, as it is possible, has evolved its brain to look into the universe itself. This may be the first step in self-awareness.

We still have a lot of work to do, both to test these theories and to test any other theories.

But I hope you have been somewhat convinced that it is not impossible to build a brain.

It will be possible within 10 years. And if it's successful, in 10 years, I'll be sending a hologram to TED to talk about it.

(applause)

Anyone else sick of celebrities adopting children from Africa?

(Laughter) But it's not all bad.

i was adopted too

I grew up in rural Uganda and lost my parents when I was very young.

At that time, I experienced all the bitterness of poverty, losing my home, looking for food in garbage heaps, everything.

But my life changed when I entered an orphanage.

Through an orphan support donation program, I got help and an opportunity to get an education.

First was Uganda

Children who go to school under this system will get a job after high school so that they can be carpenters, mechanics, and things like that.

mine was a little different

A support family was sending $25 a month to an orphanage for me, and they said to me, I had never met them.

"I want you to go to college"

Isn't it better

(Laughter) He said, "If you can prepare the paperwork, why don't you go to school in America?"

With their help, I went to the embassy and applied for a visa.

got a visa

I still remember it like it happened yesterday

As I walked out of the embassy with a piece of paper in my hand, I jumped and smiled, and I knew my life was about to change.

I went home that night and fell asleep with my passport in my arms, worried that someone might steal it.

(Laughter) Actually, I'm still worried.

couldn't sleep

So I thought of something for safety.

"Yes, put your passport in a plastic bag and bury it outside."

and bury it and go home

I couldn't sleep.I was worried that someone might see me.

(Laughter) I dug it out and held it all night long, and it was a night full of anxiety.

(Laughter) As another speaker said, when I went to the United States, it was my first time to see an airplane, let alone get on an airplane, and it was my first time to go abroad.

December 15, 2006

7:08 p.m.

of Emirates Airlines

7A was my seat

The most gorgeous and beautiful woman I've ever seen walks up to me, wearing a little red hat with a white veil.

I look visibly frightened and I don't know what I'm doing

She handed me a warm towel, warm and steaming, white as snow.

I stared at this warm towel and thought, I'm at a loss for my own life, let alone a towel.

imitated

I had come to the airport from my village about seven hours by car.

When I held this warm towel in my hand, I wiped my face like anyone else.

(Laughter) It was brown with dirt.

(Laughter) I remember being embarrassed when I came to pick up my towel and I couldn't return it.

(Laughter) I still have it.

(Laughter) (Applause) For me, going to the United States was an opportunity to maximize my potential.

I remember arriving in America and being hugged by my supportive family. They had to teach me exactly everything from scratch. This is a microwave.

It was also the first time I had the opportunity to fully immerse myself in a foreign culture.

They who were strangers taught me true love

They also taught me the value of my existence and the value of my dreams.

(Applause) Thank you.

There were two biological children in the support family

And when I came to the United States, I needed help.

Support families had to teach me not only English, but really everything, and as a result, they spent a lot of time with me.

So I was a little jealous of my biological son.

So if you're a parent in this room and you have a teenage child, and you don't want them to be affectionate, and you hate them, the solution is to adopt.

(Laughter) Now the family is harmonious.

(Applause) I got two engineering degrees from some of the best institutions in the world.

My message is that not everyone has talent, but they don't always have the opportunity to use it.

I'm what I am because of people who embrace multiculturalism and who have love, empathy and compassion.

Now the world is full of hate, building walls, Brexit, xenophobia here in Africa.

Multiculturalism may solve many of these problems caused by the worst human traits.

I'm begging you all to help young people experience multiculturalism.

Doing so not only enriches their life, but in turn enriches yours.

And even better, one of them might even give a TED Talk.

(Laughter) (Applause) We may not be able to eliminate the bigotry and racism in the world, but we can certainly raise our children to create a positive, inclusive and connected world, a world filled with empathy, love and compassion.

love wins

thank you

(applause)

good morning. how's your feeling? great, here

Everything is a series of wonders

So I thought I'd go home soon (laughs).

Throughout the conference, we've covered three themes so far, all of which are related to what I want to talk about.

The first is about human creativity, all of us here have our creativity in all its forms, and

It's the breadth of it. Second, creativity makes it impossible to predict what will happen in the future.

I have no idea what will happen next

i am interested in education

practically everyone is interested in education

there is, right? i am very interested

For example, at a dinner party

Suppose you say you work in education. Well, actually, people who work in education don't go to dinner parties very often.

I'm not so tempted

Not invited at all. I wonder why

But when you get invited to talk to someone, they say, "What do you do?"

When I say, "I work in education," their faces turn pale. surely in my heart

I'm thinking, "Oh my God, why are you next to me? It's a party!"

But if you ask them about their education, they'll talk enthusiastically. Education is a serious issue. Right?

like religion and money

I am very interested in education. we all

I think there's a lot of interest in education, probably because education carries us into unpredictable futures.

Children who enter elementary school this year will retire in 2065, but they will gather at TED.

Even with experts in every field, we don't even know what the world will be like in five years.

in a position to educate them for the future

Unpredictability is a big theme

And the third thing that we all agree on is the potential that children have: creativity. Silina last night was amazing

You could tell just by looking at her, right?

Her talent seems to be exceptional, but it's not, because all children can be exceptional.

When a child discovers a talent within him/herself, he or she becomes absorbed.

You've got a talent like no other We're wasting it so mercilessly That's why I want to talk about education

Let's talk about creativity

Creativity is as important to education as literacy, and creativity and literacy should be treated equally.

(Applause.) Thank you. that's what i meant

Thank you very much (lol) We still have 15 minutes left

I was born... no, no

Let me tell you a favorite story I heard recently about a 6-year-old girl in an art class.

She was drawing in the back of the classroom She had never focused on anything before But in that painting class it was different

The teacher is interested in a girl

I asked her, "What are you painting?" She said, "I'm painting God."

"Nobody knows what God looks like," said the teacher.

The girl replied, "You'll find out soon."

(Laughter) When my son was 4 years old in England To be honest, my son was 4 years old everywhere at that time. That year my son was four years old wherever he went

My son was doing a nativity play. Do you remember what the story was?

Mel Gibson did a sequel with an epic story

Have you seen "The Birth of Christ 2"?

I was excited because my son was going to play the role of Joseph.

I thought Joseph was one of the most important characters.

Filled the hall with friends wearing T-shirts that read "James Robinson is Joseph!"

My son didn't have a line, but three sages gave gold, frankincense, and myrrh.

You know what you're bringing

this is what really happened

I think I probably didn't do it out of order. Later I asked my son, "Are you sure I did it right?"

in the play anyway

Four-year-old boys with towels on their heads

Putting down the gift box, the first boy said, "I will give you gold."

The second said, "I will give you myrrh."

The third child said "Frank St. This"!

Children try hard

Kids just try without knowing anything

Right? Don't be afraid to make mistakes Making mistakes and being creative

It's not the same, but if you're afraid to make mistakes, you'll never come up with anything original.

children lose their talent

I'm afraid to make a mistake

This is how the company is run.

blame for making mistakes

The national education system we built teaches us that failure is the worst.

Picasso once said that education is killing human creativity.

"All children are born artists"

The problem is how to continue to be an artist while growing up

Instead of nurturing creativity, we lose sight of it and are educated without creativity.

Why is that?

I lived in Stratford-on-Avon until five years ago.

I moved from Stratford to Los Angeles You can imagine how smooth the transition was!

I actually lived in a place called Snitterfield, a suburb of Stratford where Shakespeare's father was born. Wouldn't you be surprised?

You never thought Shakespeare had a father, did you?

I have?

Even Shakespeare was a child

I never thought of Shakespeare at seven years old

But he also had a time when he was seven

I was taking someone's English class. How annoying!

"Work harder"

I tell Shakespeare, "Sleep! Now!"

I tell William Shakespeare, "Put down your pencils!"

"Don't talk like that. People get confused."

(smile)

Well anyway, we moved from Stratford to LA Actually, I have something to say about this My son loved LA but didn't want to move.

My son is 21 and my daughter is 16.

A lover named Sarah in England is his everything

That's why my son didn't want to come to LA.

It's been a month since we met

But we had already celebrated our fourth anniversary

16 years old has plenty of time, my son is extremely grumpy

She used to say, "There's no other girl like Sarah!"

But we were happy to hear that, Sarah was the number one reason we left England.

(Laughter) As I travel around the world, one thing that surprises me is that every education system on the planet is all about subject matter. it doesn't matter where you go

You think there would be other systems, right? not

everyone is the same. Top in mathematics and language

Humanities is next. Art is the most underrated

Anywhere on Earth!

and in almost any educational system

Among the art subjects, there are also rankings. Art and music are higher than theater and dance. Like math, dance is taught every day.

No education system Why?

i think dance is very important

Mathematics and dance are equally important

Children dance all day long. everyone is so

We all have bodies, don't we? Hey, did you miss the meeting?

As our children grow, we gradually educate them from the waist up and finally focus on the head.

it's just one side of the brain

If Aliens Come to Education

You may wonder, "What is public education for?"

If you look at the results of education today, and who really benefits, who does what they do, and who wins the best, it's hard to say that the purpose of public education is to produce university professors all over the world.

they are on top of the world

I used to be like that too. Isn't that amazing?

I love university professors. But, everyone, university professors aren't the pinnacle of human beings.

University professor is just a way of life

they are very curious

I'm saying this out of love for university professors.

Professors are very interesting creatures.

Most professors live in their heads

It's also biased to one side of the head.

They see their bodies only as a vehicle to transport their heads, right?

The body is a vehicle for getting professors to meetings

If you want proof of a real out-of-body experience, go to a few days of academic conferences where the professor's heavyweights gather, and on the final night, go to a disco.

While ignoring the beat and wriggling your body insanely

"Let's go home early and write a paper about tonight."

I can see men and women who are old enough to think that the current education system is designed to raise scholars.

there's a reason

Before the 19th century, when the whole system was created, there was no public education anywhere in the world, and the education system was driven by the needs of an industrialist society

I was born The superiority of subjects was determined by two things

One is that subjects that are useful for working are given top priority.

The things we learned and liked when we were in elementary school, such as playing in the sandbox and things that we couldn't use for work, were probably avoided because companies wouldn't hire us for playing in the sand.

No music! I'm not going to be a musician

Don't do art. 'Cause I'm never going to be an artist

kind advice. But you're totally wrong

The world is in a time of change

The second is academic ability. Because we've built our education system solely on the image of the college side, where only school grades are now considered intelligence.

Today's schooling all over the world is a long road to college, and the result is a myriad of geniuses and creative minds.

People feel they're not talented because schools don't value their talents, they stigmatize them.

But I can't afford to do that

Over the next 30 years, according to UNESCO, many people from all over the world since the beginning of history will receive such an education and go out into society.

There are more people than there are now. and

It's a combination of all the things we've talked about so far: technology and its advances have a huge impact on the working environment and population growth.

All of a sudden my college degree made no sense

When I was a student, if I graduated from university, I could find a job.

Those without jobs were those who chose it themselves.

To be honest, I didn't want to work

But now, after college, kids go home to play video games, because now they need a master's degree, and sometimes a doctorate, instead of a bachelor's degree.

College education inflation is happening.

The education system is changing from the ground up. A fundamental rethinking of the meaning of intelligence.

We know three things about the intelligence we need.

One is diversity. we make this world

See it from every perspective. it was visual

Either by hearing or by touch

There is also an abstract way of capturing it, and while moving

Second, intelligence is dynamic

Let's think about how the human brain works, and as we learned from yesterday's presentation, intelligence is wonderfully interactive.

The brain is not divided into several parts

Creativity, I believe, is the process of building original and valuable ideas. Creativity comes from the interaction of different disciplines and values.

By the way, the brain has an axis that connects multiple nerves to the right and left hemispheres of the brain, and women have a thicker part called the corpus callosum.

As was the case with Helen yesterday

This may be the reason why women are more multitaskers.

So are the women here, right?

There's a lot of research out there, but I also know from personal experience

If my wife was at home preparing food, she wouldn't actually do much, thank goodness.

My wife is good at something else! But hey, let's say you were cooking

She talks to someone on the phone at the same time, she talks to a child, she paints the ceiling, she opens her heart and does surgery.

I close the door when I cook and the kids go away and don't call. I get annoyed when my wife comes in on the way

Say, "Terry, leave me alone I'm about to bake an egg."

You know the old philosophical question, "What if a tree fell in the forest and no one heard it?"

"Did that really happen?"

I recently saw a funny T-shirt that read, "A man in the woods," "No woman ever heard him say whatever he wanted," "Is he still wrong?"

And third, intelligence is incomparable. I'm writing a new book called "Epiphany."

I interviewed a lot of people about how humans come across their talents and the process.

What inspired me to write this book

There's a woman you probably don't know, her name is Jillian Lynn.

Sounds like you know some people. She's a choreographer, everyone knows her work

"Cats" or "The Phantom of the Opera"

she is wonderful I used to be an officer of the Royal Valley of England

You can tell just by looking at it!

I had lunch with Gillian and she asked me, "How did you become a dancer?"

Her answer was interesting. Jillian was in elementary school

It was utterly hopeless. It's the 1930's

The school told her parents that Jillian had a learning disability.

I couldn't concentrate and was always fidgeting

It would be called ADHD today, but in the 1930s

I had no concept of ADHD.

I couldn't decide

People back then had no idea what ADHD was, so Gillian went to see a specialist anyway.

In a room surrounded by heavy walls

She was told to sit on a chair in the corner of the room, and she sat there doing nothing for 20 minutes, while the specialist was talking to her mother about Gillian's problems at school.

"Gillian" "I heard a lot about your mother."

"Wait here for a while"

leave gillian alone

The doctor and mother left the room as the doctor turned on the radio and outside the room told the mother

I said, "Please watch Jillian here."

Gillian began to move to the music, and her mother and doctor watched over her.

And the doctor said to her mother, "Mother, Jillian is not sick. She's a dancer."

"Please let me go to dance school."

when i ask after that

"He let me go. Words can't describe how much fun I had!"

"There were so many kids like me in dance school." "People can't sit still."

She learned ballet, tap and jazz dance.

She also did modern and contemporary dance.

I passed the audition and became a soloist.

built a successful career

Then I graduated from the Royal Ballet and founded the Gillian Lynn Dance Company, and then I met Andrew Lloyd Weaver.

Gillian is behind one of the greatest musicals in history, inspiring and delighting millions.

Great financial success

If it wasn't that doctor, he might have put her on drugs and told her to keep quiet Now, I'm thinking Al Gore was inspired by Rachel Carson to talk about ecology and revolution I think our only hope for the future is

I think it's about embracing the new concept of human ecology, which is a discipline that builds a new way of thinking about human potential.

Until now, our education has excavated only certain things from us, like extracting coal directly from the surface of the earth.

But in the future it won't help anymore

We must rethink the fundamental ideas for educating the next generation of humans.

There's a great quote from Jonas Sark, "If all insects disappeared from the earth," "In the next 50 years, all life would disappear."

"In 50 years, all life will flourish."

I think you're right, TED celebrates the treasure of the human imagination.

We must think about how to use this gift wisely.

The only way left for us to avoid the assumed scenario is

Knowing that the limitless human creativity enriches our lives, and recognizing that children are the hope of the future.

We must raise our children as they are, though we may never see the future.

Children live in the future. our role is

Helping children create the future. Thank you very much

In the next five minutes or so, I'm going to have you completely change your relationship with sound.

First, let's note that most of the sounds around us are accidental, and a lot of them are unpleasant.

It turns out that this kind of behavior to overcome sound is largely unconscious.

Today, I'd like to share with you the four major effects of sound on people to make you aware of them.

Physiological first (alarm bell)

Excuse me, I just gave you cortisol (fight or flight hormone)

Sound has an ever-changing effect on human hormone secretion, and it also affects breathing, heart rate, and brain waves.

Not all unpleasant sounds

Crashing waves (sound of waves) Approximately 12 cycles per minute

I think you'll find it very soothing, and what's interesting is that 12 breaths per minute is the cycle of your breathing while you're asleep.

It can also be associated with being relaxed on holidays.

The second is psychologically impactful.

Music is the most powerful sound that can affect our emotions (Albinoni's Adagio). If you play it, you can definitely make most people feel sad.

Music isn't the only thing that affects our emotions

Similar effects can be seen with the sounds of nature.

For example, the sound of birdsong, which gives peace of mind to many people (birdsong)

This is because, over hundreds of thousands of years, we've learned that birds singing are a sign of safety.

When the barking stops, you have to worry

The third is the impact on cognitive function.

If two people speak at once, you won't understand (if you hear me) (you're hearing the wrong one) In this case one person is speaking twice, but listen to the other too (you have to choose which one to hear)

Our auditory input processing bandwidth is very limited, and that's why we're so much less productive in this kind of noisy environment (office noise).

If you work in an open office like this, you're going to be significantly less productive.

You probably never thought it would drop this much.

(Ominous music) You're 1/3 as productive as you would be in a quiet room.

So here's a tip: If you're working in an environment like this, put on your headphones and listen to relaxing sounds like birdsong.

Productivity then returns to three times its original level.

Fourth is the behavioral impact.

It would be amazing if you could be surrounded by such atmospheric sounds without changing your behavior at all (techno music).

Think about it, can this person drive a car at 40 kilometers per hour in peace right now? probably not possible

Simply put, people avoid unpleasant sounds

It can be said that you want a comfortable sound

So for example if I do something like this (excavation drill)

In a few seconds, you'll be uncomfortable, and in a few minutes, you'll be out of the room en masse.

People who can't get away from this kind of noise are seriously ill.

Bad sound isn't just bad for your health

Inappropriate, accidental, even hostile sounds are playing in most stores, and therefore have a huge impact on sales.

For those of you who run a store, from now on I will explain

You might want to look away. A whopping 30 percent of lost sales are caused by customers rushing out of the store or turning back at the door.

As I'm sure you've all experienced, the noise in the store is so bad that they leave.

Now, I'm going to show you a little bit about the model that we developed. First, we extract the elements of the sound from the top down, analyze the sound environment, and then predict the four effects of the sound, or from the bottom up.

Consider what kind of effect you want and design the sound environment to get the effect you want.

So we had a theory, and we were in the business of designing sound environments.

A little bit about music Music is very powerful

but it is often misused

Powerful means two things: it's instantly recognizable, and it's instantly relatable.

Let me give you two examples (The Beatles "A Hard Day's Night")

most people will know right away

Young people may be a little different (laughs).

("Jaws" theme) This also reminds everyone of something.

These are one second music samples

Music is powerful, but unfortunately it's often misplaced in commercial spaces.

I hope it will improve in the next few years.

Let's talk a little bit about brands. I'm sure some of you have brands.

Various brands are making sounds

There are eight ways to describe a brand using sound, and they're all important, and every brand needs a guiding principle in the middle.

Happily, that is exactly what is happening now (Intel jingle)

you all know

The most popular sound in the world right now (Nokia's ringtone) 1.8 billion times a day

And Nokia doesn't have to pay

If you run a business, here are the 4 golden rules of background music.

have the same direction as the visual message

This effect exceeds 1,100%

If the tones were inharmonious and pointing in opposite directions, the effect would be reduced by 86%.

It is so different that it will increase or decrease by an order of magnitude

it's important

Second, be appropriate to the situation

Thirdly, it must be something of value. There must be something that can be given to the customer through sound.

Don't just hit the sound indiscriminately

And finally, test again and again

Sounds are complex, and there's a lot of debate about their impact, just like spaghetti on a plate.

Sometimes you have to try it first and see what happens

I would appreciate it if you could be conscious of sound in today's talk.

If you listen consciously, you will be able to manipulate the sounds around you.

It's good for your health and helps you be more productive

If we all work together, I think we can realize the peaceful world of sound that I am aiming for.

Let's hear the birds singing for a little longer (birds chirping) Recommended is at least 5 minutes a day, but no matter how much you increase it, it's not an overdose.

Thank you for your attention. (Applause)

good evening everyone

I'm from Japan, so I'd like to start by talking about a Japanese fishing village.

In the past, fishermen used to try to catch as many fish as possible, but if everyone did that, the community's common stock of fish would eventually disappear.

As a result, everyone becomes poor and poor.

This may or may not happen

In communities where problems don't occur, there is a kind of social contract between fishermen, each of whom controls their catches to prevent overfishing.

fishermen keep an eye on each other

There are penalties if violations are found

But once the benefits of the social contract become clear to everyone, the temptation to cheat almost disappears.

Such stories are found all over the world.

That's how medieval European villages protected pastures and forests.

That's how Asian communities protected water, and Amazon natives protected wildlife.

They realized that those communities depended on limited shared resources.

We developed rules and practices for how we manage our resources, and we changed our behavior so that we could continue to use our common resources well into the future, without overfishing, overgrazing, and polluting and depleting our water resources.

This is a story about the commons, and how to avoid the so-called "tragedy of the commons."

But it's also about a local economy where everyone had a strong sense of belonging.

our economy is no longer regional

As it became less local, it also lost its connection to the commons.

Economic purposes and goals and systems have become transnational, but have left behind the idea of ​​caring for the commons.

As a result, the oceans and forests that were once close to us as local commons have become much more distant.

That's how millions of tons of greenhouse gases are released into the atmosphere today, plastics, pesticides and industrial waste are dumped into rivers and oceans, and forests that absorb carbon dioxide are cut down.

biodiversity is in great danger

It's as if we've completely forgotten about the existence of the global commons: air, water, forests, biodiversity.

But modern science is reminding us of the importance of the global commons.

In 2009, a group of scientists proposed a way to assess the health of the global commons.

They defined nine planetary boundaries for human survival and assessed how far we could go without crossing tipping points or thresholds where irreversible or catastrophic change would begin.

This diagram shows the situation in the 1950s

Most of them are inside the safe zone marked by the green line.

but what about now

Four of the nine are over the limit, and the other five will soon be over.

How did this happen?

my personal experience may tell you something

Five years ago, I was named CEO of the Global Environment Facility (GEF), but I'm not a conservationist, I'm not an environmental activist.

I'm an economist, and I've spent the last 30 years working on finances in my country and around the world.

One thing I can say for sure is that in those 30 years the concept of the global commons has never crossed my mind.

I've never talked about the global commons with my co-workers.

It's that the concept of the global commons was never taken into account in big financial decisions like national budgets and investment plans.

It made me wonder, why is everyone, myself included, so ignorant about the global commons?

One possible explanation is that until very recently, it didn't really matter.

Slightly disrupting one part of the environment did not fundamentally change how the planet as a whole works.

The global commons had enough capacity to take the punches of humanity.

The fish were still plentiful, and there were still vast pasturelands.

Our mistake was to think that the Earth's ability to heal itself knows no bounds.

But there are limits

The science clearly shows us that humans are the dominant force in determining the future habitability of our planet, and we are running out of time.

If we don't act now, we will lose the global commons.

Only our generation can protect the global commons as we know it.

It's time to protect the global commons, just as our parents and grandparents protected the local commons.

The first thing we need to do is recognize that we have a global commons and that it's very important.

And then we need to embed stewardship of the global commons into everything we do, whether it's business, economics, policy-making, or anything else we do.

We need to reinvent the social contract that was practiced in the fishing villages on a global scale.

But what exactly does this mean?

Where do I start?

I believe there are four major economic systems that need to be radically changed.

First, we need to change cities.

By 2050, two-thirds of the population will live in urban areas.

We need sustainable cities

Second, we need to change our energy system.

The global economy basically has to decarbonize rapidly in one generation.

Third, we need to change the system of production and consumption.

We have to move away from the current "get, make, throw away" consumption pattern.

Fourth, we need to change the food system in terms of what and how we make food.

All four of these systems place a heavy burden on the global commons, and they're also difficult to change.

It's very complex, involving many decision makers and stakeholders.

Let's take the food system as an example.

A quarter of greenhouse gas emissions come from food production

It is also a major consumer of the world's water resources.

In fact, 70% of our water use is for growing crops.

Vast tropical forests are used for agriculture

Deforestation is causing species extinction.

We're losing species a thousand times faster than the natural rate.

In addition to the bad news, one-third of the food produced in the world goes uneaten.

it is being discarded

But the good news is there are good signs.

Now, all stakeholders are working together to transform the food system with one goal: to produce enough healthy food for all, while significantly reducing the burden on the global commons.

I had the opportunity to go to the Indonesian island of Sumatra and see the massive deforestation being done for palm oil plantations.

By the way, palm oil is used in thousands of the foods we eat every day.

World palm oil consumption is only increasing

In Sumatra, I met small farmers who made a living by growing oil palms.

I met people from global food companies, people from financial institutions, and local officials.

They all said that they could not change the status quo on their own, and that only by working together under new contracts or customs could we possibly save the tropical forests.

It's heartening to see, at least in the last few years, how actors along the supply chain are working together to change the food system.

What they're trying to do is create a new kind of social contract to govern the global commons.

All change starts from where I am, where you are and where I am.

The Global Environment Facility (GEF) has developed a new strategy to put the global commons at the heart of it.

I hope we are not the only ones to do so

If everyone just sits on the sidelines and waits for someone else to do it, the global commons will dwindle and everyone will suffer.

We must save ourselves from the tragedy of the commons.

I encourage everyone to take care of the global commons.

Remember, the global commons do exist and are waiting for your help.

we all share one planet

We breathe the same air, drink the same water, and depend on the same oceans, forests, and biodiversity.

The planet can no longer afford selfishness.

We need to keep the global commons within safe limits, and we can only do that with everyone's cooperation.

thank you very much

(applause)

A whopping 13 trillion dollars of wealth disappeared in the two years since 2007.

What is the end of capitalism?

What is the future of the financial industry?

we see government failure

I feel uncertain about the future

But right now is the time for a sea change in American history, and it may be the perfect time to create a new wave of consumer-driven trends.

I call it "The Great Unwind"

It's a very simple idea: consumers don't just worry, they want to act.

Consumers, who make up 72 percent of the U.S. GDP, are beginning to "un-practice" leverage in their daily lives, like banks and businesses, reducing debt and risk on a daily basis in anticipation of the future.

But I want to stress that today, I'm not talking about the consumer being bearish, it's about the consumer taking the lead.

If you take a moment to reflect on what has happened in the last year and a half, you'll understand.

Rest assured, I quoted a familiar primer on economic trends.

(Laughter) Unemployment is up, house prices and stocks are down.

Commodity market stormy

Last year oil was $150 a barrel This year it's about $50-70 If you're struggling to make ends meet, how do you plan your vacation and buy things?

What are your household policies? Debt and unemployed in the auto industry—

Given the currency and insurance problems, will the remedy work, even if it's lumped together like a bouillabaisse?

The trust of the public can only be earned for a moment.

Now let's see that a large part of what caused the financial crisis was in the everyday lives of all of us consumers.

I call it the 50-20 paradox

It takes 50 years for the annual personal savings rate to finally reach about 10 percent -- 50 years.

left part of the table

The reason why the savings rate was so high during WWII

Because the only thing I could buy was metal tacks.

Meanwhile, over the last 20 years, the savings rate has fallen from 10 percent to negative.

This is due to the consumption boom

We bought oversized cars and stupid big things

The drugs for restless leg syndrome were the reason we fell into the crisis we're facing today, about 15 years later, due to over-leveraging.

Personal debt service burden ratio rose from 65% to 135%

Consumers were in unreasonable debt

Banks were great, as were governments, but in a bad way.

Depository In the table of borrowing amount

1919-2009 on leverage

It's an astonishing reality to witness: we are ultimately leveraging the future of our children for the sake of our families.

Let's visualize the remedy: a pile of $360,000 bills is about the height of a short 163 cm man.

But if you add up the initial 315 billion yen that you put into the system to save it, you can see the bottom right.

You'll find it's impossibly tall

1 trillion dollars over there, 1 trillion over here

I'm talking lightly, but one trillion seconds is 32,000 years, and that's the amount of long-term leverage we have.

but the consumer

I'm starting to take responsibility

since the beginning of the crisis

The savings rate has risen for the 11th straight month thanks to efforts to return it to 10%.

Also in the fourth quarter

Consumption plummeted by nearly 3.7%, the lowest level in 62 years.

The fact that Visa announced that debit cards pay more than credit cards

It suggests that people started paying with their money.

And I became cautious about saving and investing.

But it doesn't stop there, because these are turbulent times.

Now, thanks to consumers doing something pretty incredible over the past year and a half,

we survived the crisis

Considering that 80% of Americans were born after WWII, we can blame ourselves for the current recession.

Weird things are happening as a result

here the dentist

Vasectomy Gun Let's use the shark example.

(Laughter) Dentists say it's because stressed people grind their teeth more.

The number of people who have no choice but to change fillings in their back teeth is increasing.

FBI says background checks have increased 25% in gun sales since January.

Cornell University reports a 48 percent increase in vasectomy.

And one last very good thing, I hope it doesn't have anything to do with vasectomies -- the lowest number of shark attacks since 2003.

Do you know why?

Because there are no people on the shore, there's something good about everything.

But in all seriousness, the reason I insist that consumers are not weak is that there are consumers who see this as an opportunity to lead the way out of the recession.

That means we're moving from frivolous consumption to wise consumption.

Consider the last 30 years

Over the past decade, consumers have escaped '90s marketing tactics with social search tools.

Only the ability to discern desires remained underdeveloped.

If consumers limit their demand, we can change the value of consumption. We can change the focus of capitalism and corporate activity from quantity to quality. Let me explain this to you.

Using the VML Brand Equity Measurement Tool, a database from Young&amp;Rubicam What was happening in the consumer market during the crisis?

something very interesting was happening

As a result of the four value shifts, consumers changed their attitudes and businesses adopted new management principles.

The first shift in cultural values ​​is the trend toward fluid living.

Americans have come to define success as being fluid rather than having possessions, because the less stuff you have, the more agile you become.

As a result, consumption will decline.

Because it makes spending money on trivial things look outdated.

The management principle is money

Now let's look at this example of the decline of value-based consumption.

First, rapper P. Diddy's vow to cut back on glitter

(Laughter) No, this is what's happening on Madison Avenue, which is lined with high-end stores, because consumers hide their high-end items in generic paper bags and walk out of the store.

Haggling is in vogue, even on things like luxury goods and land.

There are also examples of reducing ego and cunning.

Here's an example from a yacht club, which is actually a manual labor club.

You can join, but you must work at the dock as a condition of membership.

Agritours to vineyards and farms are also popular.

It's the same trend when it comes to money.

Here are some examples of how companies are playing a role in connecting new values, and there are some interesting ones.

A food company called Frito-Lay made a discovery about consumer mobility.

Consumers have more money at the beginning of the month than at the end of the month, so they buy packages.

Big at the beginning of the month and small at the end San Francisco Giants

An interesting example is the ticket price for watching a game.

They set their fees on a game-by-game basis, because they take into account a lot of things, like the pitcher, the weather, the team's record, and so on.

Here's an example from a game company called Zynga, which became popular.

Because we've abandoned the flat-rate payment system that consumers shy away from.

In other words, the sense of cost and life will change

Micropayments are on the rise, and finally from cable TV.

Some are moving to Hulu

And marketing is starting to understand this clever idea, the second value shift.

ethics and fair play

Empathy and respect are the keys

at the request of the consumer

Companies have no choice but to provide various values.

Corporate culture and marketplace behavior are becoming a focus of consumer attention.

A lot of hope came out of the recession because of the emphasis on empathy and respect.

Let me give you some examples

There has been an increase in community outreach activities that focus on and support neighbors.

Even the worst things, like unemployment, have a by-product of increased volunteerism that is unique to our country.

In some cases, universities are helping or re-educating alumni, known as "boomerang kids," who are forced to move back to their parents' homes due to financial difficulties.

About character and professionalism

After the miracle of the Hudson River in January, the number of babies named Sally suddenly increased.

(Laughter) In addition, companies can connect different values ​​in many different ways.

The great thing about Microsoft is

To continue to educate 200,000 Americans in IT using our own infrastructure.

Gore-Tex is another good example

Both managers and workers are accountable, and they avoid the notion of bosses.

But at the same time, I've heard that executives make spending reports available to all employees on the company's internal network.

great transparency

Consideration is essential when buying wine.

The third shift in consumerism is durable living.

Consumers realize spending is a long-distance run, not a sprint.

And we're trying to get value out of every consumption.

The average age of a car for Americans is at an all-time high, hitting a new record in March at an average of 9.4 years.

Libraries have also become important in America.

68% of Americans have a library card

all-time record

The epidemic you see here is the accumulation of knowledge.

Lifelong education is also increasing

We are trying to improve and refine everything, to develop and move forward.

DIY is also a big boom

Isn't it surprising that 30% of the homes in America are built by their owners?

That's 30%, including huts, etc.

It means that people get their hands dirty, but they roll up their sleeves and try to hone their skills.

There are examples of rearing chickens in the garden, rather than mass producing them.

We raise them based on the principle of sustainable and good-for-your-body breeding.

The new High Line park in New York City is an example of how cleverly repurposed elevated freight lines can be reborn.

Companies can create consumer benefits, build enduring brands, provide transparency, and go beyond sales. Patagonia is a must-see.

As Patagonia Footprint Chronicles, you will be able to understand the ethics that transcend the product from the appearance of publicizing the process of making the product and calling for social responsibility.

Fidelity is also excellent

We're subsidizing 529 educations in lieu of cash back into customer accounts.

My favorite SunRun company is

created a community of consumers

We created a system in which solar panels installed in homes cover the amount of electricity used, while the surplus is sold to the market.

It's a consumer-driven cooperative.

The fourth is a change in values ​​that is very important in our time.

It's a step towards regrouping

trust is not something to spread

As you know, it's the link between communities and social networks.

As I said in my book, 15% of consumers trust advertising, while 72% trust brands and company reputations.

can be said to have begun

Consumers are working together to get what they want from outside the market. Here are some examples.

The producer movement is a big one.

Crops and services, whether it's cheese or wine, are locally sourced thanks to nearby producers.

Also, if the number of community currencies increases,

Those who do business locally with trusted associates will find it difficult to get into debt.

Now, community currencies are causing other interesting phenomena.

A recently published report had some interesting results.

In recent years, some parts of the United States have started to publish their electricity usage figures --

It seems that this has resulted in a decrease in electricity consumption.

Here's an example of beef co-buying. Consumers formed co-operatives to get meat from safe, organic farms that were managed the way they wanted.

A landmark example is the Carrot Mob movement in California.

You've been boycotting all this time, right?

Therefore, consumers jointly

Create a fund to reward good companies

We see companies responding to requests

It's like being a charioteer in a community.

Rather than trying to fight or control companies,

organize and lead companies

provide meaning

There are other striking examples

Let's start with Zagat, where the Zagat survey's scoring has eliminated and diversified everything from restaurants to hospitals.

Strong credibility with Zagat

People's network is the foundation, isn't it?

This has been a powerful force in transforming the store into something more flexible.

Running a mobile restaurant in Los Angeles

Do you know where Kogi is?

They're all over LA, so I only know their whereabouts on Twitter.

Johnson&amp;Johnson's Mom series became popular because of the incredible power of blogging.J&amp;J reached out to popular mother bloggers and created forums where mothers could communicate and connect with each other.

It goes without saying that this forum is a solid advertising medium for J&J.

We also see this phenomenon in companies like the CEOs of Ford and Zappos who use Twitter to create an open environment and put their employees in the center of attention.

It's driven by the powerful force of consumer demand that companies have started to embrace transparency.

Let's sum it up: it's an undeniable fact that we're facing a crisis right now.

heavy weight for consumers

But it's also a big opportunity right now.

Look at the origin of the kanji character for crisis.

A crisis is also an opportunity

The consumer power we've just seen will surely be a breakthrough for the recession.

We believe that these value-based consumption advances capitalism and drives innovation. We believe it gives us the opportunity to meet long-lasting products and companies that spread our values.

If you look back at the sources of value change that you've seen in the data, you should realize that a wonderful future for America awaits.

thank you for listening

(applause)

One of the biggest challenges in computer graphics has been digitally synthesizing realistic looking human faces.

The reason this is difficult is because unlike aliens and dinosaurs, we see human faces every day.

as we communicate

Faces play an important role, and if a rendered face doesn't have all the details, it won't look real.

In the next five minutes, I'm going to walk you through the process of trying to synthesize a photorealistic face using CG technology that we developed with Image Metrics.

The subject was the face of an actress named Emily O'Brien, shown here.

This is her face as it was actually rendered.

I'll show you later how it works

The starting point is Emily herself, who came to our lab in Marina Del Rey and kindly agreed to shoot this Light Stage 5.

This sphere is a face-scanning device that has 156 LEDs that allow you to control the lighting conditions and take pictures.

The kind of lighting that we use these days is something like this.

You can capture all of this in about three seconds.

So basically, we have enough information. We have a video projector pattern that outlines the contours of her face, and a Light Stage that lights up from different directions, so that we can see her face at both coarse and fine scales.

Let's zoom in on this photo. It's a really nice shot of her.

We put polarizing filters on all our lights. Just like polarized sunglasses reduce glare on the road surface, polarizing filters reduce the glare of the skin. This gives us a texture map without specular reflection.

If you turn the polarizing filter a little, the specular reflection of the skin reappears, making it look shiny and greasy.

If we take the difference between these two images, we can get just the reflection of the skin illuminated over the entire sphere.

I don't think a photo like the one we did here has ever been taken before.

This is a very important light to capture, the light reflected off the top surface of the face.

Blurred light through the clear layers of skin is filtered out.

So it gives us really good information about the texture of our skin and the fine lines and wrinkles that we all have and that make us look like real people.

Information from this specular reflection can be used to add information about skin texture and fine wrinkles to the overall contours and basic shape of a face from a conventional face scan.

The key here is that this photometry process only takes three seconds, and we were able to capture many of Emily's facial expressions in just one afternoon.

There are pictures of her moving her eyes and mouth.

Use these to create realistic characters

Looking at this scan of Emily, you can see how the human face can create an amazing variety of expressions.

Here, not only changes in facial shape, but all skin folds and wrinkle patterns.

You can see the change in skin texture from stretched to normal skin texture.

Eyebrow ridges and changes in their microstructure

My eyebrows are pulled down by my muscles

When frowning, the flesh of the forehead rises

In addition to these high-resolution shapes, there are some great texture maps that you can use on the face captured by the camera.

The red, green, and blue color components of the light diffuse differently, and that's taken into account when shading the skin.

And what was like a plaster mannequin now looks like a living human flesh.

This is what Image Metrics used to create the digital version of Emily.

Depends on rough scale shape

It's her digital puppet, and when you pull those strings, it moves in a way that matches the scans we've taken.

In addition to the coarse-scale geometry, we use a displacement map to create the fine details, which can also be moved.

This is the displacement map

Different wrinkles appear as she moves.

then add animation

As a source of data, I used a video of Emily herself performing.

The video was analyzed using computer vision techniques to create a face with computer-generated motion.

What you're going to see after this is the finished digital face.

turn up the volume a little

Image Metrics is a markerless performance driven animation company

We specialize in high quality facial animation for video games and movies.

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Let's break it down into layers, this is the light diffusion part.

This is the animation of the specular part

You can see the wrinkles

This is the wireframe mesh below

and Emily herself

I wonder what I'll do in the future

We took Light Stage 5 a step further and created Light Stage 6, applying this technology to the entire human body.

He was the model for our research member, Bruce Lawmen, to capture him running.

Watch him run in his new environment, computer-generated.

thank you very much

(applause)

A magical moment in conducting

There's an orchestra going out on stage

everyone is warming up

climb to the podium

conductor's small office

Or rather, a wallless cubicle in a large open space.

There are all kinds of noises, just a little gesture there

Neither gorgeous nor sophisticated like this

And suddenly out of chaos, order emerges

noise turns into music

It's so wonderful I tend to think I'm amazing

(Laughter) Top players making noise, they need my direction.

But it's not. If so, I'm about to stop talking about this and just teach you about gestures.

Then you'll be able to create perfect harmony with your gestures, whether it's a company or whatever, but it doesn't work.

watch the first video

good example of harmony

Then I'll tell you where it comes from.

(Playing) Okay?

this is working

So what made it so successful?

The musicians of the Vienna Philharmonic, of course, played brilliantly.

sometimes they don't even look at the conductor

And then the audience clapping, and they were joining the music, too.

Viennese audiences usually don't interrupt the music.

In Vienna, this is the closest thing to the belly dance of a drinking party.

(Laughter) It's not like Israel, where the audience is coughing all the time.

The pianist Arthur Rubinstein used to say, "Everyone in the world who has a cold goes to the doctor.

In Tel Aviv, come to my concert."

(Laughter) That's the tradition.

But Viennese audiences don't do that.

Here we're breaking convention and becoming part of the orchestra, which is great.

Audiences like you create special moments.

But what about the conductor? What does a conductor actually do?

he was having fun

I often show this video to executives.

everyone is confused

"Why do you look so happy when you're working?

Something must be wrong." But he radiates happiness.

It's important that this happiness doesn't just come from his own story or the joy of his music.

This joy comes from being able to hear other people's stories at the same time.

There is a story of the orchestra as a professional collective.

There's a story of the audience as a community

There are stories of individuals in the orchestra and in the audience.

And then there are other unseen stories.

The story of the people who built this amazing concert hall

Stories of the people who made amazing instruments like the Stradivarius and the Amati

You can listen to all people's stories at the same time

That's the true experience of a live concert.

That's why I go out of my way

Not all conductors are like that

another great conductor

Let's take a look at Riccardo Muti

(Playing) It's very short, but I can see that it's a completely different person.

he's amazing so imperative

very clear a little too clear

Let's experiment, you must be an orchestra

Sing the first notes of Don Giovanni

Sing "ahhh" and give a signal, then stop

May I?

AUDIENCE: AHH… ♫ Please adjust to me.

so wait for the conductor

Look at me, "ahhh" and stop hi

AUDIENCE: Ugh…♫ (laughs) I'll talk to you later.

(laughs) Actually, there are some vacancies...

(Laughter) You know you can stop an orchestra with one finger.

Muti does it like this...

(Laughter) And then like this (Jokes in the neck -- Laughter) Not just instructions, but clear sanctions.

(Laughter) Will this work? Yes, I'll go up to a certain point

When asked, "Why do you command like that?"

Muti answers

"I am responsible for him."

It's not about the person over there. He was pointing to Mozart. (Laughter) As if you were in the third seat from the middle.

(Laughter) So he says... (Applause) "If I'm responsible for Mozart, this is the only story that should be told.

This is Mozart as I, Riccardo Muti, understand it."

So what happened to Muti?

Three years ago, he received a letter signed by all 700 La Scala employees, and the musicians said, "You are a great conductor. We don't want to work with you. Please resign."

(Laughter) "You won't let us make it.

You treat us as instruments, not partners.

Our joy in music is..."

So he was forced to quit

Sounds good, right? (Laughter) No, he's a nice guy, really.

Can't we have less control, or do things differently?

Let's see the next conductor, Richard Strauss

(Playing) Please don't think I chose him because he's old.

No, when he was about 30, he wrote "The Ten Rules of Conducting."

The first is, "If you're sweating at the end of a concert, something's wrong with you."

I think you'll like the fourth one

"Don't look at the trombonists, it will get them excited."

(Laughter) The idea here is to let it happen.

do not interfere

But how do you do that? Did you notice him flipping through the pages of sheet music?

Was he old enough to remember the songs he wrote?

Or was it sending a strong message to the orchestra? "Hey, I'm playing with sheet music.

this is not my story

I'm doing what it says, no interpretation."

The interpretation is the performer's true story.

So he doesn't try to do it himself This is a different kind of control

Let's take a look at another German super conductor, Herbert von Karajan.

(Playing) What's different? Have you seen Karajan's eyes?

closed Have you seen his hands?

I was doing it like this Please let me conduct it I will do it twice

Muti the first time, clap your hands once

Then I'll do Karajan, okay?

Let's start with Muti.

May I? yes

AUDIENCE: (claps hands) Hmm… again

Audience: (clap hands) Now Karajan, you're all right now, let me focus on you, close your eyes.

AUDIENCE: (Discordant applause—laughter) Why not? (Laughter) Because you never know when to clap your hands.

The truth is, even the Berlin Philharmonic doesn't know when to play.

(Laughter) Let me tell you what they're doing.

No kidding, it's a German orchestra.

They look at Karajan and then they look at each other

(Points and gestures "What's that?"--laughter) "You know what he wants?"

Then we look at each other and the concertmaster leads to get everyone together.

Karajan actually replied when asked, "The greatest harm I can do to an orchestra is to give clear instructions.

It prevents the ensemble from listening to each other, but that's what the orchestra needs."

what about the eyes?

why is it closed?

There's a wonderful anecdote about when Karajan conducted in London.

He gave the flutist a cue like this

The flute player had no idea what to do. (Laughter) "Maestro, where should I play?"

Do you know how Karajan responded? When will it blow?

He said, "When I can't take it anymore"

(Laughter) You don't have the authority to change anything.

This is my music, the real music is only in Karajan's head.

The orchestra members have to guess Karajan's mind. Karajan doesn't tell them how to do it, so the orchestra members feel a lot of pressure.

This is a different kind of psychological control, very strong.

Can't this be done another way? Yes, let's take another look at the first conductor, Carlos Kleiber.

(Playing) (Laughter) Yeah

It's completely different. Is it the same control?

No, he's not telling you to do this.

When he did that, he wasn't saying, "Hey guys, slam your Stradivarius on the floor like Jimi Hendrix."

He says, "It's a musical gesture

I'm making room for you to put in another layer of interpretation."

this is a different story

But if you don't give me instructions, how will it work?

It's like a roller coaster

It's not really given any instructions, but it's held in shape by the forces of the process itself.

That's what he does, and the funny thing is-

roller coasters don't really exist

It's not something physical, it's in the performer's head.

And this is what makes them partners.

musicians have ideas in their heads

Even if Kleiber doesn't tell you what to do

I know what to do I know what to do

And as we ride this roller coaster, we become partners who use sound to create together.

This is very exciting for musicians.

About two weeks later, I need a rest

(Laughter) I'm exhausted.

But this is how the best music is made.

But of course, you can't just give them a lot of motivation and physical energy.

must be professional

let's see kleiber again

next video please

Know what happens when you make a mistake

(Playing) You've got some great body language here, too.

(Playing) Here's a trumpet player doing something a little different than it really is.

please watch

2nd time with the same player

(Laughter) Third time with the same player.

(Laughter) "Like it's left after the concert

I have something to say"

Authority appears when it's needed, and that's the point.

But authority alone doesn't make everyone a partner.

See what's happening in the following video

Aren't you surprised that Kleiber is so hyperactive?

playing mozart

(Playing) The whole orchestra is playing.

(Playing) Change here

(Playing) Do you understand? he didn't tell me what to do

I rather enjoy playing the soloist.

(Playing) Solo again, what can we learn from this?

(Playing) Look at my eyes

saw? Above all, this is the highest praise and kind of feedback.

"Oh..." sigh yes it's from heaven

so it's good

The other thing is that we're actually in control, but we're doing it in a very specific way.

Did you see Kleiber look up? Talila... what happened? Gravity is no more

Kleiber not only creates the process, but also the conditions in which that process takes place.

So that oboe player is totally autonomous, fun, proud of what he does, and creative.

Kleiber's in control is another level.

So control is no longer a zero-sum game.

Each person is in control, and the conductor puts it all together in partnership to create the best music.

So Kleiber creates a process

We create the conditions for that place.

But creating meaning requires process and content.

Leonard Bernstein is

A great teacher and my own mentor. Bernstein was always in it with a sense.

(Playing) Do you remember Muti's face?

he has a great look but only one

(Laughter) Did you see Bernstein's face?

Do you know why? Because the meaning of this music is suffering

So I'm playing the sound of anguish

and see Bernstein and his suffering

But it's not something you want to stop

It's a pain that you enjoy yourself, like a Jew

(Laughter) You can see the music on his face.

he no longer has the baton in his hand

Now you, the musicians, tell the story.

It's upside down, you tell the story

Even if it's only briefly, you become the narrator and the whole community listens to you.

Bernstein makes it possible, isn't it great?

If you do all of the things I've been talking about and the rest, you've reached the wonderful state of nothingness.

The best title for the last video is

In the words of my friend Peter, "If you love something, give it."

(play) (clap)

I remember having my aunt comb my hair when I was a child.

I felt that tickling sensation spreading in my stomach

she's focused on me

Beautiful Aunt Bee combed my hair with a fine stiff brush.

You all have memories like that, right?

Feelings come before words

Children distinguish between themselves and others through touch.

From the mouth From the hands From the skin

I feel many things, even my first love is a sensation

Connections with others are born here

We want our children to develop healthy relationships

So as parents, we also teach them about sex.

There are books that you can refer to. The basics are taught at school.

And then there's porn to supplement, and porn actually teaches us, doesn't it?

(Laughter) But we teach all the biology and mechanics of pregnancy and safe sex, and kids grow up thinking that's what sex is all about.

but it's not

We can teach boys and girls about pleasure, desire, consensual sex, tolerance, what it means to feel the moment in your body, and what makes it different from when you don't.

We learn these things through touch, play with each other, look at each other, and through our senses.

We should be able to teach children not only about sex, but also about the pleasant sensations that the body receives.

Stories like this are what I needed as a girl.

I was an extremely sensitive child, but by the time I hit puberty, I forced myself not to feel it.

Boys laughing at my body changes, girls trying to get rid of me, ironically because of my fascination with boys.

Words cannot describe this experience, and I didn't know if it would go away.

So I tried everything I could, but it didn't work

You can't just erase the bad feelings, right? That's why I lost the joy, pleasure and playfulness of sex.

Over the past year, I've been interviewing men and women about sex, and I've heard many stories like mine from girls who have been told they're too sensitive.

Boys who were taught to be manly, "Don't get emotional"

I know I'm not the only one suffering

It was my daughter who reminded me of the old feelings

we were at the beach

But it was different

I turned off my phone and wrote on my calendar, "Day with my daughters."

I laid out a towel and fell asleep next to the crashing waves

I woke up and my daughter had sand sprinkled on her arm Like this I could feel her tickling sensation I remembered my aunt brushing her teeth

So I walked over to him and sprinkled sand on his other arm and leg.

And I said, "Hey, do you want me to bury you?"

My daughter opened her eyes and said, "Yes!"

So we dug a hole and covered her with sand and shells and painted a mermaid fin.

When I got home, I massaged her head with lathering shampoo and dried her with a towel.

And I thought, "How many times have I taken a bath with her and dried her hair, but have I ever cared about how she feels?"

I was feeding my daughter and putting her to bed like a factory building something.

And then I realized, lovingly and gently, as I towel-dried my hair, I was teaching my daughter the joy of being touched.

that I'm teaching you about affection

I'm teaching you to love and take care of your body

I realized that this is the part that cannot be expressed in words.

In the book "Girls & Sex," author Peggy Orenstein says that young women are more committed to sexually pleasing their partners than themselves.

This is something I plan to teach my daughter when she's older, but for now I'm looking for ways to help her find her joy and practice it.

When my daughter says "rub my back" while I'm putting her to sleep

I say, "Okay, how do you want me to rub it?"

When my daughter says "I don't know"

stop and wait for instructions

And he says, "Well, tickle it on the top right side."

I tickle it with my finger

When asked, "Anything else?"

"On the left side, this time it's a little stronger"

We need to teach children how to put them into words so they can get used to the sensations.

I'm trying to figure out if I can do this while playing at home.

As I tickle my girls' arms, I say, "Tell me what you're feeling!"

"It's violence," they said.

when i hold you tight

They say "I'm protected"

I myself try to say how I feel and what I'm feeling because we have a common language.

For example, right now, I'm nervous and excited, so I have a tingling sensation from my head down to my back.

Perhaps you are experiencing sensations in response to me.

The words I use for the ideas I share

We tend to evaluate and rank these responses, judge them as good or bad, and seek them out or eliminate them.

Because we live in a binary culture, and we've been taught since childhood to divide the world into good and bad.

"Did you like that book?"

"Have you had a nice day?"

Instead, ask yourself, “What impressed you about this book?”

"Did anything interesting happen today?"

Why don't you ask, "What did you learn?"

Teach your children to always be open and curious, like a foreign tourist.

By doing so, I should be able to live with my senses in the face of the painful challenges that I and many of us have experienced.

Teaching the senses is what I want to teach my daughters.

A sensory education was what I needed as a girl.

I want to teach all children

Awareness of this sensation begins in everyone's childhood.

It's something we learn from our children, and that's what we can remind them of when they grow up.

Thank you for your attention

(applause)

Twenty-five years and three months ago, I read a newspaper article that said syringes would be one of the main causes of AIDS transmission.

I couldn't stand it and decided to do something about it.

Sadly, it's become a reality, and malaria kills about a million people a year.

Now, syringe reuse has surpassed that, killing 1.3 million people a year.

I met this girl and her friends at an orphanage in Delhi, and they became HIV positive from a syringe.

The sad part about this story is that their parents took them to the doctor, but when they found out they were HIV-positive, they abandoned them.

was taken to an orphanage

Problems arise from situations like this where both experienced and inexperienced doctors inject recklessly.

I've heard time and time again that injections are invaluable, and that people trust God to do the right thing, but that's not the case.

You can understand the problem of person-to-person transmission in places that are obviously full of viruses.

Over the course of 30 minutes, a video we took undercover showed a tray with 42 vials of injections being administered with just two syringes in a public hospital in India.

No new syringes were opened in more than 30 minutes.

Two syringes were used from beginning to end.

You can see the nurses coming back to the trays that they use like carts and putting the freshly used syringes back into the trays, from where they can be used again.

You can imagine the scale of this problem

In India alone, 62% of all injections are unsafe.

These kids in Pakistan don't go to school

luckily they already

I have a job, and I pick up syringes from the back of the hospital, wash them, and in the process, I obviously get hurt.

They repackage the syringes and sell them on the market, and believe it or not, they sell for more than sterilized syringes.

Their father picked up a syringe and pricked his finger during an interview, and I don't know if you could see the blood on his finger, but he quickly pulled out a matchbox, lit it, and burned it off while assuring me that it was a way to stop HIV transmission.

Recycling is a big problem in China

And here you can see the scale, but they're going to bunch them up, hand-organize them by size, and put them up for sale again.

Recycling and reuse are big issues here.

But there was an interesting story I heard in Indonesia.

Every school in Indonesia usually has a toy vendor in the playground.

This toy vendor also usually sells syringes, and next to it, as you might expect, is an excavator.

children at playtime

Use it innocently as a water gun

Having fun by throwing water on each other

But it's hot, so they put it in their mouths from there during their break.

spray water and drink

A used syringe with blood on it

we need better products and information

I'll show you an invention I've come up with if you can get a shot of this camera.

It looks like a normal syringe

It's used as normal, and it's built with existing equipment in 14 licensed factories.

inject and put down

If you try to use it again, it will lock and break.

very simple thanks

(Applause) It's the same price as a regular syringe.

By comparison, Coke costs 10 times that price.

This will stop the syringe from being used 20 or 30 times.

I did a huge amount of informational charity in India.

I take pride in providing information to keep young children from doing stupid things.

thank you

(applause)

As we all know, the future is unpredictable.

Even the most intelligent people who work in the best organizations make mistakes on a daily basis.

Whether it's in technology or politics, the pundits, the CIA, MI6 are always making mistakes.

Clearly in the field of finance as well.

Even the forward-thinking institutions like the IMF, the Bank for International Settlements, the Financial Stability Forum, didn't know what was going to happen.

The 20,000-plus economists who competed fiercely to work there didn't know what was going on.

Globalization is becoming more complex,

Change is also happening more rapidly

The future will become more unpredictable

Urbanization and integration come together to spark a new renaissance.

1000 years ago the same thing happened

The last 40 years have been an amazing time.

Arrived over a long period of time since the Stone Age

Life expectancy increased by 25 years

During this period, the population increased by two billion people, but the vast majority of people around the world began earning higher incomes.

The global illiteracy rate has fallen from 50% to around 25%.

New opportunities are unlocking new possibilities for innovation and development

But there are also drawbacks

Globalization has two weaknesses.

First, inequality is growing: people who are left behind, people who are angry, people who are not participating. Globalization has not been all-encompassing.

And the other is its complexity: it's getting more fragile, more fragile.

What happens in one place quickly affects everything else.

Institutional risk, institutional impact

We saw it in the financial crisis, we saw it in the flu pandemic.

We must build resilience against such highly contagious things.

Many of these are driven by what's happening in technology

Computers have evolved in leaps and bounds, and computers for the same price will be a million times more advanced by 2030 than they are today.

These 20 years were such times.

i think it will last

Today's computers and systems will look as primitive in the future as we see them on the Apollo.

Today's mobile phones are smarter than the entire Apollo spacecraft

Cell phones are more powerful than the top-of-the-line computers of 20 years ago.

What do you mean?

technology has tremendous potential

So is miniaturization.

Invisible abilities will appear in our bodies, in our brains, in the air.

A house dust mite on a tiny replica

This kind of ability to do everything in new ways unlocks possibilities beyond the medical field.

Made in Oxford, stem cells derived from embryonic stem cells

Any part of the body can be made

Eventually, you'll be able to replicate other parts of your body from your own skin.

Great opportunity for regenerative medicine

I don't think there will be any Special Olympics after 2030, because we will be able to regenerate body parts.

But the question is, "Who can do that?"

Another area that's going to see a lot of progress is genetics.

As this genetically engineered rat shows, by creating something that moves three times as fast and lasts three times longer, the same amount of food allows the rat to live to the equivalent of 80 years in humans.

But is this only available to the millionaires who can afford it, or are we headed for the new eugenics?

Can only the rich who can take advantage of it become such future superhumans?

(Laughter) The big question is, how do we manage technological change?

How can we create more inclusive technology -- technology that will make us smarter as we get older, so that we can support future generations.

One of the most striking manifestations of this evolution is the transition from a population pyramid (mostly young) to what you might call a population coffin (mostly middle-aged and older).

By 2030, there will be no pensions, no retirement system.

These are superfluous thoughts, and they don't just happen in the West.

The most dramatic change will be the new types of skyscraper-like pyramids that are happening in China and many other countries.

Forget about retiring young people

Forget your pension and think about life and where it's going

Of course migration becomes more important

Competition to attract talent in all areas of competence will become so intense that it will also drive the economy. Innovation is essential.

Employment of people in rich countries will drop from about 800 million to about 700 million.

the number of immigrants will increase

The xenophobia concerns that come with immigration will fade as we look for people to help us support our future pensions and our economy.

Then there is the institutional risk.

They will become more pervasive, and what we see today is a nexus of societies and systems, linked by technology and driven by just-in-time management systems.

Even small things can change resilience depending on other factors

Collapsing biodiversity, climate change, epidemics, financial crises, we're going to be thinking about these things together.

We have to create new awareness about what we do and how we motivate ourselves to deal with systemic risks in new ways and together as a community.

innovation will be needed

We also need to understand that the prosperity of globalization can also lead to its collapse.

This century could be the best century or the worst, depending on what you accomplish.

We also have to worry about individuals, especially those who feel like they're being left behind in some way.

By 2030, for the first time in human history, an individual will have the power to destroy the planet or destroy everything, for example, by creating biopathogens.

How do we weave these fabrics together?

How can we understand complex systems in new ways?

It will be a challenge for academics and anyone else who is passionate about thinking about the future.

The rest of our lives are in the future and we should prepare now.

We need to understand that the world's governing system is becoming obsolete

I can't handle the challenges ahead

We must harness collective intelligence to find new ways to jointly manage the planet.

We all know from experience that great things can happen when individuals and societies work together to change the future.

15 years after I left South Africa, thinking I would never return, I was honored to have the opportunity to work for Nelson Mandela's government.

It was a miracle, we can do miracles together in our lifetimes.

I have to

Ideas that are nurtured at TED, ideas that we think and want, are very important. Let's make the 21st century the most prosperous century, not the century of environmental destruction and environmental catastrophe.

Thank you. (Applause)

Throughout the million-plus years of our species' existence, and perhaps even earlier, our ancestors must have looked up at the night sky and wondered what the stars were. So I wanted to know how to explain what we see from an invisible perspective.

Most people only wondered such things from time to time, as they do today -- when they usually have to think about something else.

But there was also a desire to know what was usually preoccupied with their minds.

They wanted to know -- how to prevent occasional food shortages, how to find rest when they were tired, how to live warmer, cooler, safer and less painful without risking starvation.

Prehistoric cave artists must have wanted to know how to paint better.

They tried to make progress in every aspect of their lives, like us today.

But it failed almost completely in all of them.

I didn't know how to do it.

The discovery of fire happens so infrequently that from an individual's point of view it did not advance the world.

I couldn't learn anything new.

It wasn't until 1899 that the first clues to what starlight was was presented. It's about radiation.

Forty years later, the physicists who found the whole explanation represented it, as usual, in beautiful symbols.

But don't worry about symbols.

how many discoveries

Let's see. Atomic nuclei, nuclear reactions,

Isotopes, electric particles, antimatter, neutrinos, mass-energy equivalence -- that is, E=mc^2 -- gamma-ray nuclear transmutation.

An ancient dream that alchemists failed to fulfill has been fulfilled -- through these theories that explain starlight and other ancient mysteries and new and unexpected phenomena.

These discoveries in the last 40 years -- unfulfilled in the last million years -- are not because we haven't thought about the stars or other issues that need urgent attention.

They, too, have come up with an answer, but it is a myth that has dominated their lives and bears little resemblance to the truth.

There was no. I don't think there was even enough recognition of the dire situation that has remained stagnant for so long.

After all, all of this was discovered by people with brains that were exactly the same structure as the ancients.

But that ability to make progress also remained largely unused -- until a revolution was brought to the human condition that changed the world.

we should expect. Because that event is the Scientific Revolution, which will bring knowledge of the material world and meet our ever-increasing needs.

So what has changed?

What did they do first then? To move out of stagnation and into rapid, boundless discovery.

How to create change is arguably the most important and universal truth we can know.

Unfortunately, there is no solid consensus on what it is.

So let me talk.

But before that, I have to go back a little bit.

Before this scientific revolution, people believed that everything important and understandable was already known, and that it was hidden in ancient books, institutions, and rules of thumb that really worked. They were, however, staunchly adhered to as doctrine -- with many lies.

So people believed in the knowledge they were getting from authority figures who actually knew very little.

So progress depended on rejecting -- the supposedly learned authorities, the clergy, the traditions, the rulers. That is why the scientific revolution needed a broader background. It is the idea of ​​enlightenment. It's a revolution that seeks a way to get knowledge without relying on authority figures.

"Don't believe anyone's words."

But it didn't make a difference.

Those in authority had been dismissed many times before.

And it has seldom caused anything like a scientific revolution.

At the time, good science was thought to be radical ideas about the invisible. As is known as empiricism. All knowledge comes from the senses.

Although we already know that is not true.

Empiricism combines observation and experimentation

I was encouraged and it certainly helped. But it was clear from the beginning that something was horribly different.

If knowledge comes from the senses,

What language is it explained in? It is certainly not the language of mathematics.

As Galileo rightly said, "The book of nature is written in the language of mathematics."

Look at the world on the hillside,

It's not like there's a formula in place.

If so, it is because humans carved it.

By the way, why not?

what are we doing?

(audience laughter) Empiricism is not enough. Because a scientific theory is an explanation of the visible from an invisible point of view.

We must admit that we do not know the invisible through our senses.

You can't see nuclear reactions in stars.

The origin of species is also invisible.

You can't see the distortion of space-time or even other universes.

But we know them.

How do you know?

The typical empiricist answer is induction. They say that the invisible resembles the visible.

But they are not.

The conclusive evidence is the distortion of space-time.

It was a photograph, but not a space-time photograph. Photo of a solar eclipse. Like, the point is here, not here.

What is evolutionary evidence?

Rocks and finches.

What about parallel universes? also on the screen

The point is not here, but here.

In all these cases what we see bears no resemblance to what we consider to be evidence. There are only theoretical inferences and interpretations that connect them.

“Ah!” says the creationist.

"Then you admit that everything is up to interpretation.

No one has ever seen evolution.

We can see rocks.

You have yours, we have ours.

Your interpretation comes from speculation. Our interpretation comes from the Bible. ’ they say.

But what both creationists and empiricists ignore is that no one has ever seen the Bible in that sense. We cannot see light because our eyes perceive it.

It's just a nerve shock to the brain.

And they can't even see these things for what they are, even electrical signals.

Then we cannot see anything as it is.

Our connection to reality is never just about perception.

As Karl Popper said, it's always theory-laden.

Scientific knowledge is not derived from anything.

It's all like knowledge. Conjecture, conjecture, verified by observation, but not derived from observation.

And could testable speculation be the great revolution that liberates the mind?

no. Contrary to popular belief, verifiability is common -- even in myths and other absurd ideas.

Even the wildest idea that the sun will disappear next Tuesday is a testable prediction.

Consider the ancient Greek myths that describe the seasons.

Hades, the goddess of the underworld, kidnapped Persephone, the goddess of spring, and forced her into marriage on the condition that she would return regularly.

And every year she is forced by magic to return.

And her mother, the earth goddess Demeter, grieves and makes the earth cold and barren.

This myth is verifiable.

If winter is brought about by Demeter's sorrows, it must occur simultaneously everywhere on earth.

If only the ancient Greeks knew that Australia was the warmest when Demeter was the saddest,

You will find out that their theory is wrong.

So what's wrong with this myth and all pre-scientific thinking?

And what made that significant difference?

I think there is one thing to think about here. And that includes everything from verifiability, to scientific methods, to the ideas of the Enlightenment.

There is something very important here. It's kind of like a narrative flaw.

It's not just a logical flaw. I mean, it's a bad explanation.

What does that mean?? What is the description

It is to claim that what is there but invisible is the cause of what is visible. Because the explanatory role played by Persephone's marriage is just as easily fulfilled by a myriad of makeshift stories.

Why is it that marriage is the cause of this regular yearly phenomenon and not any other reason?

This may happen. Persephone was not released.

She escaped, and by the power of the spring she returns every spring to take revenge on Hades.

She cools the realm of Hades with the spring winds, venting heat to the ground and creating summer.

This theory can explain the same phenomenon as the first myth.

It is equally verifiable.

But what can be asserted against reality is the exact opposite in many respects.

It is possible. Because the details of the original myth have nothing to do with the seasons. Except when told within the framework of that myth.

This easy variability is a sign of poor explanation. Because it is irrational to choose just one of an infinite number of alternatives and defend it over the others, without any functional reason.

So, as an essential part of making progress possible, we should seek justified explanations that cannot be easily changed -- even when explaining some phenomena.

Now, our current explanation for the seasons is that the Earth's axis is tilted like this. Each hemisphere tilts toward the sun for half a year and away from the sun for the other half.

Would you mind posting this?

(audience laughter) That's a valid explanation. It's hard to change. Because every detail plays a functional role.

For example, as we know, surfaces that tilt away from radiant heat are less warmed in each season. Planets rotating in space always face a certain direction.

The tilt also explains the elevation of the Sun at different times of the year, and predicts that each season will be different in the two hemispheres.

Had it been observed otherwise, the theory would have been refuted.

But now the fact that this is a valid explanation that cannot be easily changed makes a significant difference.

If the ancient Greeks knew about the seasons in Australia, they could easily have adapted their myths to predict it.

For example, when Demeter is agitated, she sweeps the heat away from her surroundings, sending it to the other side, creating summer.

Observations have proven it wrong, so the theory has been adapted accordingly, but the ancient Greeks are still far from understanding the seasons. Because their explanation is crude. Easy to change.

And verifiability matters only when the explanation is elaborate.

If this axial tilt theory had been refuted, its proponents would have been helpless.

It's almost impossible to explain that the seasons are the same in both hemispheres because of that tilt, even if you just change the theory.

Seeking hard-to-change explanations is at the root of all progress.

this is enlightenment thought

It's a basic rule of thumb. Two wrong approaches hinder progress in science.

One is the well-known but unverifiable theory.

But more important is logic without explanation.

When some statistical trend is likely to continue, but without a hard-to-change explanation for what caused the trend, it's like saying it's the work of a wizard.

If you say carrots have human rights because they have half the same genes as us, but you don't explain what percentage of genes gives them human rights -- you're talking about wizards.

If someone announces that the congenital-acquired controversy is resolved, because there is evidence that some percentage of political opinion is inherited, but if there is no explanation for how genes generate opinions, nothing is resolved. That is, they

They say that they are influenced by wizards. Perhaps so are their own opinions.

Facts, which consist of hard-to-change theories about reality, are the most important things in the physical world.

This fact itself is invisible and impossible to change. thank you very much.

(applause)

What I'm going to tell you is how the story of Africa is told and who tells it.

I'm going to show you a selection of contemporary art, all of which are from Africa or have roots in Africa.

I love African art. I think it's beautiful, moving, inspiring.

I would love to tell you about this attraction.

First, please tell me about my background and why I love art.

Growing up as the daughter of an artist, from an early age I had the opportunity to see my father working in his studio.

My house was full of art, and from a young age, I was introduced to art, and during summer vacations, I was taken to museums and exhibitions.

I didn't realize it at the time, but it helped my young mind understand why art matters. how to watch how to understand how can i love you

I personally have a passion for art, not just because it's beautiful and moving and inspiring, but because it tells a powerful story.

Artists tell us not only stories about what it means to be African and African identity, but also stories about who we are as Africans and stories about Africa's complex history.

So how does art tell a powerful story?

The art series I'm going to show you now is created by Senegalese Omar Victor Diop.

In a self-portrait series, Diop focuses on how Africans are portrayed in art history from the 15th to the 19th century.

What I want to share with you is Diop's way of showing, in a single photograph, the African identity, the power of artistic expression, and even the value system of society.

This self-portrait was inspired by a portrait by Anne-Louis Girodet.

It's a photo that looks like a portrait of Jean-Baptiste Bailey.

Bailey was born in Senegal but was enslaved in Haiti, but was nevertheless elected as the colonial leader of the Third Republic during the French Revolution and was a strong supporter of the abolition of slavery.

Diop's flair and brilliance shine through in this piece because it's about reminiscence of history.

To bring this person back to life, I've recreated the beautiful royal blue uniform and the way she's posed.

The original was one of the more common political portraitures of the time, but there was one difference: Jean-Baptiste Bailey was the first person of color to be named and clearly recognized in the work.

Diop also has an important element in this work, the soccer ball he's holding, which also shows the African culture of heroizing the best local players.

Diop invites us to delve into history and record, to face the untold, and to think about how it affects us today.

The next beautiful series I'm going to show you is Kesh Angels by Hasan Hajjaj.

This work pushes the boundaries of expression with stereotypes and cliche themes.

Hasan Hajjaj is a friend and someone I respect deeply, but this series is very poignant as a Muslim woman.

I've always experienced that Muslim women have high expectations, both religiously and culturally, and what's great about Hasan is that he considers all of these factors.

They are rebelling against everything that stands for Muslims and Arab women.

Hasan has experience of leaving his homeland and emigrating abroad.

I grew up in Morocco, a place full of brightly logoed merchandise, which means the counterfeits on the market.

So while it's natural to think of such symbols in his work as a celebration of global culture, or a critique of global urban culture, at its core is a strong desire for nuanced expression.

It's trying to shake us up and shake up every perception we have of people and of our cultural environment.

And, for example, what this picture tends to associate with this particular brand is this particular Western consumer.

Hassan mixes it all up, and here in the hypothetical female biker culture that's boldly portrayed, traditional clothing for Muslim women from Chanel and Louis Vuitton, paired with Nike footwear, is common.

What's great about the women in "Kesh Angels" is that they have the ability to catch the eye.

We are completely immersed in the photograph, but in reality we are invited into the subject.

Hasan's "Kesh Angels" and Diop's "Project Diaspora" are both excellent examples of the power of art as a medium.

It has the power to inspire and question the viewer, and it has the power to bring about change.

Without seeing the racial and ethnic diversity in contemporary art, we can't understand the changes that are taking place in the art world, and we can't understand the changing relationship between Western art and Africa.

It's up to us how we relate to these things.

We still need progress, and in all honesty, powerful voices need even more support, because they shake up the status quo and bring us new perspectives.

Check out this beautiful oil painting by young emerging artist Kuznai-Violet Hawami.

An artist who clearly conveys the concept of freedom.

Hawami has a great perspective on what it means to be African and what life is like in Africa.

Having lived in Zimbabwe, South Africa and the United Kingdom, I've been heavily influenced by different communities and cultures, including LGBT, ecology, Xhosa, "emo" and even British culture.

As she puts it, the advantage of growing up away from home is that it allows us to reconstruct our image and what it means to be African.

The last powerful piece I want to show you is the work of South African artist Lawrence Lemaona.

Lawrence, too, is criticizing the media's influence on our moral consciousness, and using banners like those seen at political demonstrations, he urges us to take back our voices.

I believe in the transformative power of art, because art is the only way that we can express the nuanced images of Africa and of diaspora. These works will be created by African artists and cultural leaders with edgy and highly individual worldviews and points of view.

Art is about reviving our sense of agency and power.

Art is about being able to truly tell our story.

As Lawrence Remaona said, we hold the power.

thank you

(applause)

There is a very personal reason behind the actions of many of us who believe in the importance of sustainable development and the protection of local livelihoods.

I grew up in Cameroon, a country of enchanting beauty and rich biodiversity, yet plagued by sloppy government, environmental destruction and poverty.

When I was a child, like most children in Sub-Saharan Africa, I suffered from frequent malaria.

Today, malaria kills more than a million people worldwide each year, mostly in children under the age of five, and 90 percent in sub-Saharan Africa.

I left Cameroon at the age of 18 in search of better educational opportunities.

At that time, Cameroon had only one university, but in neighboring Nigeria, English-educated Cameroonians were offered educational training opportunities in various fields.

So I went there, but it was even more difficult for me to find a place to work as an ecologist in Nigeria after graduating.

So I left the continent when I received a PhD scholarship offer from Boston University.

The sad thing is that even though we face many challenges, the African continent is full of talent and skills, but when we bring in experts from the West for a short period of time to solve our problems, Africa's brightest and most talented people leave and treat Africa as a continent in constant need of help.

After completing my studies at Boston University, I joined the research team at the University of California's Institute for Environment and Sustainability, not only because of its groundbreaking research, but because of its reputation for developing policies and programs that will save millions of lives around the world, including in the developing world.

It's a proven fact that for every African engineer returning from abroad, nine new jobs are created in the formal and informal economic sectors.

So as part of our sustainable African co-building program, we are working on many fronts to establish the Congo Basin Research Institute, a permanent platform for Africans to collaborate with researchers around the world, but to solve their own problems themselves.

Our multidisciplinary approach enables universities, NGOs and private companies to collaborate in the field of international development.

Rather than accepting Western experts for a short period of time, we're trying to create a permanent institution in Africa, where we can develop joint projects between African and international researchers to create a place where logistics, housing, etc., can all be handled in one place.

This achievement has made it possible for students like Michelle to receive advanced training in Africa.

Michelle is currently working in our lab on the impact of climate change on insects as part of her PhD work, and has already secured a postdoctoral fellowship that will allow her to stay on the African continent after completing her degree.

Our local outreach program will allow young Nigerian scientist Dr. Guvenga Abiodun, as a postdoctoral fellow, to work with the Professional Development Foundation at Western Cape University in South Africa and the University of California to study the impact of climate change and variability on malaria transmission in Africa.

Gubenga is currently developing a model that will be used in early warning systems to predict malaria transmission in Africa.

Instead of draining the best and brightest talent out of Africa, we nurture and support local talent in Africa.

For example, Dr. Eric Fokam, who, like me, was trained in the United States,

Back in Cameroon, unable to secure the research grants he needed, he struggled to continue practicing and learning the science he believed in.

When I met Eric, he was on the verge of returning to America.

We convinced him to start working with the Congo Basin Institute.

His lab in Buea now has five or six more grants to collaborate with researchers in the United States and Europe, and 14 graduate students -- nine of whom are funding women -- all doing breakthrough research to understand the impact of biodiversity on human health and nutrition under climate change.

(Applause) Rather than relying on Africa to receive aid, we are using a multidisciplinary approach to encourage Africans to find their own solutions.

Today, we're working with local communities, students, an American entrepreneur, and scientists in the United States and Africa to find ways to sustainably grow Africa's iconic hardwood, ebony.

Like most African hardwoods, ebony is used to make wood, but little is known about the ecological properties of ebony, what drives its distribution, and how it survives 80 to 200 years in forests.

She's Alvin, and she's a young PhD student working in our lab, working in cutting-edge tissue culture research.

In Alvin's hands is the first ebony tree grown entirely with tissue.

this is rare in africa

Now, we can prove that we can make African wood not just from seeds, but from different plant tissues -- leaves, stems, roots -- but it's a very difficult task.

(Applause) So other students took the different varieties of ebony that Alvin had identified in his lab, and they grafted them, they grow seedlings, and they work with local communities to grow ebony and local fruit trees together in our own hybrid agroforestry system, where we encourage farmers to pick and choose the tree varieties they want to grow.

In this way, not only the ebony, but also the cultivars of the farmer's choice, are grown using modern techniques that we have developed and integrated into the land use plan, so that the farmers can still benefit from the fruit trees while they wait for the ebony to mature.

15,000 ebony trees have now been planted in Cameroon, and as a result, for the first time ever, ebony won't have to be cut from pristine forests.

This became a model for African hardwoods, and the method is being adapted to grow other valuable hardwoods, such as sapele and bubinga.

If something like this had happened when I was 18, I probably wouldn't have left my country, but thanks to the initiative of the Congo Basin Institute, I was able to do so, and I didn't do it alone.

Research in Africa has been made possible by attracting scientists, entrepreneurs, students from the West, and good science from the world's top universities.

We also need to scale up this locally-born and powerful method of encouragement.

At this stage, we are working with five or six universities and NGOs.

Our vision is to expand our current laboratory into an eco-friendly facility, add more housing and conference rooms, and implement a long-term academic approach.

It's an initiative to give more opportunities to young African scholars and to leverage the International Institute for Tropical Agriculture's existing network of 17 research institutes in Sub-Saharan Africa to scale up.

Things are changing...

And I hope it will change even more, and I hope it will extend to some of the top growth economies in Africa, like Côte d'Ivoire, Tanzania, Senegal, where we can expect more investment from the private sector.

I want to give more opportunities to African scholars. What I'm looking forward to is that some of Africa's most intelligent people stay on the continent and receive advanced education through initiatives like the Congo Basin Institute, and when that happens, Africa will be on track to solve its own problems.

And I hope that 50 years from now, you'll have a TED talk about how to deal with the brain drain from the West to live and study in Africa.

(Applause) Thank you.

(applause)

Buildings have something in common today

Built with Victorian technology

You have blueprints, you have industrial manufacturing, and you have teams of workers to build.

The result is an inert object

That means energy is transferred in one direction, from the natural world to our homes and cities.

This method is not sustainable

The only way we can build truly sustainable homes and cities is to connect them to nature, not disconnect them.

To get it done you need the right language

Living systems are constantly talking to the natural world through a chemical reaction called metabolism.

One substance transforms into another through the production and absorption of energy.

And this is how living matter sustainably uses the resources around it.

So I became interested in using materials that metabolize in architecture.

But it doesn't exist. I had to make one.

I'm working with architect Neil Spiller at the Bartlett School of Architecture, and internationally, collaborating with scientists in a bottom-up fashion to create these new materials.

It means that you are making something from scratch.

One of the collaborators was the chemist Martin Hansack, who was very interested in the process by which inert substances become active.

That's the process I'm most interested in when thinking about sustainable materials.

Martin deals with a system called "Protocell"

All of this, and its magic, depends on the little fatty sacs and the chemistry inside them.

no DNA

This little bag can behave in a way that can only be described as very alive.

Can move around the environment

Can move along chemical concentration gradients

It can do complex reactions, some of which are really architectural.

This is the protocell, designing the environment.

i still don't know how i make this

There is also a protocell here, and it is actively molting.

This seems to be the "birth" of chemicals

this is a violent process

This is a protocell that takes carbon dioxide out of the atmosphere and turns it into carbonate.

Here's the shell around the fat bag

It's very fragile, so there are only a few

So what we're trying to do is push this technology forward and take a bottom-up approach to architecture, which is going against the Victorian, top-down way of imposing structure on matter.

Victorians are energetically unwise

Bottom-up materials already exist

It has been used in construction since ancient times.

Walk around the town of Oxford, where you are now, and look at the brickwork, which I've spent the last few days, and you'll see that much of it is made of limestone.

If you look more closely, you'll see little shells and little bones piled up in the limestone.

they've been fossilized for millions of years

So the limestone chunks themselves aren't particularly interesting.

It's beautiful though

But what if that limestone surface was actually talking to the atmosphere?

may absorb carbon dioxide

Does it give limestone new properties?

maybe so it may grow

It may be able to self-repair and respond to dramatic changes in its surroundings.

Architects aren't satisfied with just one interesting material.

Think big, right?

So when we think about scaling up the materials that we metabolize, we can start thinking about ecological ways to restore coral reefs and rebuild water-damaged cities.

An example of this is, of course, Venice, the city of history.

Well, Venice, with its intense relationship with the sea, is built on wooden stakes.

So we've developed a way that we might be able to sustainably restore Venice using the protocell technology we're working on.

Architect Christian Carrigan came up with a series of designs that showed the potential for generating limestone sediments beneath the city.

That's the technology I'm going to show you today.

This is our protocell technology, which allows us to efficiently create ancestral limestone shells and deposit them on natural materials in highly complex environments.

What you're showing here is the crystalline lattice in the process of bonding.

Now this is where it gets really interesting

Rather than just dumping limestone on beautiful canals,

It has to be creatively and skillfully piled around the wooden stake.

So what you're seeing is the protocell moving away from the light and toward the dark base.

This has been observed in the lab

the protocell moves away from the light

Some are attracted to the light, you just have to choose the species.

So it's not just one species, it can be chemically manipulated.

Here the protocell is very specific in depositing calcareous material into the Venetian foundation, effectively petrifying it.

This won't happen tomorrow, it will take time

It will be years before we can tune this technology, monitor it, and test it individually on the most damaged and stressed buildings in the city of Venice.

But gradually, as buildings are restored, calcareous coral will be deposited beneath the city.

The deposition itself becomes a huge 'sink' of carbon dioxide

It also attracts surrounding marine ecosystems and will find habitat among buildings.

It's very interesting, because we can build cities that are directly connected to the natural world.

But perhaps the most exciting part of all this is the ubiquitous application of this technology.

This is the chemistry of the earth, and we are all related to it, which means that this technology can be applied not only in industrialized countries, but also in developing countries.

So in summary, I'm creating metabolic materials that will compete with Victorian technology, and I'm trying to do bottom-up architecture.

Second, this metabolic material has similar properties to biological systems and behaves in a similar way.

Architecturally, it is expected to offer many forms and functions.

Finally, future observers, marveling at the beautiful structures of the environment, will hardly be able to tell whether they were created by natural or man-made processes.

Thank you very much

(applause)

I want to talk to you about a man named Manson.

Manson was a 28-year-old interior designer and father of two, a beloved daughter and son, who ended up in prison because of a broken justice system.

He was falsely accused of a murder he didn't commit and was sentenced to hang.

There are two victims in this murder: the actual victim who died in the murder, and Manson, who was sentenced to prison for a crime he didn't commit.

He was held in a cell 2.4m long by 2.1m wide, in which he spent 23.5 hours a day with 13 other adults.

You weren't guaranteed to find food.

Yesterday, as I walked into a room, I imagined the cell that Manson would have been in.

It was a toilet, because there were several rooms in a row that were slightly larger than that cell.

In that cell, while waiting for the executioner, he had no name in prison and was called by a number.

he was just a stat

I didn't know how long to wait

It could be a minute, or the executioner might show up the next minute, or the next day, or 30 years from now.

I've been waiting

And facing excruciating pain, mental torture, and many unanswered questions, Manson knew he wasn't going to play the victim.

refused to play the role of victim

He was angry with the justice system that put him in prison.

But he knew that the only way to change the justice system and help other people be treated fairly wasn't by playing the victim.

The change for Manson came when he decided to forgive the people who put him in prison.

i speak this as a fact

because i know manson

i am manson

My real name is Peter Manson Ouko

And after I made that decision, after I woke up to forgiveness, I took action to help change the system.

I was already determined not to be a victim anymore.

But how do we change a system that detains young prisoners every day who are supposed to be with their families?

So I mobilized the strength of my fellow prisoners, my fellow inmates, and began writing letters and memorandums to the judicial system, to the Judicial Service Commission, to the many ad hoc commissions that had been set up in my country, Kenya, to help change that.

And so we decided, if I may say so, "Let's grab a straw and fight it," to make our justice system work for everyone.

Around the same time, I met a young man from England who had graduated from college, and he was Alexander McLean.

Alexander was on his gap year with three or four college buddies, and they wanted to help build a library at Kamiti High Security Prison, which, according to a Google search, is considered one of the 15 worst prisons in the world.

at the time it was

But when Alexander came, he was a young man of 20.

And then I was on death row

we cared about him

it was a matter of trust

He believed us when we were on death row.

And through that trust, we've seen him and his college mates refurbish the library with the latest technology and set up the infirmary to very good standards, so that people who get sick in prison don't necessarily die humiliatingly.

Meeting Alexander gave me the chance, and he gave me the opportunity and the support to get me into the University of London for my degree.

Like Mandela, who was distance-learned at the University of South Africa, I had the opportunity to study at Kamiti High Security Prison.

And two years later, I was the first person in the prison system to complete a course at the University of London.

After graduating, what happened next was -- (Applause) Thank you.

(Applause) Graduating gave me strength.

I didn't mean to play the helpless victim.

That power that arose was directed not only at prosecuting his own case, but also at helping inmates who suffered similar injustices as we're talking about here.

So I started writing legal papers for them.

I did the best I could, along with the rest of the prison.

that wasn't enough

Alexander McLean and his team decided to help more prisoners with the African Prisons Project (APP).

As of today, I can tell you that a total of 63 inmates and Kenya Prison Service staff are studying law at the University of London via distance learning.

(Applause) These are the people who are willing to make a difference, not just to help the most demoralized people in society, but to help inmates and others access the justice system.

Something disturbed me the whole time I was in the cell.

The words of Martin Luther King kept ringing in my mind.

He always tells me, "Pete, if you can't fly, run.

If you can't run, just walk

But if you can't walk, just crawl

Whatever it is, whatever you do, keep moving forward."

So I had no choice but to want to move forward.

I still want to keep moving forward no matter what I do.

Because I think the only way to change society, the only way to change the justice system, and the justice system in Kenya, which has really improved, is to get the system right.

And on October 26th of last year, after 18 years in prison, I was released from prison with a presidential pardon.

Now I'm focused on supporting APP to accomplish its mission of establishing and educating the first law school and law college in prison.

In that place -- (Applause) we're going to educate our inmates and staff, not only to help our fellow inmates, but also to help the poor across the broader society who don't have access to a fair justice system.

I'm here to speak to you today, and I know this all too well: we can look at ourselves, we can look at the situation, we can look at the environment, and we can't play the victim.

Having a victim mentality won't accomplish anything.

i was in jail

I never felt or was a prisoner.

The basic thing I've learned is that if you think you can do it, you can do it, just like I did.

But if you say you can't and don't move, you can't do it.

it's that simple

That's why I'm encouraged by the peaceful revolutionaries I've heard on this stage.

the world needs you right now

As I conclude my talk, I would like to say to each and every one of you here, great thinkers, change makers, innovators, and all the great people of the world at TED, remember Martin Luther King.

Let it resonate in your heart and life

Whatever it is, wherever you are, whatever you do, keep moving forward

thank you

(Applause) Thank you.

(applause)

I am from Tanzania, so I have a duty to once again welcome everyone who has come to Tanzania.

Thank you for visiting

Before I get to the point, let me ask you first: How many of you have been bitten by this bug?

On behalf of those who control mosquitoes, I apologize.

(Laughter) Ladies and gentlemen, imagine being bitten by seven disease-carrying mosquitoes every day.

That translates to 2,555 disease-carrying mosquito bites each year.

While I was in college, I moved to the Kilombero River Valley in southeastern Tanzania.

At that time, it was historically one of the most malaria-ridden places in the world.

life there was difficult

Late in the infection, you'll have a malaria-specific symptom -- a severe attack called Degedege in this region.

Men and women of all ages will die. No mercy.

The Ifakara Institute of Health, to which I belong, was established in this canyon in the 1950s with a focus on community health care.

The name Ifakara actually means place to die, a reference to what life was like here before there was organized public health care.

When I first moved here, my main role was to assess the prevalence of malaria throughout the village and what mosquito species carried the disease.

A colleague and I went 30 kilometers south of the town of Ifakara, across the river.

Every night I entered the village with a flashlight and a siphon.

We rolled up our trousers, waited for mosquitoes to bite us, and captured them to see if they were carrying malaria.

(Laughter) My colleague and I chose a house, and we began to alternate between inside and outside every 30 minutes.

I did this for 24 days in a row, 12 hours a night.

I got four hours of sleep every morning, and the rest of the time I was working, sorting mosquitoes, identifying them, decapitating them so that they could be analyzed in the lab for malaria parasites in their mouthparts, where they suck blood.

This method allowed us to look not only at the number of mosquitoes that carried malaria, but also at the types of mosquitoes that carried malaria.

Not only that, but we also know whether malaria is more likely to be transmitted indoors or outdoors.

Ladies and gentlemen, I still make my living by catching mosquitoes.

But the main purpose is to improve people's lives and health.

Some people say that mosquitoes are the most dangerous animal on the planet, and unfortunately they are.

But what do we know about mosquitoes?

I found out that I actually don't know much

Consider the fact that the best way to deal with malaria right now is mosquito nets -- insecticide-treated nets.

We now know that there is resistance to pesticides all over Africa.

The insecticide is applied to the mosquito net — it's from the pyrethroid family.

We all know that this mosquito net protects us from mosquitoes, but it kills a minimal number of mosquitoes.

So more needs to be done to bring infections down to zero.

it's part of our mission

At the Ifakara Institute of Health, we're particularly focused on studying mosquito ecology, and we're trying to do things like this to find new ways of coping.

is a new approach

It's about testing and making available new options that can be combined with methods like mosquito nets to achieve zero infections.

Here are some of the methods that I and my colleagues have tried.

See this example

Mosquitoes breed in small puddles

The puddles are scattered all over the village, so it's hard to find them all, some of them as small as the marks of a horse's hoof.

It may be behind your house or far away.

So when you try to stop mosquito larvae from breeding, the reality is that it's really hard to find puddles.

So my colleagues and I decided to come up with a way to use the mosquito itself as a carrier to transport the pesticide from a site of our choosing to a breeding site, so that when it is laid, the eggs cannot survive.

he's dixon lewitijera

This is my colleague in Ifakara, who is leading this effort.

What he did ingeniously demonstrate is that it's possible to lure mosquitoes to a place where they usually come to suck blood, take sterilizing pills or insecticides, and bring them back to their breeding grounds, wiping out their offspring.

We've shown that anyone can do this and can wipe out populations in a very short period of time.

that's great

this is our mosquito city

It's the world's largest mosquito farm for malaria research.

It's a large free-standing facility that houses colonies of malaria-carrying mosquitoes.

Of course I don't have any infections.

But what these systems can do is introduce a new tool and test it immediately, quickly, to see if it can wipe out a herd or somehow control its reproduction.

My colleagues have shown that just placing a few of these deadly chemicals in places where mosquitoes breathe can wipe out colonies in as little as three months.

We call this the "propagation effect."

But what if mosquitoes' reproductive behavior could also be used to control reproduction?

The first thing you should know is that mosquitoes mate in "swarms."

Male mosquitoes usually swarm near the surface after sunset.

The males come here to dance, and the females also jump into the dance circle and choose their favorite male, usually the one who looks the most handsome.

The pair descend together to the surface

You will feel beautiful when you see this

it's a fantastic phenomenon

This is the moment when mosquito catching becomes very interesting.

What we've seen when we're swarming mosquitoes in our villages is that they tend to swarm in exactly the same spot every day, every week, every month, all the time.

When the evening comes, it starts at exactly the same time and in the exact same place.

What can we learn from this?

If we could create a map of an entire village showing places like this, we could really hit these populations.

It's like carpet bombing or nuclear attack.

I'm trying to do that with young men and women in the village.

We organize teams like this and teach them how to spot herds and how to spray pesticides.

My friends and I believe we have a new way to keep mosquitoes out of this canyon.

But maybe the fact that they feed on human blood is why mosquitoes are the most dangerous animals on the planet.

But let's think about this: Mosquitoes actually smell people.

Mosquitoes have evolved an amazing sensory organ.

Occasionally, you can smell it from 100 meters away.

Up close, it can even distinguish between two different people from the same family.

You can tell by the breath your body gives off, your skin, your sweat and your body odor.

What we did in Ifakara was identify the skin, body, sweat and breath that these mosquitoes prefer.

Once we identified the ingredients, we mixed and formulated a kind of synthetic compound, a mixture of compounds that reminded us of body odors.

We've created a synthetic mixture that attracts three to five times more mosquitoes than a human scent.

What is it used for?

Set traps to lure out and kill large numbers of mosquitoes, right?

Of course, it can also be used for research.

At Ifakara, we want to expand our knowledge of mosquito biology to control many other diseases, not only malaria, but other mosquito-borne diseases, including dengue, chikungunya and Zika viruses.

That's why my colleagues noticed that some mosquitoes, for example, have a habit of biting their legs.

And then we made mosquito repellent sandals, which travelers and locals wear when they're close to mosquitoes.

This will keep you from getting bitten by mosquitoes all the way into the mosquito net.

(Applause) My love-hate relationship with mosquitoes continues.

(Laughter) I know it's a long road.

but it doesn't matter

WHO has set a goal of eradicating malaria in 35 countries by 2030.

The African Union has set a goal of eradicating malaria from the African continent by 2030.

Ifakara is far from reaching its goal.

We have brought together young scientists, men and women, people who are willing to help, people who are interested in coming together to make this goal a reality.

do what they can to make it happen

we support them

We are here to make sure your dreams come true

Ladies and gentlemen, if it doesn't happen in our lifetime, even if it doesn't happen by the time we're gone, you and my children will surely inherit a world without malaria-carrying mosquitoes and without malaria.

Thank you everyone

(Applause) Thank you.

(Kero Kubu) Fredros

Let's talk a little bit about CRISPR.

(Laughter) This topic is taking the world by storm, and something amazing is about to happen.

What do you think of scientists using CRISPR to kill mosquitoes?

(Fredros Okumu) To answer your question, let's start by looking at the problem.

First of all, we are discussing the diseases that are still killing people, according to the latest statistics from the WHO, 429,000 people died [in 2015].

Most of them are African children

Of course, progress has been made. Some countries have reduced malaria epidemics by up to 50 to 60 percent.

But we still need to do more to get the infection to zero.

Already, in principle, genetic modification techniques such as CRISPR have been proven to be effective, genetically modifying mosquitoes to render them incapable of carrying malaria - "population modification" or eradicating them - "population suppression."

this has been successful in the lab

Numerical modeling studies have also shown that releasing just a few of these genetically modified mosquitoes can wipe them out in a very short time.

CRISPR and tools like this offer some real opportunities, opportunities to really make a big difference in nature, and together with the tools that we already have, we can finally bring infection to zero.

this is important

Of course, there's a question that people ask all the time.

(Kero) Please tell me

Fredros: In this regard, I want everyone to remember that there are 3,500 species of mosquitoes in the world.

probably more than that

About 400 species are Anopheles mosquitoes, and only about 70 of those are capable of carrying malaria.

In Africa, we're facing three or four major species.

These cover almost all cases of malaria, about 99%.

If we do a genetic modification like CRISPR, or a gene drive to control malaria, it's only going to affect one or two species.

So I don't think it's a loss of diversity.

But this is my personal opinion

i think i'm fine

By the way, for the last few years, I've been experimenting with effective ways to eradicate these mosquitoes through chemical spraying. My colleagues from the United States are launching chemical carpet bombings to drive these insects out of their villages.

In Africa, many households are sprayed with pesticides.

All of this is done for the sole purpose of killing mosquitoes.

So it's perfectly fine to use new tools.

That being said, we should act with a sense of enormous responsibility.

We also need to work with authorities on regulation, to ensure that everything we do is done in the right way and responsibly, and we also have third-party risk assessments to ensure that these prescriptions never fall into the wrong hands.

thank you

(Kero) Thank you

(applause)

I'm a writer and a journalist, and I'm also extremely curious.I've learned a lot in my 22 years as a journalist.

And three years ago, I became invisible.

I became a working homeless

In February of the same year, my father passed away, and I quit my job as a newspaper editor and decided to travel.

the death of my father was hard

And during the trip, there were many things I wanted to feel and do.

I've been camping since I was a kid, so I decided that living in a van for a year would be like traveling while camping.

I packed up my cat, my Rottweiler, and my camping gear into a 1975 Chevrolet van and headed out into the sunset, completely unaware of three important things.

One: Society considers people who live in fixed buildings, even rags, to be of value.

Two: Other people's negative perceptions of you can very easily affect your perception of reality if you let it.

Three: being homeless is an attitude, not a lifestyle

In the beginning it was great to live in a van

Showered at the campsite and ate out regularly

I could afford to relax and mourn

But then the anger and depression about my father's death crept in.

I finished my freelance work and had to get a regular job to pay for it.

Spring, which was so mild, turned into a terrible heat wave.

There's nowhere to park anymore -- (Laughter) -- with a dog and a cat together in a very hot situation.

The cat slipped in and out of the van window

dog goes to dog daycare

i'm sweaty

Whenever possible, we used truck stops and staff showers in office buildings.

Or clean up in a public restroom

The temperature inside the van at night rarely dipped below 27 degrees Celsius and I hardly slept.

food spoils in the heat

The ice in the ice box melted in a few hours, it was really bad

I can't afford to rent an apartment.

But I can't let them go, so I lived in a van

When I was too sick in the heat to go to a public restroom less than 20 meters away, I would go outside the van at night and poop in a bucket and a trash can.

In the winter, the temperature came down and it was below freezing and it stayed that way.

faced a new problem

I used to park in a different spot every night to avoid getting caught by the police and getting into trouble.

It didn't always go well

I felt like I lost control of my life

And I don't know when that happened, but I was amazed at how quickly I went from being a talented writer and journalist to being a homeless woman in a van.

I haven't changed, my IQ level hasn't changed

My talent, my integrity, my values, everything is the same as before.

But something has changed

I'm falling into depression more and more

Finally someone referred me to a homeless clinic

I went there I haven't taken a bath in three days

Like everyone else in line, I was stinky and depressed.

I just wasn't drunk or drug high

Some homeless people, including a former university professor, said: "You're not homeless, why are you here?"

Other homeless people thought I wasn't, but I was homeless.

And a university professor heard me and said: "You have a job, you have hope.

The real homeless have no hope."

I had a suicide attempt in response to the medicine my clinic prescribed for depression, and I thought: "Nobody cares if I kill myself."

Shortly afterward, a friend of mine told me that he heard Tim Russert, a nationally known journalist, tell a story about me on national television.

The year before my father's death, he told me that there was an essay in his book that I wrote about him.

He said he's been touring the country on talk shows and talking about my writing.

I burst out laughing when former Meet the Press host Tim Russert was speaking about my writing when I realized that I lived in a van in a Walmart parking lot.

laugh at you too

(Laughter) I laughed because am I a writer? Or a homeless woman? Because I thought that

I went to the bookstore and found his book

I stand there and reread my sentences

and started crying

because I am sure

because he was a writer

Shortly after that I returned to Tennessee

In addition to living in a van, I started staying at my acquaintance's house.

and started writing again

The following summer, I was back to working as a journalist.

I got an award and lived in my own apartment

no longer homeless

Also no longer transparent

Thousands of people have full or part-time jobs and live in their cars.

But society continues to criticize and criminalize living in cars and on the streets.

Working homeless remain essentially transparent

But if you do meet them, please engage with them, encourage them, and give them hope.

If there is hope, humans can overcome anything

I'm not here to represent the homeless

I'm not asking you to show favors to the beggars you meet.

Rather, I would say that, in the light of my experience, a person cannot be judged by where he lives, where he sleeps, or the circumstances of his life at any given time.

Three years ago, I lived in a van in a Walmart parking lot, and today I'm speaking at TED.

Hope always finds a way Thank you

(applause)

As other speakers have said, speaking in front of this audience is a daunting experience.

But I'm talking, like others, about the mysteries of the universe, the mysteries of evolution, innovative ways to solve inequalities in the world, and in today's global economy --

It's not a national issue

I'm talking about statistics -- or more precisely, statistics -- exciting stories.

It's -- (Laughter) it takes a lot more effort than other speakers.

(Laughter) When I was younger, my seniors proudly taught me that statisticians are good with numbers, but they're not smart enough to be accountants.

(Laughter) Another joke that statisticians have told in their own circles is, "How do you tell the difference between an introverted statistician and an extroverted statistician?"

The answer is, "Extroverted statisticians pay close attention to how others look."

(Laughter) I want to tell you something that will help me now, so please listen carefully.

There's a party tonight at the university's natural history museum.

I hope you like it -- it's a wonderful place, a classic Victorian icon.

There may be people who don't want to talk to this person even if they are in such a venue with such people.

do this

If someone asks you, "What do you do?" answer, "I'm a statistician."

(Laughs) I gave up on the story here, so this time it's all out of sight.

Usually one of the following happens

My cousin I haven't seen in a long time is over there, so I'll go talk to him and leave

Sudden thirst and hunger strike and rush to get something to drink or eat.

You can calmly go to someone you really want to talk to.

Explaining what statisticians do is one of the things that takes effort.

Statisticians are not invited as guests of honor at parties or conferences.

I haven't found a good explanation yet.

My wife survived that question better than I did when we were still girlfriends.

When we started dating, she was in England working for the BBC, and I was working in America at the time.

when i came to visit her

When asked, "What is your boyfriend's occupation?" she told a colleague,

Sarah tried hard to remember my explanation, because at the time she was listening to me.

(Laughter) Please keep this a secret.

She saw my job as developing mathematical models to understand evolution and modern genetics.

So when a colleague asked her, "What is your boyfriend's job?"

After a pause, I said, "He's a model."

(Laughter) Unexpectedly, the colleague suddenly became curious and went on to say, "What are you modeling for?"

So Sarah thought for a moment and answered, "Jeans."

(laughs) "He models jeans."

Now you really like her. Let's continue talking about the work of statisticians.

I would like to take a more general case and ask you to think about some uncertain, random, random event in the world, and consider how you would react to it, and whether you would be able to think properly.

So here's the end of all the lighthearted laughter we've had about dating.

I would like to ask you some questions

Question 1 This is the situation

toss a coin repeatedly

There's a reason -- I won't go into it specifically -- but we are interested in certain characteristic patterns.

Here's the pattern: the heads of the coin come out, then the tails, tails.

I will toss the coin over and over again

So the front-back-back pattern we're looking at happens here.

You can count 1 2 3 4 5 6 7 8 9 10 after the 10th coin toss.

You may find other things interesting, but hold on.

Imagine splitting the audience in half and each tossing a coin until a head-back-tails pattern appears.

The first time, after 10 throws like this, the result is

The second time might happen in four tosses.

Then after the 15th toss

Do it over and over again and find the average number of times

That's what I want this half of the people to do.

The other half of the audience doesn't like front-back-back. They find that boring for profound cultural reasons, and they're more interested in other patterns: front-back-front.

These people take out a coin and toss it over and over again

Count the number of throws until you get heads, tails, heads, and find the average.

These people, repeat the coin toss and find out exactly the average number of times it takes heads, tails, tails.

Everyone here, please give the average number of heads, backs, and heads in the same way.

The mathematical fact is that if you can derive two averages, one of the following three must be true.

Is the number on both sides the same? Is the number on this side higher? Is the number on the other side higher

Well what will happen?

I hope you understand this issue and vote for it, until then we won't move on.

Quietly think for two minutes, and let's all come up with an answer.

Now, let's compare the number of coin tosses that came up heads-tails-heads first with the number of times they flipped heads-tails-tails.

Does anyone think A is true? "On average, the number of fronts, backs, and fronts is more than fronts, backs, and backs."

Who thinks B is true? "Same average number"

Who thinks C is true? "On average, the number of fronts, backs, and fronts is less than fronts, backs, and backs."

Who hasn't voted yet? that's no good

(Laughter) Most people think B is true.

If you know that super-talented mathematicians think that way, you'll feel a little more at ease.

But A is the truth

This average number of times is higher

In fact, the average number of heads, tails, heads is 10, and the average number of heads, tails, tails is 8.

How did this happen?

Is there a difference between the two patterns?

Front-back-front overlaps itself

If it comes up heads-backs-heads-backs-heads, that pattern has occurred twice in just 5 tosses.

Front-back-back does not happen

that's the liver

there are two ways of thinking

let me explain one

Remember what you just did

People on this side were expecting heads-backs-backs, and people on the other side were expecting heads-backs-heads.

You toss a coin and it comes up heads, and you sit back in your chairs because something really, really, really cool is about to happen.

The next toss is the back, I'm happy

Champagne on ice is nearby There are festive chilled champagne glasses

hold your breath and wait for the final toss

The next table will be great!

Hooray! Congratulations!

If it's in the back, I'll be a little disappointed, throw away the champagne glass, and return the champagne.

And then we keep tossing coins for excitement until we get the next head.

this is a different experience

the first two results are the same

I get a little excited when the first heads come up

and toss a coin

When the tails come out, open the champagne

If you get heads, you'll be disappointed, but you've still completed one-third of the pattern.

This was an informal explanation, but that's why the two patterns are different.

Another way of thinking is that if you toss a coin 8 million times and you predict that you'll get heads-tails-heads and heads-tails-tails 1 million times, you can get heads-tails-heads in chunks.

If you want to put a million things in eight million places, some of them can even overlap, and the clumps will be farther apart.

This is another way to intuitively understand

The point I want to make is that this problem

It's a very simple, succinct example of probability, and that even you here make mistakes.

There's something similar in genetics, which I'm really interested in.

Genetics also has a relationship between front-back-front and front-back-back:

When you toss a coin, the order of heads and tails occurs

If you look at the DNA, there's an order, but it's not just the two fronts and backs, it's the four letters A G C T.

And there are tiny chemical scissors called "restriction enzymes" that, when they encounter a pattern, cut the DNA there.

In modern molecular biology, these scissors are a very useful tool.

And instead of asking, "What is the length of the head, back, and heads?"

I can ask

This is a trivial matter between probability and genetics.

I don't have time to explain it, but there's a much deeper connection there, which is why modern genetics is such an exciting area of ​​science.

There's another TED talk about the same thing after this one.

With the information that comes from modern experimental techniques, the key parts of the results that we uncovered are pretty sophisticated. Rest assured, everyone, my day-to-day work is much higher and more informative than the inside out. I do very complex computer modeling, mathematical modeling, and statistical modeling.

So I'd like to tell you a little bit about two projects that my research team at the University of Oxford is involved in. They're both very interesting.

You know the human genome project

It was intended to decipher the entire genome of one person.

Now that that's done, the next step is the International HapMap project, which is a collaboration of laboratories in five or six countries.

The Human Genome Project analyzed the common genetic code of all humans, but the HapMap project is trying to understand the differences between ethnic groups.

Why is it necessary?

There are many reasons

The most urgent challenge is to figure out which genetic differences predispose people to diseases like type 2 diabetes, heart disease, stroke and autism.

this is one big project

The second big project, recently funded by the Wellcome Trust, is an ambitious project that will involve thousands of people working together to sequence the genes of eight common diseases, including type 1 and type 2 diabetes, coronary heart disease, and bipolar disorder.

We analyze the genetic differences that cause the disease.

why would you want to do that?

Because we know very little about human disease.

I don't know the cause of the disease.

If humans understood the basics of genetics, it would help us understand how disease works, and it would change the way we think about treatments, preventative measures, and so on.

Like I said before, this is part of my passion.

Let's go back to the more mundane problem of thinking about uncertainty.

I have one more quiz for you.

The test is 99% accurate

Let's say I pick one of you, or a few passers-by, and do that test.

Let's say, for example, that you're testing for HIV, and the test result is positive.

Is it possible that they really have HIV?

99% accurate test

It is normal to answer 99%

Who thinks so?

Everyone please join us!

I don't think anyone distrusts me

(Laughter) You said, "Maybe you should be a little skeptical. The answer is different."

you may think so

The answer is no, because it's still part of the story.

In fact, depending on the prevalence, the answer changes.

let me elaborate

Here's a diagram of a million people.

Let's think about a disease that has a very low prevalence of 1 in 10,000 people.

Out of a million people, most are healthy and only a few are sick.

At that prevalence rate, only 100 people are sick.

Now let's examine everyone

What will happen?

Out of 100 people with the disease, the test is 99 percent accurate, so 99 will test positive.

It's a 99% accurate test for the rest of the people who don't have the disease.

1% give wrong results

As a result, a large number of people get false positives.

It's also possible that -- out of all the people who tested positive -- these people -- there's less than a 1 in 100 chance of actually having a case.

So even the tests that seem accurate almost always need more information.

this is the key

When you test positive, what you have to do is assess its validity, or likelihood, from two competing hypotheses.

Each of those hypotheses has a little bit of success, and sometimes it doesn't.

If one person is randomly selected, one hypothesis has a very high likelihood that the person is not ill, but a low likelihood that the test result is incorrect (false positive).

The other hypothesis is that the likelihood that the person has the disease is low, but the test result is true (true positive), the likelihood is high.

Ultimately, the statistician's answer is whether the odds are less than 1 in 100, or which hypothesis has a higher likelihood than the other.

Both hypotheses have a low overall likelihood.

Let me give you a more controversial example

If you're British, you know the famous case of Sally Clark, who had two babies and died suddenly.

Initially, it was thought that the two had died of "cot death," or sudden neonatal death syndrome.

But for some reason, Sally was forced to become a murderer.

At trial, a very eminent pediatrician testified, "The odds of cot death occurring twice non-criminally in a professional, non-smoking household like Sally's is 1 in 73 million."

In short, Sally was convicted.

And then just recently, he was acquitted on appeal.

Put yourself in that person's shoes, and a man who loses two of his children in quick succession can be found guilty of murdering two of them.

The torture of a trial, being convicted of murder, and being accused by other criminals of killing a child while you're in a women's prison is truly tragic for those involved.

That's what happened, because the expert misinterpreted the statistics in two ways.

Where did the pediatrician come up with the 1 in 73 million number?

In some studies he read, the rate of domestic cot death similar to Sally's was about 1 in 8,500.

So he said, "Assume that the probability of a domestic cot death occurring once is the same as the probability of a second cot death occurring."

Statisticians call this "events are independent"

It's saying, "The first head of a coin toss doesn't affect the chance of a second head."

So the chance of flipping a coin twice and getting both heads is 0.5 times 0.5, 50% of the first time.

So he said, "Assume the two events are independent.

If you square 8,500, you get 73 million.”

It wasn't told at trial that it was an assumption, and it wasn't communicated to the jury.

I'm so sorry, I should have first checked the empirical validity of that assumption in this situation.

Second, it's an obvious error.

There are a lot of unknowns about sudden neonatal death.

There may be environmental factors as yet undiscovered, and it's more likely caused by as yet undiscovered genetic factors.

So families with cot death may belong to the high-risk group.

There may be environmental risk factors that are not yet known, and there may be genetic risk factors as well.

It's really stupid to talk about the probability of second death as if you don't know this information.

It's actually worse science than stupid.

And yet that was shown in court, and no one discussed it.

that's the first problem

The second problem is what the number 1 in 73 million means.

It's easy to imagine that after Sally Clark's conviction, it caused a stir in the press. A reporter for one of Britain's most influential newspapers wrote, "Experts say, 'The odds of this woman being innocent are 1 in 73 million.'"

yes this is a logical error

This logic error is exactly the same as the logic error I mentioned earlier, that if the test is 99 percent sure, then you have a 99 percent chance of having the disease.

There are two things to remember from that example: one is the likelihood that the test is correct or incorrect.

The other is speculation about the possibility that the person has the disease.

exactly the same thing in this situation

There is also a need for a two-step explanation.

What is the likelihood of two different events, and what about the likelihood of them occurring in relation to each other?

The first event is that Sally is innocent, which is overwhelmingly likely common sense. Most mothers don't kill their children.

The second event was her encounter with this very low-likelihood event.

It's not as bad as 1 in 73 million, but it's unlikely to happen anyway.

The event against is that Sally is guilty.

Now you would normally think of it as low-likelihood.

As a criminal trial, it should be considered less likely because of the presumption of innocence.

If she tried to kill my child, she succeeded.

The chances of Sally being innocent aren't 1 in 73 million.

I don't know what that number is

It depends on the certainty of the evidence and the statistical basis for convicting Sally.

All I know is that the children died

The issue is how connected the two deaths -- the two events -- can be.

both of these things are impossible

There was a really incomprehensible statistical error with tragic consequences.

The pediatrician's argument was used to convict two other women, who were eventually released by court.

Many cases were reinvestigated

The pediatrician is currently being questioned by the British Medical Council.

So to wrap up, what did you learn from this?

That's right, irregularities, uncertainties, coincidences are commonplace.

And you are, in many cases, a very special group, and it's not surprising that you don't understand these examples.

It's been proven that people misinterpret things.

People make logical errors with uncertain reasoning.

It's good at dealing with linguistic subtleties, but there's an interesting evolutionary question about how it got there.

We're not very good at making arguments about uncertainty.

It becomes a conundrum in everyday life

As you can see from many TED talks, statistics underpins a wide range of scientific research, not only in the social sciences and medicine, but across many industries.

Quality control, which has had a major impact on the production process, is all backed up by statistics.

Understanding that is where we are not good at.

We tend to ignore it, but at the very least we should be aware of it.

If you go back to the Sally Clark trial, all the lawyers were at the mercy of the experts.

So a pediatrician told the jury, "I know how to build bridges, because I've built bridges down the road.

Take that bridge home," and I'm sure you'll say, "A pediatrician building a bridge?

That's what engineers do."

And yet, he was persuasive when he said, "I know how to deal with uncertainty, because I understand statistics."

And they said, "Good, he's an expert."

So we have to understand what we are good at.

Exactly the same problem arose in the early days of DNA profiling, when scientists, lawyers, and even judges repeatedly presented evidence incorrectly.

It's usually not malicious -- I hope so -- I gave false evidence.

A criminologist once said, "The odds of being innocent are 1 in 3,000,000."

Like the 1 in 73 million number, even if you believe the number itself, it doesn't mean that.

This has led to a series of well-known appeals in the UK and other countries.

To conclude with a discussion of the legal system,

It's often said, "Do your best to present evidence."

In cases like DNA testing, the same thing happens over and over again. Juries are ordinary people and have been proven to be bad at verification, but we expect them to be able to deal with the recurring arguments.

Except maybe when it comes to politics, you think it's a bad idea to argue logically in some aspects of your life and illogically in others.

It may happen to politicians, but I don't want it to happen anywhere else.

But when dealing with uncertainty, we make mistakes all the time, and at the very least we need to be aware of it, ideally if we can do something about it.

thank you

On May 30, 1832, a single gunshot rang out in the 13th arrondissement of Paris.

(Gunshot) A farmer who had come to the morning market went to the direction where the gunshot had come and saw a young man struggling and suffering.

The name of the young man who was shot was Evaristo Galois.

He was a well-known Parisian revolutionary at the time.

Galois died at a local hospital, surrounded by his brother Alfred.

The last words he left for his brother were: "Alfred, don't cry.

It takes a lot of courage to die at 20."

Modern Galois is not famous for revolutionary activity.

A few years earlier, while still a student, he had solved one of the greatest mysteries of mathematics at the time.

I submitted a paper describing this theory to the Paris Academy of Sciences.

Academy members couldn't understand what was written.

(Laughter) This was the way he wrote mathematics.

On the eve of the duel, I thought this was my last chance, and I tried to write down his great achievements.

I stayed up all night writing and trying to save his ideas.

And when dawn came, he had his fateful moment, and there was a stack of papers left on his desk.

Maybe staying up all night doing math is why I lost the duel.

His writings provided a new language for understanding the concept underlying science: symmetry.

Symmetry is the language of nature.

It helps us understand a lot of different scientific things.

For example, in the molecular structure

Through the mathematics of symmetry, we can understand what crystal structures are possible.

In microbiology, symmetrical objects are usually troublesome.

swine flu virus

It takes advantage of the efficiency of symmetry to be highly infectious.

On the larger scale of biology, symmetry drives the transmission of genetic information.

There are two photographs and a symmetrical version of them.

Which one do you think is more beautiful? It's probably the bottom two.

Because it is difficult to create symmetry

If your body is bilaterally symmetrical, it's a sign that you have good genes, a healthy upbringing, and a good marriage partner.

So symmetry is a useful language for transmitting genetic information.

It also helps explain what's going on inside the Large Hadron Collider at CERN.

Or what's not happening...

It also helps us predict what particles we might find, all of which are potentially different cross-sections of symmetry in high-dimensional space.

Galileo captures just how powerful mathematics can be in making sense of the scientific world around us.

"The great book of the universe cannot be deciphered unless one learns the language in which it is written and becomes familiar with its letters.

It is written in the language of mathematics, and the letters are triangles, circles, and other geometric figures, and without knowing them, one cannot understand a single word."

But scientists aren't the only ones interested in symmetry.

Artists also love symmetry

they have a different point of view

In the novel The Magic Mountain, Thomas Mann

I had the characters say about the snowflakes, "It was so horrifyingly perfect that it seemed like the core of death."

But artists like to imply symmetry and break it on purpose.

When I visited Japan and went to see my colleague Professor Kurokawa, I came across a very good example.

He took me to Nikko Toshogu Shrine

This photo was taken just after climbing the stairs

You can see the gate in the background.The gate has eight beautiful symmetrical pillars.

Seven of them are exactly the same, but only one is upside down.

"When the architect who made this realized he accidentally turned it upside down, he must have thought, 'Oh my gosh!'" I said.

The professor replied, "No, no, this is on purpose."

And he gave me a nice passage from the Japanese classic "Tsurezuregusa": "It's not good for everything to be perfect.

It's fun to leave the unfinished business as it is, and it also leaves the fun ahead."

Even when we build the Imperial Palace, we always leave one place unfinished.

But if I choose one building and live in it for the rest of my life, if I'm symmetry addicted, I'd choose the Alhambra.

This palace is the epitome of symmetry

My family and I often take math geek trips

This is my son Tamar, and he seems to be enjoying his "mathematical" journey a lot.

But there was something more I wanted to show my son.

School math classes don't teach you how math relates to the real world.

So I wanted to show my son the symmetry of the Alhambra.

The first thing you notice when you enter the palace is the symmetry reflected in the water.

But what's particularly nice is this wall here.

Moorish artists were forbidden to paint idols.

So they pursued geometric art.

So what is symmetry?

When I go to the Alhambra, one question after another comes to mind.

What is symmetry? When can we say that two patterns have the same symmetry?

Did the Moors leave all possible forms of symmetry in the Ahambra?

Galois created a language to answer exactly this question.

For Thomas Mann, symmetry was death and stillness, but for Galois, symmetry was movement.

What can you do to move a symmetrical figure so that it looks the same as it did in the original state?

Let's explain by using a magic trick as an example.

while you close your eyes

If you secretly move it and return it to its original place,

What kind of movement would make it look the same as it did in the beginning?

For example, the Alhambra wall tiles can be rotated 90 degrees around the location of the yellow dots to match the pattern perfectly.

Even if I open my closed eyes, I don't notice that I've been moved

But it is this movement that characterizes the Alhambra's symmetry.

At the same time, it leads to a language that describes symmetry.

Mathematics works by transforming one thing into another, and here we transform "geometry" into "language."

Now let's dive a little bit into the math. Are you ready?

Suppose we have two symmetrical figures

It's a slightly twisted starfish shape.

How can I move it so that it looks the same as the original?

Yes, if you rotate it 1/6, it looks the same as the original.

A 1/3 turn is fine, a half turn, or a 2/3 turn is fine.

A fifth symmetry could be a 5/6 rotation.

You can do something like this to move the symmetrical shape so that it looks the same as the original.

There was actually a sixth symmetry for Galois.

Is there any other way to make the shape look the same as the original?

The protrusion is slightly twisted, so it cannot be turned inside out.

There is no reflection (mirror) symmetry

But you can keep it still, pick it up and put it back in place.

For Galois, this was the zeroth symmetry.

In fact, the concept of zero was only recently invented by Indians in the 7th century BC.

It's strange to count "nothing"

This zeroth symmetry is the same idea.

There are 6 types of symmetry for this figure

what about triangles

Can be rotated 1/3 clockwise or 1/3 counterclockwise

Since this time is reflection (mirror) symmetry,

Invert the line through X or the line through Y or the line through Z

There are five kinds of symmetries, plus the "as is" zeroth symmetry.

Both figures have 6 symmetries

Mathematics isn't like watching sports, you have to actually do the math to understand it.

so let's ask a simple question

And at the end of this talk, I will give a prize to the person closest to getting it right.

It's a Rubik's Cube

How many symmetries does the Rubik's Cube have?

How many operations do you have to move like this to keep the shape of the cube?

Okay, for a while now, think about how many symmetries there are.

and give a prize to the person closest to the correct answer.

So let's go back to the two shapes we talked about earlier.

Galois realized that what characterizes the symmetry of an object is not the individual symmetries of the object, but the relationship between them.

If you do more than one kind of operation in a row, this combination is equivalent to another operation.

This was Galois's language for understanding the abstract ideas behind the symmetry of this object.

For example, what happens if you turn a starfish mold first 1/6 turn and then turn it 1/3 turn?

For illustration, let's name the rotation operations A, B, C, D, E, F.

For example, B rotates the yellow point to match the b point on the shape.

What happens if you turn B, or 1/6 turn, then C, or 1/3 turn?

Let's do it, first a 1/6 turn, then a 1/3 turn.

Recorded in this table are the results of these symmetry calculations

If you do the first operation, followed by the second operation, the result is a rotation of D, which is a 1/2 rotation.

So if we change the order, would it make a difference?

First 1/3 turn, then 1/6 turn

of course the same result

i.e. 1/2 turn

This combination of operations also exhibits symmetry

It's completely different with triangles.

Let's see what happens to triangles when we perform two symmetrical operations in succession.

Rotate it 1/3 counterclockwise and then mirror it on the line through X

The combined result is the same as mirroring it about the axis through Z.

Let's do it in a different order this time.

Flip on the X axis first, then rotate 1/3 counterclockwise

the result will be completely different

This is the same as inverting with a line through Y

In this case the order matters.

These two figures both have six symmetries, but can we say they have the same symmetry? Can we say they have the same symmetry?

Knowing how symmetries interrelate allowed me to say that they were actually radically different symmetries.

You can easily try it yourself with beer coasters

Rotate the coaster 90 degrees to flip it over, then do the same thing in reverse order this time so the pattern is upside down from the beginning.

Galois created a law about the interrelationships of symmetries like this table.

It's like a grid of Sudoku

The same symmetry operation can appear only once in each row and column

And by using this law, they concluded that there are actually only two shapes with six symmetries.

Something with the same symmetry as that triangle, or something with the same symmetry as that starfish.

really great result

You could say it's the invention of the concept of thinking of symmetry like a number.

There are 1, 2, 3 people sitting in 1, 2, 3 chairs in the front row of this hall.

A chair and a person are completely different, but they're the same number, the abstract notion of a number.

The same can be seen in the tile patterns on the walls of the Alhambra.

Here's a completely different pattern on two walls.

But using Galois' language, we can see that the underlying abstract symmetry of these is the same.

For example, take a look at this slightly twisted triangle pattern.

If we choose to ignore the color, we can rotate it by 1/6

A 1/6 turn will not match the colors, but all the triangles will overlap around this center point.

What if we take the center of the triangle as the axis, and if we rotate it 1/3, it overlaps the original shape?

And then there's an interesting spot in the middle of the side, if you rotate it 180 degrees.

tiles overlap

In other words, even if it is rotated at the midpoint of the side, it overlaps with the original shape.

Now let's look at a wall with a completely different pattern.

you can find the same symmetry and the same correlation

Both 1/6 rotation and 1/3 rotation overlap the Z-shaped part

It can also be rotated halfway in the center of the hexagram

The patterns on these walls look completely different, but using the language invented by Galois, we can say that the underlying symmetry is exactly the same.

This example is called 6-3-2 symmetry

This is yet another diagram of the Alhambra.

Walls, ceilings, and floor patterns

It looks quite different, but according to Galois' language, it's a different phenotype of an abstract motif that's equivalent in symmetry. This pattern has two quarter-rotation positions and one half-rotation position, so it's called 4-4-2.

And this Galois language is even more powerful: you ask and answer the question, "Has the Moorish artist found all possible symmetries?"

The answer is, "I found almost everything."

Using the Galois language, a total of 17 different symmetries are possible on the walls of the Alhambra.

Even if you come up with the 18th pattern, it will always be one of the 17 patterns.

We know that we end up with the same symmetry.

In addition, using Galois' language, we can create symmetrical figures of worlds we've never seen before, beyond two and three dimensions, to four, five, and even infinite dimensions.

That's what I'm working on, creating mathematical objects, symmetrical objects in high-dimensional space using Galois' language.

I think it's a great example of the power of mathematics to be able to create things you can't see.

So, like Galois, I stayed up all night last night to build a new mathematical symmetrical object for you, and here's a diagram of it.

Yes, I can't say it's a picture Can you bring me that board?

Unfortunately, I can't show you a diagram of this symmetrical object.

But here's a language that describes what symmetry properties there are.

Now, this new symmetrical object doesn't have a name yet.

Some people like to name moon craters or new species of animals after themselves.

So let me give you a chance to put your name on a new symmetrical object.

The species will go extinct, and the crater will be destroyed by another meteor impact, but this mathematical object is eternal.

I have the power to make you immortal

To win this symmetrical object, I want you to answer the question I asked you at the beginning.

How many symmetries does the Rubik's Cube have?

let's try

Instead of having each of you answer, count how many digits you think of.

If you're thinking of the answer in terms of factorials of numbers, expand out.

So if you want to play this game, and you have an idea of ​​the number of digits,

Can you please stand up? The first participant is here

If there's no one else, he'll be the winner.

Okay 4th person... 5 or 6 people are participating

great it's time to start

If you're thinking less than 5 digits, sit down. Your estimate is too small.

If you have 5 digits or less \_ that is, 10000 or less, please sit down.

Please sit down even if it is larger than 60 digits

too big

Everyone below 20 digits is also a loser

How many digits did you think of?

2 digits?

(Laughter) Let's check everyone else.

If you are sitting now, please stand up.

How many people were there?

everyone who just sat down

How many digits did you think of?

(Laughter) You're 21, okay, who are you?

18\_Then this lady's answer

21 digits is the nearest number

The actual answer is that the number of symmetries in the Rubik's Cube is 25 digits.

So let's name this object

What is your name?

Can you tell me your last name?

G-H-E-Z sorry SO2 is already in another mathematical language so I can't use that name

Here's your new symmetrical object, Ghez

You are now immortal

(Applause) If you want a symmetrical object, I'm doing an educational aid project for Guatemala, so if you can donate to the children of Guatemala, I'll stay up all night and make a new symmetrical object for you.

What drives me as a mathematician is this undiscovered, undiscovered stuff like this.

Unanswered questions are what make mathematics a living subject.

And I'm always reminded of a passage from Tsurezuregusa, "It's not good for everything to be perfect.

It's fun to leave the unfinished business as it is, and it's also possible to leave the fun ahead." Thank you very much.

(applause)

I like the cartoon character Snoopy

I like that style of sitting or lying on a doghouse and thinking about life.

When I thought about compassion, I was immediately reminded of a cartoon scene where Snoopy, lying in his doghouse, said, "'Love your neighbor as you love yourself.'"

"The problem is... those people who live next door. I just can't stand it."

It's not easy to implement such a great idea.

No one doubts that mercy is important

If you think about all the religions of the world, all the major religions, you will find that they all have a teaching about mercy.

Of course, there is also Judaism. The Five Books of Moses teach us to love our neighbors as we love ourselves.

Also, in the teachings of the Jewish rabbis, there is Hillel's precept: "Don't give to others what you don't want."

All major religions have similar teachings

Judaism also has a teaching about a God, a God called "Halachman," the Merciful.

The world could not exist without God's mercy

As the Pentateuch says, we are merciful because we were created in God's image.

what does this mean? And what impact will it have on your life?

Compassion, of course, can cause emotions that are hard to control.

So many times when I have performed a funeral, or been with a family member, or been with a person on their deathbed, I have been overwhelmed by the grief and the severity of the situation.

My heart is moved and I can't help but cry

But if I let these feelings overwhelm me, I'll be giving up my job, because I have to support the bereaved family and the person, and perform the ceremony without delay.

But on the other hand, if I don't feel pity, then it's time for me to take off my robes and stop being a rabbi.

We all have these feelings in life

Who does not feel pity? What if we witnessed the dire consequences of war, famine, earthquakes, tsunamis, etc.?

Some people say things like, "There's so much going on in the world that I can't do anything about it."

Some people involved in philanthropy call this "compassion fatigue."

Some people, unable to face the feeling of pity any longer, turn off the TV and stop watching it.

In Judaism we believe there is always a compromise

Of course, you have to be aware of the needs of others, but in doing so, you should be reaching out to others as you move forward with your life.

So mercy also requires an understanding of what motivates people.

Of course, you can't do this without first understanding yourself

The rabbinical teachings have this wonderful interpretation of the beginning of creation: When God created the world, God thought, that it would be best to create a world in which only divine justice exists

because God is just

the world should be full of justice

But when God looked to the future, he realized that a world with only justice could not survive.

So God thought, "Let's create a world where only mercy exists."

God looked to the future again and realized that a world filled only with mercy would be chaotic and chaotic.

everything needs a limit

Rabbinic teaching compares this to this: There is a king with a beautiful and fragile glass vessel.

If you put too much water in the vessel, it will break.

Even if you put hot water in it, it will break.

What should I do? You should put water and boiling water together

So God created a world of both justice and mercy.

What else do you need

It's about how you express your feelings, how you express your feelings of pity in the world. to express in action

You can't just lie down like Snoopy and think about the person who lives next door.

I have to move

There are other teachings in Judaism about love and kindness that are very important. It's called "quesed"

These three elements must be integrated

With justice, we can set boundaries in our lives; we can decide what is right in life and living; we know what we should do and what is social justice.

You must have the will to do good, but don't let it take away your peace of mind.

When you give something to others, it is meaningless if you do too much.

We are compassionate at heart.

We feel mercy naturally because we were made in God's image, and God is the Merciful.

What exactly does it mean to be merciful?

to understand the pain of others

And more importantly, to understand that we are connected to the world, to understand that we are part of the world, to understand that there is something that connects everything we see, hear, and feel.

I call it God of Unity

It connects everything in the world

In this day and age of the environmental movement, we are becoming increasingly aware of this connection. What I do here affects Africa. If I emit too much carbon, my actions will cause droughts in central and eastern Africa.

So the world is connected, so I have to understand that I am part of this connection, part of God's creation.

And I must understand that what I need may be limited by other needs.

This 18 minute speech is very interesting.

In fact, in Judaism, the number 18, when written in Hebrew, means life.

So, in a way, I feel like this time I have to talk about what's important in life in relation to compassion.

And let me tell you one more thing: 18 minutes is actually a very important time.

In Judaism, unleavened bread is eaten during the feast of excess, but according to the rabbi, the difference between dough for ordinary bread and dough for unleavened bread, or "matzah," is

18 minutes

Because it takes 18 minutes for the dough to rise.

What does it mean when the dough is fermented?

It is the dough is inflated with hot air

So what is matzah, or unleavened bread?

According to the rabbis, the unleavened bread symbolizes Passover, the hot air, the pride, that you should let go of the idea that you are the most important thing in the world and that the world revolves around you.

So we let go of these thoughts, and in doing so we let go of habits, feelings, and ways of thinking that limit us, blind us, narrow our horizons, and keep us unaware of the needs of others.

This is also necessary to be compassionate and to understand the connection between ourselves and the world.

Now there is a very nice story in Judaism, one day a wealthy man went to the chapel.

And during the service, I dozed off like everyone else

At that time, I was just reading a passage from Leviticus in the Pentateuch.

It was an ancient story. It said that long ago the priests of the temple in Jerusalem used to place bread on a special table in the temple.

A drowsy man was awakened by hearing 'Bread', 'Temple' and 'God'

And said, "God wants bread. Got it! What God wants!"

Then I hurried home. After the Sabbath, the man baked twelve loaves of bread and took them to the chapel, opened the tabernacle and said, "God, I don't know why you need bread, but I brought it anyway."

The man placed the bread and the five scrolls of Moses in the tabernacle

men go home

A cleaner came to the chapel

"Oh God. I'm really in trouble. I have to feed my children."

"My wife is sick and I have no money. What should I do?"

He went into the chapel. "God help me"

"Oh, it smells so good."

The man approached the tabernacle and opened it.

"Bread! Thank you God for granting my wish!"

Then take the bread and go home

At that time, a wealthy man was thinking, "How stupid I am. God doesn't need bread."

"There's no way the God who rules the universe needs my bread!"

Then I hurried back to the chapel. "I have to bring it back before someone finds it."

The man opened the tabernacle, but there was no bread

The man said, "God, you really wanted bread. My bread."

"Next week, I'll bring you bread with raisins in it."

The men continued to offer bread for years afterward.

Every week I baked bread with raisins and other ingredients and took it to the chapel.

On the other hand, the cleaner also visited the chapel every week. "God, you have answered me again."

and took the bread and brought it home

This continued until a new rabbi arrived. Rabbi is really a nosy person

The rabbi realized what was going on

call them to me

I told them what was really going on

The wealthy man, pitifully, said dejectedly

"Are you saying God didn't want the bread?"

The poor man said, "Are you saying God didn't answer me?"

"No," said the rabbi

"You seem to be completely misunderstood."

The rabbi said to the wealthy man, "You are answering God's desire that men should be merciful."

He said to the poor man, "And God is merciful and answers your request to give."

The rabbi took the wealthy man's hand and said, "Did you know your hand is the hand of God?"

So, I believe that in order to be compassionate, and to understand that the world is one and that it is connected, it is necessary to have this attitude.And with this attitude, I would like to contribute to this one world.To do so, we must try to understand the pain of others, and on the other hand, we must understand that there are limits, that sometimes people have to take responsibility for the problems that befall them, and that there are limits to what people can do, and that they can't give everything they want to give.

I have to rethink and detach from material things and emotions that may be limiting me, and only then can I see the world clearly.

And I have to explore how I can make this hand "God's hand"

And I will try my best to bring mercy to this world.

Once a human child is born, it remains a consumer for a very long time.

cannot contribute to society

Helpless

I don't even know how to survive Though I've been given the instincts to survive

stay alive need help from mother or nanny

You can't doubt someone who will take care of you

We have to completely surrender ourselves, just as we trust our anesthesiologist completely.

You have to surrender completely

it takes credit

It means you need someone you can trust, someone who won't betray that trust.

As children grow up, they begin to realize that the people they trusted are betraying their trust.

Children don't even know the word betrayal

That's why children end up blaming themselves. Silent betrayal is even harder to truly resolve. Silent self-blaming.

As children grow up and become adults, they were just consumers until then, but human growth is about how much you can contribute, how much you can be a contributor.

To contribute, you have to know that you're safe, that you feel great, that you're good enough.

Compassion is not trivial

it's not that easy

You must feel the greatness that exists within you

That greatness must be centered in yourself, not in money, not in the power you wield, not in any position that commands you in society, but it must be centered in yourself.

Self you are conscious of

It must be the center, the great whole, above the self.

Otherwise compassion is just a word, a dream.

Sometimes empathy is more compassionate than sympathy.

I am glad that we can sympathize

If someone is in pain, you can feel pain.

Two players are fighting in the Wimbledon final.

Both players have won two games each.

I can't predict who will win

Efforts made so far are meaningless

whichever player wins

Two players approach the net and shake hands, and that's the rule of tennis.

The winner takes the crowd and kisses the ground Throws his shirt as if someone's been waiting for his shirt

(Laughter) And the winner must come to the edge of the net.

When the winner is near the net, his expression changes.

Makes a face as if I wish I hadn't won

Why? I sympathize

this is the human heart

If you have a human heart, you can't deny empathy.

No religion can brainwash humanity out of compassion

No culture, no nation, no patriotism can change human empathy, because that's what empathy is.

The ability to empathize with others is also a window through which you can reach out to others for help. You do something that changes someone's life (besides life), even words, even time.

Compassion doesn't have one definition

There is no such thing as compassion only for Indians

There is no such thing as compassion only for Americans.

Caring for people's hearts has nothing to do with nationality, gender or age.

why? because it is for everyone

Sometimes we experience the compassion of others

Now, this frequent compassion is not what we think of right now, because it's not something that happens every once in a while.

You can't force people to be compassionate.

you can't say "love me"

love is what you discover

Love is not an action, but in English, love is also an action.

we'll talk about that later

People should be aware of the wholeness

I'm talking about the possibility of becoming whole, which is in our experience, in every human experience.

No matter how bad your life is, you can be happy on rare occasions.

A happy person will accept themselves and who they are in themselves, even if it's a slapstick comedy.

the entire universe, known or unknown

It's about embracing them all completely, because you find wholeness within yourself.

The subject, which is me, and the purpose, which is the way things are, will all come together so that no one will say, "I am denied."

It makes you feel happy despite all the limitations we all have: desires, aspirations, unfulfillment, credit cards, layoffs, and finally baldness.

An extension of this logic is that you don't have to satisfy your desires to be happy.

Because you yourself are the happiness and the whole that you desire.

There is no other choice. You can reaffirm the fact that the whole is you and nothing less than you.

it has to be you

you are not part of the whole, you are the whole

Every moment you think you're happy, the reality, the realization, the perception is renewed. Maybe I'm the whole.

swami may be right

Swami may be right then a new life begins

then everything will make sense

i have no reason to blame myself

If you have to blame yourself, you'll come up with a million reasons

Even though your body is limited If it's black it's not white If it's white it's not black Your body is limited depending on which way you look at it

Your knowledge is limited, your health is limited, so your power is limited, and your gaiety will be limited.

And compassion is limited.

everything is going to be unlimited

The only way you can care for people is when you let go of the limits, then everyone can break the limits.

And people can't help but remove restrictions

Through experience, regardless of all limitations, man learns that he is whole.

When you face the world, the whole is also your reality.

first there is love

What we call love when you face the world and see it in its entirety

If the object you're facing evokes that feeling, that's compassion.

and giving morphs into sharing

We express ourselves because we are compassionate

To discover compassion, you have to become a compassionate human being.

To find the space to give and share, you must give and share.

There are no shortcuts You can't swim without swimming

you learn to swim by swimming

You can't practice swimming on a mattress and then go into the water.

(Laughter) You can swim and learn how to swim You can ride a bike and you can ride a bike

Learn to cook by cooking If you surround yourself with caring people who will eat your food

(Laughter) That's why I'm telling you, even if you can't do it, just start.

(Laughter) That's what you need to do.

my predecessor said

first you have to show your attitude

Compassion must be demonstrated

There is no verb for compassion in English, but there is an adverb

i think this is interesting

act compassionately

But how do you act when you have no compassion?

I'll try it first

Even if you can't do it, try it. That's the American mantra.

(Laughter) Just start

Act like you're considerate Act with compassion Grit your teeth Use all the strength you've got

you know how to pray

pray for compassion

May you become a caring human being

give it a try

You will find compassion within yourself, and little by little you will find something akin to compassion, if you learn it the right way.

Thank you very much

(applause)

Compassion What does compassion look like?

In the house where I was born and raised at 915 South Bloodworth Street in Raleigh, North Carolina.

At dinner, the table had enough food for all 10 of us, but not all 10 of us were always there when dinner was ready and ready to eat.

A mother of eight children sometimes couldn't tell them apart or keep track of where they were.

Before dinner, my mother would ask, "Is everyone ready?"

And if someone wasn't there, the kids would say, "Let's go get some food," and put them in the oven for their siblings who weren't there.

Also, during meals, our family had rules. If someone in our family did something special, like my mom was elected president of the PTA, or my dad was called to work at our denomination's college, or one of my brothers won a poetry reading contest, we had to spend five to 10 minutes doing what we call "re-praise" for that person.

Because the honor of one person was the honor of all.

I also had to report a visit to relatives, and I was visiting relatives who were sick and old and tended to stay at home.

My assignment was to visit Mother Leslie's house on East Street, Mother Williamson's house on Bledsoe Street, and Mother Lather's house on Oberlin Street, at least once a week.

why? Because they were all old and frail, and we had to go and see if they needed anything.

My mother said, "Family is about caring, sharing, and helping each other.

And they are our family."

Of course, sometimes when I visit, I give them sweets, pocket money, etc.

Sometimes I got a bonus

My mother used to say, "If they ask you how much it costs you to shop, you have to say, 'No, it doesn't cost anything.'

In fact, I think she wanted us to know that not only can we feel the joy of being grateful to our relatives when we help them, but that God also smiles at such times, and when God smiles, there is peace, justice, joy.

And so, at the table at 915, I learned about compassion.

I must add that God helped me because I came from a pastor's family.

And then I began to think that the Eternal Mother was always asking, "Are all the children ready?"

If we stay true to our teachings and continue to help and share with each other, we will feel that there is justice and peace in the world.

That said, mealtimes weren't always great.

Let me tell you about a time when we didn't cope well.

It's Christmas time and my family is on Christmas morning.

We opened Christmas gifts, said special prayers, played old upright pianos, sang carols, and had a very relaxing time.

On Christmas morning, without a shower or a change of clothes, I could pick up gifts from under the Christmas tree, get ready to sing, and wait for breakfast.

One of my father's co-workers had nowhere to go to celebrate, even though it was Christmas.

So my father brought the old Mr. Lovell to a family Christmas party.

we thought my father was crazy

this is our family relaxation time

When it's time to be who we are And there's still one of us in our pajamas, stiff in a shirt and tie

I wonder why Dad brought Mr. Rabel with him?

It's fine when it's not Christmas celebration

My mother overheard us saying, ``Do you know what it means to celebrate Christmas?

That's the real reason we celebrate Christmas

It's time to make space for others to come in between the ones you love and share the joy of life."

and we decided to behave

(Laughter) But the kindness that was nurtured on 915 is not the kind of kindness that we're going to discuss about how brothers and sisters can live together.

It was kind of like a sense of what to do

As Chief Seattle used to say, we don't weave our own web of life.

We are just some of the threads that make up the web

Everything we do comes down to ourselves

that's caring

i see the world like this

When I see a picture, I say, "This is compassion."

Seeing a field with grain left in the corner after the harvest reminds me of the Hebrew tradition that we could harvest, but just in case, we leave a little in the corner for someone who won't get a share of the harvest.

Now let's talk about the image of compassion.

The first thing that always impresses me is Martin Luther King Jr.

Andy Young, Rabbi Heshuel, and possibly Tetch Na Han, walking arm in arm, meeting with some pastors, walking across the bridge, heading towards Selma.

It's just a photo

Fold your arms to fight the pain

It's a picture of sharing our sufferings with the common hope that we can all be brothers and sisters, without the differences in our origins and ethnicity robbing us of the harmony of life.

And here's another photo I really love this photo

We were all furious when Dr. King was assassinated.

You may have heard that there were riots all over the place.

Bobby Kennedy was going to deliver a message to the heart of Indianapolis.

Here's a picture of it.

he insisted that he must go

Bobby got into a flatbed truck with some of the older people in the community, got up and said to everyone, "I have bad news for you guys.

Some of you may not have heard that Dr. King was assassinated.

I understand your anger, and I understand your desire to take revenge right now if you have the chance, but I want you to know that I know how you feel.

Because someone important to me was stolen from me too

i know how you all feel

I want everyone to have the same strength as I did at that time.

I let my anger and my bitterness and my sorrow boil for a while, and I decided to create a different world in my mind, and I hope you will too."

I think this is just compassion.

When I was a pastor of Riverside Church, I also saw compassion when the Dalai Lama visited the church, where he invited representatives of traditional beliefs from around the world.

The Dalai Lama invited them to share their teachings, and the representatives read out in their respective languages ​​the central maxims of each sect.

Twelve priestly teachings, traditional cultures and tribal lore conveyed one and the same message.

“We are all connected, and we must help each other by thinking that what we do to others is the same as we do to ourselves.”

Here's a picture of me, about Riverside Church, when I was giving a discourse in Chagrin Falls. September 11th was the last night in Chagrin Falls.

It was the most intense moment of my life

we were all suffering

But you invited all the church representatives and gathered them all together

"Find out what you teach that shows how we should deal when we are humiliated, disrespected, and rejected," he said, and they talked about their teachings and the healing power that comes from uniting one another.

I consciously developed a sense of compassion, but I became a pastor.

Now that I've got a job as a pastor, I'm in a position to teach people, but I also have to keep myself compassionate.

God said to his friends, "If anyone preaches the gospel,

I have to understand and shape the gospel."

So the real question is, how can we embody compassion?

How can we do that in the real world? That's what it means

My beliefs have always held this ideal high and challenged me when I didn't deserve it.

Among my teachings is a gift for all who know the teachings of the Good Samaritan.

Many people first think of the teachings of the Good Somali in terms of philanthropy, unreserved kindness.

But those who study the original text a little more closely will have some questions about this fable.

The question "What is the greatest commandment?"

According to Jesus Christ, the answer is, "Love yourself, love yourself, love your God and love your neighbor with all your heart."

Then the question arises, "So what is a 'neighbour'?" To that question, Christ will quote the story of a man who fell among thieves, and will tell how the religious authorities have gone astray, and how their supporters have gone the other way, too. "

"I'll pay you this much first, but if you need more, promise me you'll give him what he needs.

I'll provide whatever you need, and I'll pay for it when I return."

This parable makes me ponder what it means to be a Good Samaritan.

A Good Samaritan isn't just someone who is quick to help others and has a benevolent heart, it's someone who builds a system to keep that help going. I like this idea.

I think this parable is where the Bible refers to medicine and the devotion to "do whatever it takes" and how all of God's children need help so they can answer "yes" to Mother God's question, "Are you all well?"

It's a wonderful joy for those looking to make compassion a reality.

When I look back on my work as a pastor, I think I was involved in spiritual support for homes, for health, for sinners, for the infirm, for children, for orphans who were born, raised, and had no future in life.

Being a pastor is about responding to these individual requests.

But now, as a Good Samaritan, and as I always say, to be a Good American, I don't give myself credit for the individual help I've given.

Compassion Becomes a Cohesive Motivation

What I've done around the table in Bloodworth Street must be done at dinner tables and religious ceremonies until we're all a family and understand the essence of unity.

we are all one

What am I going to mean when I think of compassion Let me explain why I think compassion is so important at this time.

And let's make a deal about caring

The reason compassion is important is because this is a very special time in history.

Now is the time to talk about God's favored days or years according to the Bible.

This is the season of God's love

Something unprecedented is starting to happen

Please allow me, as a black man, to celebrate the election of President Obama as a sign that things are going to be different.

but there's still a lot to do

We must bring health, food, education and respect to God's children, remembering our eternal mother.

Finally, let me tell you that whenever I feel deeply about something, it usually takes the form of poetry.

A little song at the end

I would like to conclude this story with a nursery rhyme, for we are all children at the eternal mother's table.

And if the Eternal Mother teaches us correctly, this song will mean not only to us gathered here, but to all who agree with this arrangement.

That is the significance of what we do today.

♪Today I make heaven happy♪ ♪I receive God's love and share it♪ ♪I look up to the heavens and they smile at me♪ ♪I'm so happy right now, can't you see? ♪ ♪ I'm so happy Look at me I'm so happy Don't you see? ♪ ♪ Sharing makes me happy And makes heaven happy ♪ ♪ I'm so happy Look, I'm happy Can't you see? ♪ ♪ Let me share a happy and loving smile with you ♪ This is compassion. (Applause)

I want to talk about compassion from the perspective of Islam, even though you might not think Islam is a faith based on compassion.

it's not

Our holy book, the Qur'an, has 114 chapters, and each begins with a phrase called Basmara, "In the name of Allah, All-Merciful, All-Merciful." Or Sir Richard Burton, husband of Elizabeth Taylor.

And in the Qur'an, the word of God for Muslims, there is this teaching: Allah taught Muhammad, the last of the Prophets of Islam, including Adam, Noah, Moses, Abraham, and Jesus Christ, "I have sent you only as a mercy to the world."

For us Muslims, it is our mission and meaning to follow the Prophet Muhammad and become like him.

The Prophet Muhammad tells his followers, "Be like God."

And the first thing that Allah embodies is mercy. The Koran says, 'Allah makes mercy his movement' or 'He restrained himself with his mercy.

So far so good, but where did we go wrong? Why is there so little mercy in the world today?

Let's answer this question from the path of religion.

All religions have an inner way and an outer way, you could say the ecclesiastical way and the mystical way.

The mystical path of Islam is commonly called Sufism, or Tasauf in Arabic

These masters, these Sufi masters, use the teachings of our prophets to reveal the cause of our troubles.

In one battle the Prophet says to the Apostles: "The petty squabbles are over. We're back to the bigger battlefields, the bigger battles."

The apostles said, "Prophet, we are tired of fighting.

How can we have any more fights?"

The Prophet answers. "This is a battle with the self, the ego."

The root of all evils of mankind is caused by egoism, "I".

Rumi, the Sufi master, as you may know, tells the story of a man he visited at a friend's house. A man knocks on the door. Then a voice asks, "Who are you?"

The man replied, "I am," or more grammatically correct in English, "It is I]."

The voice replies, "Go home."

After that, the man returned after years of training, discipline, exploration, and suffering.

A man with a great deal of humility knocks on the door again.

The voice asked, "Who is it?"

"It's you, oh sad one."

A moment later the door opened and the owner of the voice said. "You can come in. There is only one 'me' who can stay in this house."

This story shows the path of the seeker

There can only be one ego before God, and that is the only ego of God.

In the Hadith of Islam, God says, "My servants, creations, and mankind can approach Me only by doing what I tell them to do."

Employers will understand

I want employees to do what they are told to do first, but after that they can do something else

I'm in trouble if you don't do what I'm told

God continues. "The more you do what I tell you, the closer you will come to me."

When I love my servants, I will be their eyes to see, their ears to hear, their grasping hands, their walking feet, and their understanding heart."

The unity of the ego and God This doctrinal purpose is the basis of all our faith.

Muslims regard Christ as the master of the Sufis, the great evangelist of the seeking spirit.

Christ said, "I am the Spirit of God, I am the truth," and the Prophet Mohammed said, "Whoever sees me sees God," because they both became infinitely incarnates of God.

Mercy on Earth is already given and is within us

We just have to let go of ego and selfishness.

I'm sure most of you here have had what you would call a spiritual experience, a moment in your life when the ego disappears with it for a few seconds or minutes.

At that moment, one becomes one with the universe, one with the water in the pitcher, one with all of humanity, one with the Creator, and one feels the presence of great power, awe, deep love, deep compassion and mercy, deeper than anything he has ever experienced.

This moment is God's gift to us, it's the moment God takes the "I-I-I" ego out of us, and like the man in Rumi's story, we can say, "It's all about you."

it's all about you. it's all us

we are all part of you

The creator of all things, the source of our existence The end of our journey You can break our hearts

You are the way we all go. We live for God's purpose, die for God's purpose, and rise again for God's purpose. To testify to God how merciful we have been

Today's message, our purpose today, and all of you gathered here, and the purpose of the Charter of Mercy is to remind you.

The Qur'an asks us to always remember and remember each other, for the true knowledge is within us all.

we all know

we can call all

Jung would call this the subconscious

The subconscious mind, or dream, in the Qur'an calls the state of sleep "light death," i.e. temporary death.In the state of sleep, we see dreams and visions.Many people travel outside the physical body and see the wonderful world.

A world that transcends the concept of space and time in this real world

But all this is to honor the Creator, name of Allah, All-Merciful, All-Merciful.

God, Bokh, whatever you call it, Allah, Ram or Om, whatever name you call it to reach into it, it is the center of the Absolute Being, the manifestation of Absolute Love, Compassion, Compassion, Absolute Knowledge and Wisdom.In Hinduism this is called Satchidananda.

Even if the words are different, what they are pointing at is the same

Three men appear in another Rumi story. A Turk and an Arab, I forgot the other one, but I think it was a Malay.

One asked for angour, another for example the Englishman for eneb, and another for grape.

The three get into fights and arguments because grape and eneb say they want angour, but they don't know that they all mean the same thing in different languages.

Ultimately, there is only one absolute reality, and there is only one absolute being, because the absolute is by nature the one, the absolute, and the singular.

In this world there is the absolute crystal of existence, the crystal of consciousness and cognition, and the absolute center of mercy and charity, which determines the root of God's embodiment.

Likewise, it should be part of what it means to be human.

Perhaps what defines us biologically is our physiology, but God defines us by our spirituality and our essence.

In the Quran, God says to the angels: "When I have made Adam's body out of clay and imbued it with my spirit, bow down before him."

The angel prostrated before the human soul, not the human body.

This is because the human soul is part of the breath of God, part of the soul.

This is what the Bible says we are made in divine image.

what does god look like

God is Absolute Being, Absolute Cognition, Knowledge, Wisdom, Absolute Compassion and Compassion.

So to be human, the greatest meaning of being human, the greatest joy of being human, is that each of us is also in charge of the Divine Breath within, and that we exist for its perfection, to live, to be here, and to strive for wisdom, awareness, cognition, compassion and compassion.

This is what I've learned from my history of faith, and what I've learned from the history of other faiths, that we all have to stand on this common ground, and that we can all build a wonderful world around this foundation.

We are in the midst of change, and with your presence and help, I know that Isaiah's prophecies can be fulfilled.

In the future he predicted, people would stop fighting and live in peace, never learn war, never start war.

Human history has come to a point where there is no other option.The ego must be subdued and controlled. Whether it's personal, family or national ego, and give it all to God's honor.

thank you. God bless you

(applause)

I'd like to begin by quoting Einstein's wonderful words, and hope that those words bring some comfort to all of you, that the great scientists of the 20th century share our thoughts and call to action.

He said, "Human beings are part of the whole that we call the universe - part limited by time and space.

Humans experience themselves and their thoughts and feelings as something disconnected from the whole, and that disconnection is like an optical illusion in their own consciousness.

This illusion is a prison for us, limiting our desires and favors to only the few people closest to us.

Our mission is to expand our circle of compassion to free ourselves from this prison and embrace all living things and all of nature in its beauty."

This insight of Einstein is strangely close to the Buddhist psychology, where compassion, or karuna, is defined as "sensitivity to the suffering of others and, with that sensitivity, the will to free others from suffering."

This goes hand in hand with love. Love is the will to make others happy. To do this, of course, you must be happy yourself and want to share that happiness.

This aptly shows that selfishness and selfishness are in stark opposition to compassion, caring for others, and that people who are endlessly preoccupied with their own interests suffer helplessly, while compassionate people are virtually happier without restraint.

The Dalai Lama often said that compassion was his best friend.

When sadness and despair seem to overwhelm him, compassion saves him.

Compassion allows him to turn his back on suffering, even if it is the most tyrannical, the most severe suffering that anyone has ever suffered, and develops an awareness of the suffering of others, even if it is his grief and the suffering of the perpetrators of many beings.

In fact, the suffering is so great that his own suffering becomes less and less.

It shifts thinking beyond self-interest to a broader concern for others.

This thought instantly lifts him up, by giving him a strong sense of the courage to face the opportunity.

Thus, he uses his own suffering as a gateway to a wider circle of compassion.

You could say he's a good colleague of Einstein.

Now, I'd like to tell you a story, the story of Asanga, a great saint who is very famous in the Indian and Buddhist traditions. He was a contemporary of St. Augustine in the West, you could say he was Augustine of Buddhism.

Asanga was born 800 years after the time of Buddha.

He was dissatisfied with Buddhist practices in India at the time.

So he said, "I'm sick of it. No one lives by dogma.

They talk about love and compassion and wisdom and enlightenment, but people's actions are selfish and pathetic.

Shakyamuni's teaching has lost its momentum

I know that in a few thousand years there will be another Buddha but now in the sky there is a future Buddha named Maitreya So I leave the world and go into meditation and I pray Until Maitreya appears before me and gives me a teaching or something to restore compassion as a practice to the world today.

Thus he left the world and meditated for three years, but he never saw the future Buddha Maitreya.

he got fed up and left the meditation

As he was going down the mountain, there was a man, a strange little man, sitting halfway up the mountain.

The man has a lump of iron

rubbed it with a cloth

Asanga got interested in it

When asked, "What are you doing?"

The man said, "I am making needles."

Asanga said, "You can't make a needle by rubbing a piece of stupid iron with a cloth."

The man said, "Really?" And showed me a plate full of needles.

And Asanga said, "Okay, got it."

He went back to his cave and meditated again.

Three more years pass and nothing is seen He leaves the mountain again

When I go down the mountain this time

I see a bird nesting on a cliff ledge

The bird carried a twig to the cliff, and where it's perched, the bird's feather hits the rock - it's scraping the rock, leaving a 20-inch dent in the rock, touched by the feathers of generations of birds.

So Asanga said, "Okay, got it," and went back to the mountains.

3 more years passed

Again, after nine years, I never saw Maitreya again.

He leaves the mountain again, this time dripping with water, creating a large pit in the rock face that is constantly dripping.

Then he returns to the mountains again and does not appear again after 12 years.

He was so distraught that he didn't even look left or right to find any encouraging sights.

And he comes to a city, and he's as good as broken.

In this city a dog approaches him like this. . . A very miserable dog that you would find in a poor country, even in America in some places. . . It's a terrible dog anyway

And Asanga is interested in this dog because he's a very miserable dog and he's trying to get his attention, and he sits and watches the dog.

This dog's entire back is sore.

Some of them were black and necrotic. There were maggots on the skin.

He thinks, "What can I do to fix this dog?

At least I can clean this wound and wash it."

And then he takes the dog to some water, and when he's about to wash it, his attention shifts to the maggots.

When I look at maggots, they seem a little cute.

The maggots are happily living in the back of a dog.

"If you wash this dog, you'll kill the maggots. What does that mean?

Yes I am a completely useless person, there is no Buddha in this world, there is no Maitreya, everything is hopeless.

And now I'm going to kill these maggots? ”

So he came up with a great idea

He used a piece of something to cut off a piece of flesh from his thigh and put it on the ground.

He didn't take the Humane Society's response seriously.

I was just immediately swallowed by the situation on the spot.

And he thought, "I'll take these maggots and put them on top of this cut of meat, and I'll clean the dog's wounds, and then I'll figure out what to do with the maggots."

He starts working on it, but he can't catch the maggots.

Maggots are hard to catch as they seem to wiggle around

So he says, "Then put my tongue in dog meat.

The maggots will fly to my warm tongue, and this dog is as good as devoured, and then I'll spit them out one by one."

So he lowered himself and stuck out his tongue like this

I had to close my eyes, and it was very disgusting and smelled awful.

Then suddenly there was a whooshing sound

He flies back and there, of course, is Maitreya, the future Buddha, a beautiful sight. . . Seven colors of light, gold and gemstones, and a plasma body, he found it in a mysterious sight that he had never seen before.

Say "ah" and bow

But human beings are helpless and immediately think about the next complaint.

So when he lifted his head from his bow, he said, "God, it's a pleasure to meet you. But where have you been for twelve years?

what the hell is this? ”

Then Maitreya said, "I was with you. Who do you think was making the needles and the nests and dropping the water on the rocks. You utter crook."

(Laughter) "I personally sought Buddha."

And he continued, "Until this moment you had no real compassion.

You will never know love until you have true compassion."

Maitreya, as you know, in Sanskrit means love, beloved.

And Asanga had a very suspicious look on his face.

Then Maitreya said, "If you don't believe me, take me."

So Asanga took Maitreya with him. . . The sphere has shrunk into a ball. . . I put it on my shoulder

Then he rushed to the market and said, "Everyone should rejoice.

The future Buddha has appeared earlier than previously predicted, right here."

And not long after, people started throwing rocks and stones at him, not here (Chatauqa), but some other city, like a mad, skinny yoga master, like a hippie with blood on his feet and a rotten dog on his shoulder, shouting that the Buddha of the future has arrived.

Of course people kicked him out of town.

But on the outskirts of town, an old woman, a morgue cleaner, saw on his shoulder his ornate foot on a bejeweled lotus, and saw a dog, she saw Maitreya's foot, and laid flowers there.

This encouraged him to walk further with Maitreya.

Afterwards, with Maitreya, he was led to heaven, like a common scenario in Buddhist mythology.

Maitreya kept Asanga in heaven for five years and dictated five complex scriptures, methodologies on how to develop compassion.

So I wanted to share one of them with you.

One famous one is called "The 7-Step Causal Method for Developing Compassion."

This method begins by meditating and imagining that all things are one, that all things, including animals, are in human form.

Animals are manifestations of a person and humans are humans

So I think of them as my friends and close people around the table, and

I think about my enemies and people in neutral relationships.

So try saying, "Well, I love the people I love.

But after all, they're kind to me

Sometimes we quarrel, sometimes we become less kind

I get angry too. Even brothers fight. Parents and children fight too.

With that in mind, I can say that I like them because they are kind to me.

I don't know much about people in neutral relationships They'll all be fine

I hate my enemies because they are unkind to me

But even they should be kind to someone, and that someone could be me."

This is where Buddhists, of course, think, because everyone thinks they've lived a continuous past life, and Buddhists actually think of everyone as a relative.

And everyone, I mean all of you, from a Buddhist point of view, in a previous life, even if you don't remember, and I don't remember, you can say that you were my mother.

In fact, I was also your mother.

I am a woman, and I was the mother of each of you in a previous life.

I have a wonderful mother in this life, but in a way, all of you are part of my eternal mother.

You have an expression that says, "You're a permanent mom. That's wonderful."

Buddhists think that

Monotheist Christians believe that all are children of God, even if they are enemies.

So in that sense we are relatives

So we're starting with the notion of equality as a foundation.

And then, gradually, you begin to lose attachment to those closest to you, first in meditation, then open up to strangers.

And we're definitely going to be less hostile, less willing to show empathy, to people we think are bad people, people we hate or don't like.

When that happens, you don't hate anyone anymore.

This is very important, and then we do the mother recognition.

consider all things to be a close family

From there, you can extend the memory of your mother to all things in meditation.

and see the mother in everything

That look you see on a mother's face, when you see a child that's a miracle, a child that you've made out of your own body as a mammal, there's a real compassion there, just one with the other.

Other lives are often more important than our own

That's why this is the strongest form of altruism.

Motherhood is the epitome of human altruism in the spiritual tradition.

This is how you contemplate until you can see the mother in everything.

People laugh at me because I used to meditate on Cheney (former Vice President) as my mom, and at the time I was so disgusted by his terrible behavior in Iraq.

I used to meditate on George Bush, who as a woman.

You're such a cute mother, you have tiny ears, you smile and you gently crad me in my arms.

you think he's giving you boobs

Saddam Hussein has a bit of a problem with that thick mustache, but he also thinks of him as his mother.

I'm going to do this.

After doing that for a while, you really get to know

to feel close to everything

I don't think of anyone as a stranger.

It reduces the feeling that everything is someone else's problem

And from there, it moves on to feeling the kindness of the mother in general.

And then you start to get very sentimental, you become very sentimental.

Gratitude and kindness may make you cry

Connect that feeling with the motherly kindness that we all have.

Everything can be motherly, even if it seems terribly mean.

And third, we move to gratitude.

I want to return the kindness shown to you.

And then, as the fourth step, we move on to something called dear love.

Each of these stages takes weeks, months, or days to meditate in your own way, and you can do it in a hurry.

And think about how beautiful everyone is when they are happy and how they are when they are satisfied.

All things look beautiful when they are truly happy

You don't look like this. When you're angry, everything looks terrible. When you're happy, you look beautiful.

So we see everything as something that can be happy.

Even if they are our enemies, we want them to be happy and we feel love for them.

When Christ tells you to love your enemies, it feels so unrealistic.

He certainly says so, and we can say that although Christ is unrealistic, spiritual and lofty, "I can't say good things."

But really, this is practical.

Loving your enemy means wanting your enemy to be happy

If your enemies are happy, would they want to be your enemies?

It's boring to run and chase you

It's better to have a good time and relax somewhere

So it makes sense to want your enemy to be happy.

So this is dear love, and finally the fifth step is compassion, compassion for all living beings.

See the reality of everything you can think of

look at it and know what it's like

I realize how unhappy we all are, in fact, most of the time.

I see deep wrinkles on people's foreheads

People find that they can't even have compassion for themselves.

Obsessed with obligations and responsibilities

"I want that, I want more, I'm not worth it, I have to do something"

running around with stress

I sometimes think of it as a manifestation of a strong, strong self-discipline.

It's actually just being cruel to yourself.

And, of course, they're also cruel and heartless to other people.

and never get encouragement

The more successful you are, the more power you have, the more unhappy you become.

And this is where I feel genuine compassion for them.

and i think i have to do something

And that's the motive. I hope the choice of what to do is realistic, but he had more motives than the wretched Asanga, who was trying to get rid of the maggots on his dog.

It wasn't a practical move, but it would have been nice to have a humane society in the city to get some scientific help with dogs and maggots.

I'm sure he did that later, but it's a matter of state of mind, isn't it?

The next sixth step in caring for all living beings is to truly connect with the needs of others, and to have compassion for yourself, not just sentimentally, but perhaps fearing something.

Some bad guy makes himself more and more unhappy, and gets more and more mean to others, and is punished in many ways in the afterlife.

In Buddhism, it's supposed to be revealed in the afterlife.

In a religion that believes in God, you're punished by God or something like that.

And materialism thinks that you can escape by ending existence, by dying, but you can't.

'Cause I'm reborn into something else

ok i won't get into it here

The next step is called Responsibility to All Living Things.

And this is very important. A charter of compassion must lead us, through true compassion, to a responsibility to all living beings.

It leads to the great teachings of the Holy Dalai Lama, which he teaches everywhere, all the time, and he says that the common religion of mankind is kindness.

But kindness means responsibility to all living beings.

What it's happening to others is happening to us. We're responsible for it, and we have to do something about it, no matter how small the level.

We absolutely must, there is no reason not to

And then, finally, we can see a new direction for life, where we and everyone else can live in equality and be joyful and happy.

Don't think compassion makes you miserable

compassion makes you happy

You'll be the first person to become happy by gaining great compassion, even if you haven't done anything for others yet.

Your change of heart is already having an effect on others.Everyone feels this new quality in you.And it's already helping them because you're setting a good example.

That inconsiderate clock says I have no more time

So practice compassion, read the charter, make it known widely, nurture it within yourself.

Don't just think that you're considerate or not Don't think you can't move from there

It can be nurtured in you to be less caring, less cruel, less callous, less disrespectful, and more accountable to others.

And not only will God and Eternal Mama smile at you, but so will Karen Armstrong (founder of the Compassion Charter).

thank you

I'm going to talk to you about compassion and the golden rule, not just from a general perspective, but also from a scientific perspective.

I want to touch a bit on the history of these as well I want to touch on a bit of the history on these as well

Now and then, there's medical jargon, and it's not as pleasant as the usual compassion story.

be careful

First let me say that compassion and the golden rule are wonderful

I am also very supportive

It's wonderful that religious leaders around the world recognize compassion and the golden rule -- compassion and the golden rule -- as essential fundamental principles of their faith.

At the same time, I believe that religion isn't everything, it's the essence that counts.

At the same time, I believe that religion isn't everything, it's the essence that counts.

Compassion and the Golden Rule are kind of embedded in human nature Compassion and the golden rule are kind of embedded in human nature

If you understand the feeling of being embedded in human nature, if you understand the feeling of being embedded in human nature, you'll find that it's not enough to celebrate compassion and the golden rule.

there's still a lot to do

Let's start with a brief history of compassion.

Compassion comes first. It existed before humans came to earth. It existed before humans came to earth.

In the human evolutionary lineage, perhaps before Homo sapiens, in the human evolutionary lineage, perhaps before Homo sapiens, emotions like compassion, love, compassion got into the genes.

It happened through the principle of kin selection.

Kin selection means that if an animal feels compassion for a relative, this compassion will help that relative, and as a result, compassion ultimately helps the gene, and as a result, compassion ultimately helps the gene.

So compassion, biologically speaking, is how genes help themselves.

Like I said, it wouldn't be a pleasant conversation.

I wish I could explain it a little easier

It's not that much of a surprise to me. Darwin's theory is that compassion is genetically selfish. Darwin's theory is that compassion is genetically selfish.

The bad thing about this kind of kin selection is that compassion only works within the family, and compassion only works within the family.

It's good that compassion is the essence

Naturally confined within the family Naturally confined within the family

We're in the second half of evolution, and there's good news: the second theory of evolution.

Biologists call this "reciprocal behavior."

What it means is that if you do good to someone through your kindness, that person will return the favor.

This is not the notion of compassion you hear so often, this is not the notion of compassion you hear so often, and biologically speaking, this reciprocal behavior is ultimately selfish. Biologically speaking, this reciprocal behavior is ultimately selfish.

It's not consciously selfish, it's inevitable.

It's not consciously selfish, it's inevitable.

So you can easily show compassion to your friends and allies.

It hurts when bad things happen to your closest friends It hurts when bad things happen to your closest friends

But even if bad things happen to people you don't know at all in newspapers, or something bad happens to people you don't know at all in newspapers, wouldn't you be stoic?

this is human nature

We still have good news and bad news

Good news through reciprocal action Compassion goes beyond family Good news through reciprocal action Compassion goes beyond family

The bad news is that compassion isn't universal.

So the problems are piling up

There's another effect of reciprocity that seems to be good news. Another effect of reciprocity that seems to be good news.

The Golden Rule itself isn't written into our genes, but in a hunter-gatherer society, we never touch any of the major religious or ethical philosophies.

Evolutionary psychologists believe that these intuitions have a genetic basis.

They know to be nice to people if they want to be nice to them They know to be nice to people if they want to be nice to them

it's good to be kind to others

It's almost instinctive

This is good news, and if you've been listening carefully, you probably expected some bad news as well. We haven't reached universal love yet, because while understanding the golden rule is essential -- we haven't reached universal love yet, because while understanding the golden rule is essential -- making exceptions to the golden rule is also essential.

So, for example, no one wants to go to jail, but some people should.

That's why we do things that we don't like about those people.

there is a logical basis

Suppose they did something bad enough to go to jail.

No one wants to apply the golden rule universally.

We have the ability to make exceptions and put people in special categories. We have the ability to make exceptions and put people in special categories.

Even when it comes to sending people to prison, the fair justice system decides who is exempt from the Golden Rule, but the problem is how you decide who is not subject to the Golden Rule in everyday life, the problem is that how you decide who is not subject to the Golden Rule in everyday life is a pretty crude rule.

It's basically like this: If you're my enemy, if you're not my friend or family member, I'm pretty unlikely to apply the golden rule to you.

It's the same for everyone in the world It's the same for everyone in the world

In the Middle East, Gazans are firing missiles at Israel.

They don't want to launch missiles, but they say, "But some Israelis do things that put them in a special category."

The Israelis don't want to impose an economic blockade on Gaza, and the Israelis don't want to impose an economic blockade on Gaza, but they say, "The Palestinians brought it on themselves."

Exceptions to the golden rule are causing a lot of trouble around the world.

and this is the essence

So even if we have the golden rule built into us, it doesn't mean we have universal love.

the world will not be saved

Here's news that might save the world

Are you leaning out of your seat and listening?

Before I tell you the good news, I'd like to take a detour into the academic side of things.

I wish I was getting attention with the promise of good news that might save the world I wish I was getting attention with the promise of good news that might save the world

Some of you may know about non-zero-sum.

It's just a brief explanation of game theory.

Dont worry

About zero-sum and non-zero-sum games

Under what circumstances can you recruit people? Under what circumstances can you recruit people? The answer is a non-zero-sum situation.

What kind of situations lead you to see people as your enemies? What situations lead you to view people as your enemies? It's a zero-sum situation.

These terms mean

Zero-sum games are familiar in sports where there are winners and losers Zero-sum games are familiar in sports where there are winners and losers

If you add the two points together, you get plus or minus zero.

In tennis, if you score, it's bad for your opponent On the contrary, if your opponent scores, it's bad for you

Either way, plus or minus zero on both sides, this is a zero-sum game.

When you play doubles, your pair partner is a non-zero-sum relationship for you. Your pair partner is a non-zero-sum relationship for you.

This is a non-zero-sum game

In the real world, many are non-zero-sum games.

For example, in economics, when you buy something, you'd rather have the product than have the money, but for the person who sold it, you'd rather have the money than the product.

both feel victorious

In war, allies are a non-zero-sum game.

It will be either win-win or loose-loose

So in the real world, most games are non-zero-sum games.

How compassion and the golden rule work How compassion and the golden rule work Compassion flows most naturally in non-zero-sum waterways.

The golden rule is also naturally demonstrated by non-zero-sum The golden rule is also naturally demonstrated by non-zero-sum

We expect compassion and the golden rule to work their magic through a network of non-zero-sums.

Something different in a zero-sum waterway

Now it's time for some good news that might save the world.

I might not save the world now that I got attention for three minutes of technical talk, and I've been stuck with three minutes of technical talk.

You may think that the world can't be saved, but the good news is that with history, non-zero-sums network, and from there compassion spreads.

Going back to the Stone Age, roads, wheels, books, transportation, communication technology, and so on, the evolution of technology has mercilessly led a wider range of people into a more non-zero-sum relationship.

this is a story about civilization

Why societies have grown from hunter-gatherer villages, through ancient nations and empires, into the globalized world of today.

This globalization story is also largely a non-zero-sum story.

You've probably heard the term "interdependence," adapted to modern society, which is also a non-zero-sum term.

If your property is interdependent with someone, you have a non-zero-sum relationship with that person.

common in modern society

With the recent economic collapse, if bad things happen to the economy, it's bad for everyone in the world.

When good things happen, it's good for people all over the world.

And there is evidence that this non-zero-sum can provide moral guidance, and there is evidence that this non-zero-sum can provide moral guidance, and there is evidence that this non-zero-sum can provide moral guidance.

I mean, if you look at the attitude of Americans towards the Japanese people during World War II, or if you look at the attitude of Americans towards the Japanese people during World War II, the American media portrayed the Japanese as inferior humans.

Interdependence or non-zero-sum relationships allow us to recognize people as human.

i think that's a good thing

And the world is full of non-zero-sum dynamics.

In many ways, we're all on the same page when it comes to environmental issues.

And there's a non-zero-sum relationship that maybe people don't realize.

For example, perhaps many Christians in America don't see themselves in a non-zero-sum relationship with other Muslims.

If we get unhappy, it's going to be bad for America.

So this is a non-zero sum

So the question is, if there are so many non-zero-sums, why isn't the world still filled with love and peace and understanding?

It's complicated to answer that, so let's leave it for another time.

There are certainly things like this, first of all, there are many zero-sum situations in the world.

You could also say that the world's non-zero-sum is under-recognized. You could also say that the world's non-zero-sum is under-recognized.

I think politicians play an important role in both spheres. I think politicians play an important role in both spheres.

It's not just about religion

I think politicians can help foster non-zero-sums, and I think it's generally better to have economic engagement than lockdowns and things like that.

And what I want politicians to be aware of is that when people around the world look at politicians and their countries, when people around the world look at politicians and their countries, when they determine whether their relationship with a country is zero-sum or non-zero-sum, when they determine whether their relationship with a country is zero-sum or non-zero-sum, when they determine whether their relationship with a country is zero-sum or non-zero-sum, this is what human psychology looks like: Are we being respected?

If it's not historically respected, it's not going to end up being a non-zero-sum mutually beneficial relationship.

So we have to be careful what signals we're sending out.

this is the field of politics

I encourage politicians, religious leaders, and all of you to expand your moral imagination -- the ability to put yourself in the shoes of people who are in very different situations -- the ability to put yourself in the shoes of people who are in very different situations.

This is not compassion, it fosters compassion.

Unfortunately, there's good news and bad news here, too: moral imagination is part of human nature.

That's good news, but it also tends to be selectively exerted.

Once you accept someone as an enemy, you can't put yourself in their position.

To give an example of what is particularly troublesome for Americans, let's say you see an Iranian on TV burning an American flag.

The average American doesn't imagine what he's thinking or think he has anything in common with him.

Iranians hate America because America despises Iranians and also wants to rule them.

Has there ever been someone who despised you so easily that they hated you? Has there ever been someone who despised you so easily that they hated you?

There will be resistance to such comparisons, of course, because this is human.

Similarly, Iranians would be in trouble if they defended Americans who said Islam was evil.

So it's very difficult to artificially expand the moral imagination So it's very difficult to artificially expand the moral imagination

I think it's worth the trouble, because it helps you understand.

If we want to reduce the number of people burning flags, it helps us understand why.

I think it's a good moral activity

This is where religious leaders come in. Religious leaders are great at rethinking people's problems.

Religious leaders are kind of like the business of intuition.

It's the biggest priming right now, to get people all over the world to expand their moral imagination and become proud of being grateful that in many ways they're all part of a common destiny.

I'd like to give you a pretty good summary, at least from a general point of view. When it comes to compassion and the golden rule, the good news is that compassion and the golden rule are kind of built into human nature.

Unfortunately, it tends to be selectively exerted.

it's really hard to change

But God's work is never easy

(applause)

Apparently, I only have 18 minutes to convince you that history is like a directional, irreversible arrow, and in some ways it's basically a good thing, and that the arrow is pointing in some positive direction.

When I was first contacted by a TED guy and asked to talk about this bright topic (Laughter), that was before the Muhammad cartoons sparked global riots.

before bird flu reached Europe

It was also before Hamas won the Palestinian elections and triggered various countermeasures by Israel.

To be honest, even if I had known about it before you asked me to tell you an optimistic story, and even while I was doing an optimistic story, disaster would have happened.

But I didn't. So I'm here today to tell you what I can do. But I didn't. So I'm here today to tell you what I can do.

I must warn you all that my worldview is bright is always subtle, maybe even elusive.

(Laughter) The fact that what I'm saying is something that makes you feel optimistic, and that's what I'm trying to do to turn my pessimistic self into an optimistic one.

If it works out, that's the best hope I can offer you today If it works out, that's the best hope I can offer you today

In some ways, the claim that history has a direction is not very controversial.

For example, it's clear that social structure has reached a higher and higher level and a more complex form over the last 10,000 years.

In fact, biological evolution has sustained an evolutionary trend in social structure that predates humankind.

Because the first thing that happened was that these tissues were confined to one cell, and several cells formed a society.

Eventually, it cuddled so close that it became a multicellular organism, a more complex multicellular organism.

It created a society, but at some point, something amazing happens to one of these multicellular organisms: it undergoes a completely new type of second evolution: cultural evolution.

And what's even more amazing is that evolution took off, and biological evolution continued to reach ever greater levels of complexity.

Cultural evolution means conceptual evolution.

Many of you will be familiar with the term "meme," the evolution of technology, something that I'm very interested in, for example -- what started out as a little hatchet.

A generation has passed, and someone said, "Why don't you put this stone on the tip of a stick?"

(Laughter) It really makes the kids happy.

It's not as good as a video game

It's not an impressive thing, but as technology progressed, it took another 10,000 or 20,000 years to develop the weapons we have today.

(Laughter) It's impressive, and the speed at which technology evolves is accelerating, and we're just a quarter of a century away from here.

(Laughter) And this.

(Laughter) I'm sorry, this was just a cheesy joke.

(Applause) The cause of the catastrophe, the cause of the catastrophe, is the collapse of the global social system.

First of all, remember how long it took us to get to where we are today, and we're so close to forming a truly global social organization.

Originally, we had the most complex organization, villages based on hunter-gatherers.

Stonehenge is a relic of a chiefdom - a centralized form of government consisting of multiple villages that arose from the invention of agriculture.

With the invention of writing, cities begin to emerge. It's a little blurry, but somehow I like it because it looks like a single-celled organism, and it reminds me of how organic organization got through the many stages to get here.

What I want to emphasize is that social organization can transcend political boundaries.

This is the Silk Road that connected the Chinese Empire and the Roman Empire.

Despite the lack of political similarities, complex societies existed across continents. Today, there are nations.

The bottom line is that there is a clear cross-border collaboration and organization.

This picture is actually just a picture of the Earth taken at night, and I thought it was beautiful, so I showed it to you.

I think you can also see the feeling that it is an integrated system

I think you can also see the feeling of being an integrated system.

I'm sure some of you haven't read this before, so let's just keep it simple - a zero-sum game is basically a game that has a negative correlation between the winners and the losers.

On the other hand, in a non-zero-sum game, the correlation can be positive.

For example, in tennis, it's usually a winner-loser relationship, and it all boils down to zero-zero-sum.

Non-zero-sum forms are common in everyday life, such as in economics, and often lead to cooperation.

What I'm arguing is that non-zero-sum games are part of our lives.

We've seen it in hunter-gatherer societies, but as technology has evolved, new forms of technology have emerged that are taking advantage of or engaging more people in non-zero-sum games, and doing so over a much larger area.

The fabric of society accepts this, adapts to harness its productivity potential, becomes a city, and, unconsciously, all the non-zero-sum games are playing out all over the world.

For example, when you think about buying a car, have you ever wondered how many people or how many continents were involved in making that car, and these people end up playing a non-zero sum game with you?

Of course there are many such things around.

In some ways, this is an inherently optimistic picture of the world, because when we think of non-zero, we think of a win-win. And that's a good thing.

First of all, it's being arbitrarily exploited, and it doesn't deny the existence of unequal wars of exploitation.

But there's a more fundamental reason why we're not inherently optimistic, because it's certain that the outcome of a non-zero-sum game can be either good or bad.

It does not necessarily foresee a win-win outcome.

So, in a way, the question is, what makes my view of history so optimistic? The answer is, first of all, so to speak, in the end, people have acted more like a win-win than a win-win.

And this evidence, the one that most surprises me, the most moving, the most uplifting, is that history has an ethical dimension. It has an ethical arrow.

2,500 years ago, one of the Greek city-states considered members of other Greek city-states subhuman and treated them as such, and then this moral revolution came and they became convinced that no, in fact, the Greeks were human.

He thought that only the Persians were not wholly human and did not deserve to be treated well.

But this is progress. Let's face it, I think there's been a lot more progress to date, and I hope that many of you here feel that way, but I've come to believe that everyone, regardless of their race or religion, deserves to be treated fairly, as long as they don't do anything terrible.

By reading ancient history, we can understand what progress has been made by revolutions. This was not a common view until thousands of years ago.

I think that's the reason for the tolerance of nationality, ethnicity and religion that we have today. I think that's the reason for the tolerance that we have today about nationality, ethnicity and religion.

You have this non-zero-sum relationship with them, and to the extent that you recognize that other people's wealth correlates positively with you, it leads to a kind of tolerance.

I think it's kind of a business class ethic.

Unfortunately, I don't fly business class or anything like that very often on transatlantic flights, but I don't think the people in business class are talking about things that mean they're bigoted against racial or ethnic groups, because the people who fly transatlantic business class are working with those people and making money from those people. It was non-zero-sum itself as a constructive force that developed the category of non-zero-sum. I think the dynamics of non-zero-sum is never just an economic thing, it's not just a business thing, it's got us so close to the ethical truth that it pushes us toward fundamental equality for all peoples.

And as it's become a global social organization, it's pushed us to a moral truth, which I think is wonderful.

Now let's get back to talking about the catastrophe being caused.

I'm sure you're wondering, this is the ethical evolution in history, sounds good, but what about the so-called "clash of civilizations"? First of all, I want to stress that it fits into the non-zero-sum framework. What I'm trying to say is that when people in the Muslim world become more hateful, more resentful, less happy in the world they live in, it's bad for the West, too. The happier they are, the better for the West.

So it's a non-zero-sum dynamic.

And I would say that the power of non-zero-sum is going to get stronger over time, because of the trend in technology, but it's getting stronger in the negative direction.

Fate with a negative correlation is more likely

One reason is because of what I call the "growing lethal hatred."

Increasingly, grassroots hatred will manifest itself in the form of organized violence on American soil.

It's a fairly new trend, and I think it's going to get worse, and the harm that violence can do is getting worse.

You may have heard more about technology diversion.

And what I'm particularly worried about is that these dynamics can lead us into a downward spiral that puts us on the brink of danger.

It's this dynamic that puts us in a downward spiral that puts us on the brink of danger.

Unwise retaliatory actions lead to more global hatred and more acts of terrorism.

It's because we're human and because of our retaliatory nature that we overreact and things just get worse and worse.

You could call it positive feedback for negative emotions, but it's kind of creepy, and we shouldn't use the word "positive," even though that's what it technically means.

So let's call it the "negative death spiral."

(Laughter) I can assure you that in the end, both the West and the Muslim community will suffer.

So what can we do? First of all, there's more we can do about disarmament: global regulation of dangerous technologies.

Now, it's possible for me to disagree with you on global governance, because it's essential, but it's not talked about enough anyway.

I want to talk to you about the evolution of morality on a global scale.

There has to be less and less hatred and prejudice between groups, less prejudice between racial and religious groups.

I have to admit it's absurd to say that. It sounds too optimistic.

It feels like Rodney King saying, "Why can't we just get along?"

But looking at this situation, I see no other choice.

An Ethical Evolution Must Happen

A very dangerous situation is coming and the amount of hatred in the world must be reduced A very dangerous situation is coming and the amount of hatred in the world must be reduced

I defend myself, and as naive as it may sound, this is ultimately based on irony, which means

(Laughter) Thank you, but please remember that my view of ethics is ultimately self-interest.

People's destinies are correlated

If your happiness makes me happy, then I can decide to wish you well, and that's what contributes to the development of this ethical evolution. Again, our destinies are interrelated, and if people respond intelligently to it, we're going to see the norms that we need to develop tolerance and so on.

We will see further evolution of this business-class ethic.

By doing two things: getting people's attention, making positive correlations work, and acting in your own interest - which is the further evolution of ethics - you can really have a positive effect.

That's why I'm able to put "growing deadly hatred" and "negative death spirals" together into a common theme and still be able to smile.

(Laughter) You're doing your best, right?

(Laughter) I wouldn't call myself Mr. Optimist.

I'm just doing my best here

Now, it must be difficult to bring about an ethical revolution, right?

rather than what do you do

I think the solution is that many different people have to do many different things.

We're all going to start where we are right now. As someone who's American and has kids and cares about their safety in the next 10, 20, 30 years from now, it's something that's bothering me.

It seems to me a worthwhile research project.

I also like it because it's essentially an act of ethical recovery.

Because to understand why and why someone in a completely different culture does what they do -- someone like you who sees them as strangers doing strange things in a strange culture -- really understanding why someone like you who sees them as strangers doing strange things in a strange culture -- you've achieved an ethical recovery, because you've linked their experience to yours.

If you say this, you'll really understand

"Oh, I see, their resentment is similar to the resentment I get when the same thing happens to me, and more or less for the same reasons."

That's the real understanding, and when you can do that, you've developed your ethical standards.

This is especially difficult when people hate you, because you really don't want to fully understand why they hate you.

I want to know why, but I don't want to accept it.

Are you that stupid? (Laughter) You don't want to say, "I know how you feel about being hated on our country under those circumstances." It's not nice, but that's something we have to get used to, and we have to work at. Now, I want you to really understand this: there are some people who have a hard time even understanding the grassroots, the root cause of why they hate us.

Because understanding why they don't like us will put an end to their loathing, and the ethical behavior of appreciating them for who they are and understanding them well will, in the long run, be part of the effort to get them to appreciate you for who you are.

I think that's the first step, and that's the long-term goal.

There are people who worry about this, and in fact I myself was apparently criticized on national television a few nights ago for an editorial I wrote, which was along the lines of what I said.

The claim was that I had a "love for terrorists."

The good news is that the person who said it was Ann Coulter.

(Laughter) (Applause) Well, if you say you need an enemy, it should be Ann Coulter.

But it's not a silly worry, because understanding behavior can bring a certain kind of empathy, and it can make it a little bit harder to be tough.

But we are more likely to make the mistake of not understanding the situation than clearly understanding it, which is why we cannot send troops to kill terrorists.

(Laughter) So I'm not very concerned, so (Laughter) So I mean, we have to deal with issues on the front lines of a lot of hate.

Having a kind of high ethical standard, something that literally saves the world.

If you look at the word salvation in the Bible, it's commonly used by Christians to mean saving souls and leading them to heaven, but it's actually a new interpretation.

The original meaning of the word salvation in the Bible was to save the social system.

"Yahweh is our savior" means "He saved the nation of Israel." At that time, it was a very high level social organization.

Today, social organization has reached global scale, and if I have any good news to share with you, I believe that what is needed to save the world is simply the disciplined and careful pursuit of intellectual self-interest.

It's going to be difficult, but I'd like to say, let's try, because we've reached the point of no return now.

thank you

(applause)

There is currently an invisible tension between people and the organizations they belong to. Organizations are living spaces outside of the home in everyday life, such as schools, hospitals, workplaces, factories and offices.

And what's happening now is what I call the democratization of intimacy.

what does this mean?

People are actually breaking through the isolation that their organizations impose on them through their own means of communication, so to speak.

So how are you doing? It's easy -- I call my mom from work, I instant message my friends from work, and I text them secretly.

In the background are the people I've interviewed over the last few months.

I asked you to bring the person you contact most often

Some people brought their boyfriends and fathers

A young woman brought her grandfather

For the last 20 years, I've been investigating the use of tools like email, cell phones, text messages.

And what we've learned is that people are in regular contact with the five or seven people they are closest to.

Now let's look at the data, it's Facebook.

Sociologists recently investigated that Facebook, as we all know, is a rapidly expanding medium of communication.

The average user has about 120 friends, according to Cameron Marlowe.

But in that, we're actually talking about four to six users, depending on the gender of the user.

Even though instant messaging research shows that you have 100 friends on your friend list, you basically chat with two to four people, maybe less than five people.

In my research on cellphones and voice calls, 80% of calls are with four people, 80%.

If it's Skype, it's only two people

Many sociologists are rather disappointed

I've been a little disappointed, too.

Sociologists lament that this is a social withdrawal phenomenon, social withdrawal.

But what I want to show you is who's calling and where they're calling from, and there's an incredible social transformation going on there.

Here are three examples that illustrate this well.

the first man is a baker

I start work at 4am every morning

Around 8:00, I quietly leave the kiln, wash my flour-stained hands, and call my wife.

To say good morning to start the day

I've heard this story many times

A young factory worker who works the night shift finds a blind spot on the factory's surveillance cameras, and from there, at 11 p.m., calls her goodnight.

A mother checks her children's safety from the corner of the bathroom at four o'clock.

Another example is the Brazilian couple

lived in Italy for many years

I communicate with my family on Skype several times a week.

Once every two weeks, I put a computer on the dining table, set up a webcam, and have dinner with my family in São Paulo, and it's an important event.

I first heard this story two years ago from a family of Kosovar immigrants living in Switzerland living a simple life.

I put up a big screen in my living room, and every morning I have breakfast with my grandmother back home.

Meanwhile, renowned anthropologist Danny Miller, who has been researching female Filipino immigrants who left children in their homeland, told me how much they were raising their children via Skype, how much they were involved with their children.

The third couple are friends

We actually chat several times each day

And then one day, we finally got instant messaging on our office computers.

Of course, I am still connected with it.

If you have a moment, we can chat with each other

This is the reality: teenagers and children are texting their friends from under their school desks.

this is not a special case

Hundreds of similar examples

But what is different is the environment

Think about the previous three scenarios: a factory, an immigrant, and a company.

But it could be a school or a government office, it could be a hospital.

Think back to 15 years ago for three scenarios. For example, after you've recorded your time on a timecard at a company or in a factory, you didn't hear from me while you were at work.

If you're lucky, there might be a pay phone

It's a different story if you're a manager.

there may have been a direct call

Otherwise the call was through an operator

But when you go inside such a building, you should leave your personal affairs behind.

And that attitude became the norm for work life, the norm.

Not related to technical issues

I had a phone. But once I got to work, I put all my energy into the mission and the people around me.

Such points have been emphasized

And because it's become a social norm, we're educating our children to abide by it.

Preschool, kindergarten, the early grades of school take children away and make them accustomed to being away from their families for long periods of time.

school adopted it

The imitation is the company ritual, the entry ceremony, the exit ceremony, the schedule, the uniform, the identification, the team building activity, the activity that helps you get along with any group of children and with any person.

The important thing, of course, is to stay focused on your work while paying attention to your surroundings.

This started just over 150 years ago

It started with the birth of modern bureaucracy and the beginning of the industrial revolution.

People had to go to other places to do their jobs and get the jobs done.

Under the modern bureaucracy, a rational approach was born, in which there was a clear distinction between the personal and public spheres.

Until then people lived near their workplaces

Land where you do manual labor,

I used to live near where I work

This practice is ubiquitous, even in cities.

Medieval city boroughs had names for trade unions and commerce.

Now there are sprawling residential suburbs, completely disconnected from the production and commercial areas.

And over the last 150 years, a rigid class system has also emerged.

The lower the status of a job and its workers, the further away they are from the personal realm.

People take advantage of this amazing possibility, being able to stay in touch all day, in any situation.

And we use it on a large scale

The Pew Research Center in the United States is an interesting data center in the United States, and I think the numbers are a bit conservative, but they say that 50 percent of email-enabled people use personal email at work.

I think this number is conservative

In my research, email peaks anywhere in the world at 11:00 a.m.

75% of people admit to using their mobile phones for personal business from work

Mobile email is used by everyone

The problem is that these new uses of the personal space don't always work.

What always surprises me is that the sociologists of the U.S. Army are debating the impact on the Iraqi soldiers who are in touch with their families every day.

However, many institutions prohibit such access.

Every day, every day, I see articles that horrify me, $15 fines for kids in Texas, every time I pick up my phone at school.

Bus drivers in New York can be fired instantly for just picking up their phones.

Companies that ban access to instant messaging and Facebook

They say it's a matter of safety, and it's a regular debate, but what's behind this issue is that organizations are trying to decide who has the regulatory say, who decides who goes into quarantine.

In a way, we're trying to eliminate the possibility of organizations increasing human intimacy.

A few years ago, my attention turned to the dark side of the construction industry.

In 2006, a young student from Qatar took me to a migrant worker camp.

Since then, I've been chasing the dark side of labor rights.

More than 300 UAE skyscrapers have been delayed or canceled in the last six months

Hidden behind the big headlines on those buildings is the fate of construction workers who are often repressed.

1.1 million people

Mainly Indian, Pakistani, Sri Lankan and Nepalese workers bear all the risks to transfer money to their families.

They pay thousands of dollars to middlemen to get there.

And when you arrive, you find yourself in a workers' camp with no water, no air conditioning, and your passport taken away.

It's easy to blame local officials and higher authorities, but 99% of these workers are employed by private companies, so we have at least as much responsibility.

Organizations like Buildsafe UAE are popping up, but the numbers of workers are just overwhelming.

In August 2008, the United Arab Emirates government noted that 40% of the country's 1,098 worker camps failed to meet minimum hygiene and fire standards.

And last summer, more than 10,000 people complained about unpaid wages, poor food quality and poor living conditions.

Besides, the financial crisis happened

When the contractor went bankrupt, they had been speculated on borrowed money like everyone else, and the effect was to lose everything: the contracts, the passports, the tickets for the workers to go home.

Thousands of workers are being abandoned at this very moment

there's no way to go home

There is no way to do it, there is no guarantee that it will come

I am a temporary active refugee.

The question is, as an architectural expert, as an architect, as an engineer, as a developer, if you know this situation and you're on the site every week, can you ignore it and be complicit in human rights abuses?

Okay, environmental stuff aside

Consider the ethical aspects

What's so good about creating carbon-free, energy-efficient materials? While the workers who build these skyscrapers are subjected to unethical conditions at best

Lately they say you've chosen a path too high

But quite frankly, there's no other way around this issue.

Remember who really paid the price for the financial crisis

And think about a mechanism to protect workers so that they worry about their next job at work.

don't forget those who really want to work

thank you

(applause)

I want to talk to you today about the scale of the scientific efforts that make headlines in the newspapers.

Headlines like this about climate change, headlines about air pollution and smog.

Both are subfields of one field, atmospheric science.

Such was the headline when the Intergovernmental Panel on Climate Change (IPCC) recently issued a report on the state of our understanding of the atmospheric system.

The report was written by 620 scientists from 40 countries.

Nearly 1,000 pages of material on the subject. They were further reviewed by over 400 additional scientists and peer reviewers from 113 countries.

This is a big community. In fact, its annual meeting is the largest of its kind in the natural sciences in the world.

The conference draws 15,000 scientists to San Francisco each year.

Each scientist belongs to a research group, and each research group conducts research in a wide range of fields.

Our group in Cambridge also has a wide range of research themes. From the El Niño-Southern Oscillation that affects weather and climate, to the analysis of satellite data, and my research - greenhouse gas emissions from crops that make biofuels.

In each of these dozens of research areas, there's a PhD student like me working on a very narrow subject, one or two processes or molecules.

I'm working on an organic molecule called isoprene.

Perhaps you have never heard of it.

One paperclip weighs 900 zettas (9,000 vol) of isoprene molecules.

But despite its very light weight, isoprene equivalent to the weight of all humans is released into the atmosphere each year.

This is a huge amount. comparable to methane emissions.

Due to its abundance, isoprene is important to the atmospheric system. Because of its importance to the atmospheric system

A lot of effort is being put into researching this substance. For example, detonate it and observe the wreckage.

This is the EUPHORE smog chamber in Spain.

For explosion or combustion reactions in the atmosphere

It takes 15,000 times longer than the reaction that takes place in a car.

But still we observe the reaction.

We also have supercomputers running incredible models, and I do.

The model simulates hundreds of thousands of meshes with hundreds of variables at fine time intervals.

It takes weeks to integrate. And then do dozens of integrals to understand what's going on.

We are traveling all over the world in search of this substance.

I recently participated in a field trip in Malaysia.

There, in the middle of the rainforest, there's a big atmospheric watchtower, and that tower houses expensive equipment worth hundreds of thousands of dollars to monitor isoprene and other substances. A top view of the tower in the middle of the rainforest.

This is a view from below. And as part of this field trip, we even brought an aircraft.

This BA146 managed by FAAM is

It is an airplane that usually carries 120 to 130 people. Maybe some people got on a similar plane when they came here today.

But we weren't just flying, for isoprene measurements

It was flying 100 meters above the canopy. It's very dangerous.

It had to fly at a special angle for the measurements. Hire Air Force pilots or test pilots to operate. A special flight permit must also be obtained. It takes about 2G when turning the slope of this valley.

Scientists have to wear safety belts to take measurements on board. So, as you can imagine, the inside of this plane is

It's nothing like the planes you take on vacation. This is a flying laboratory for measuring the distribution of isoprene.

We do all this to understand the chemistry of a single molecule.

And when a student like me gets a trend or an insight about that molecule, he writes a scientific paper on that subject. Therefore, from this field survey, it is probable that

There will be dozens of papers on dozens of processes and molecules. In this way knowledge is accumulated

It can be a section or a subsection within a section of an IPCC or other report.

Each of the IPCC's 11 divisions has 6 to 10 subsections.

Now you can imagine the scale of this business.

We always have a summary for each evaluation we write, but this summary is for non-experts.

And you give it to journalists and policy makers, and that's how you get headlines like this. Thank you for your attention.

(applause)

my journey began 30 years ago

When you step into a coal mine you realize it's a world unseen

I wanted to use a color, large-format camera and a very large piece of paper to create a body of work that is symbolic of how we use the earth.

What's important to me is being able to contemplate the earth through this medium of photography, and I thought photography was perfectly suited to create that kind of work.

After 17 years of photographing the landscape of this enormous industry, I realized that oil was the driving force behind its scale and speed.

What changed was the speed with which we were squeezing out all the resources.

And so I embarked on a series about "oil landscapes."

What I wanted to do was draw a map of that path, and the first chapter is the extraction scene where you take it out of the ground and refine it.

What I wanted to do in the next chapter was how we consume it, cities, cars, and where people gather around cars and celebrate, car culture.

The third chapter is the idea of ​​the end of oil, the entropic end. Every part of a car, tires, oil filters, helicopters, planes -- where is the landscape where it all ends?

And for me, photography was a way of exploring the world, investigating it, discovering its places.

And then there was another idea, brought to us by an ecologist, who calculated how much carbon and how much organic matter would be needed to produce a liter of gasoline.

The answer was 23 tons to 1 liter

I always think of that when I fill up my car

Oil comes from the oceans and phytoplankton, and we also calculated how much it would take to produce that much energy.

It takes 500 years of photosynthetic growth to generate the 30 billion barrels of oil that we consume each year.

It made me realize the great threat to our society.

That's 30 billion barrels a year, two big oil suppliers, Saudi Arabia and Canada with its oil sands.

Together, these two countries will only supply about 15 years.

Even with world reserves estimated at 1.2 trillion barrels, it will last only 45 years.

It's not a question of whether there will be an oil peak, it's a question of when.

I use photography, but I feel that we all have to start getting serious, bringing together our talents and our mindsets, and starting to deal with perhaps the biggest challenge of our time: the energy crisis.

On the other side of that, I hope that in 30, 40 years from now, I can look my children in the eyes and say, "In the most critical moment of our time, we've done everything humanly possible to alleviate the problem." Thank you very much.

(applause)

I have a question for you. What do these three people have in common?

maybe you know who the first person is

I'm sure you've been watching "American Idol" with all your heart.

You may not know Aida Al Jahani, who made it to the finals of the "One Million Poets" contest, broadcast from Abu Dhabi and watched throughout the Arab world.

In this competition, contestants write and recite an original poem, traditionally a Bedouin poem in the Nabati style.

Lima Sahar made it to the finals of a singing contest called "Afghan Star."

Before I go any further - I know it all started with 'Britain's Got Talent'

But the reason I'm talking about these shows is because I want to show that everyone has the right to participate in this competition of talent, and how SMS votes to determine the winner are transforming tribal communities.

Focusing on Afghanistan and the UAE of the Arab world, we'll see how these shows are transforming tribal societies by integrating them into local cultures rather than adopting Western ideas.

it all starts with fun

(Video): I'm late for "Afghan Star"

I'm going to see "Afghan Star", I'll be late

it's already starting

I gotta go see "Afghan Star"

CS: These shows have an incredibly deep social reach.

In Afghanistan, people travel very far to watch this show.

You don't necessarily have to have your own TV

People are watching it all over the country using public places as well.

But they don't just watch, they also campaign.

People are so enthusiastic and spontaneous, like political volunteers, that they campaign for candidates they support all over the country.

Contestants also want to stand out

Ethnic affiliation influences voting, but not only

Each year there is a winner from a different tribe

This show opened doors, especially for women.

Two women made it to the finals last season

One of them, Rima Sahar, is a Pashtun from Kandahar, a very conservative part of the country.

In a documentary about "Afghan Star," she says her friends tried to dissuade her from appearing, saying she abandoned them for democracy.

But she confides that she knows Taliban members are actually voting for her via SMS.

Aida Al-Jahani also took a risk and made a public appearance in the "One Million Poets" contest.

Her husband certainly supported her from the beginning.

But her tribe and family strongly objected and encouraged her to stop competing.

But once she started winning, I started rooting for her.

We all know the value of competing and winning

and she got it

Her poems are about women, about women's lives in society.

By just writing about herself and competing with men - this is the voting scene for the show - she becomes an important model for young women, young women watching the show, in Abu Dhabi and elsewhere.

You might think that "American Idol" is a push for Americanization.

but actually the opposite is happening

Combining this frenzied programming format with traditional local culture, the program is actually building interest in Nabati-style poetry, traditional clothing, and traditional music in the Gulf region.

In Afghanistan, where the Taliban banned music for many years, traditional music is gaining attention through the program.

People sing Afghan songs, not pop songs.

Also, they learn how to lose gracefully, not take revenge on the winner.

(Laughter) It's no small thing.

The newest of these "American Idol"-style shows has recently started in Afghanistan with a new show called "Candidates."

In this show, contestants present a political platform and put it to a vote.

Many of the contestants are too young to run for president, but they are influencing the election by shedding light on the issue.

Behind the scenes, but importantly, reality TV drives reality.

thank you

(applause)

We grew up touching things around us.

There are so many things that we use in our daily lives.

Unlike most computer devices, everyday objects are fun to use.

When we talk about objects in everyday life, there's one more thing that comes along with it: gestures, how we treat those things, how we use them in real life.

Gestures aren't just for objects, they're also used for people

The "Namaste!" gesture is used to show respect to someone, and any Indian kid knows it's a cricket four run, even if they weren't told.

Learn naturally in your life

One of my early curiosities was, "Can our knowledge of objects and gestures, and how we use them in real life, help us make the digital world better?"

Couldn't we use a computer with everyday gestures instead of using a keyboard and mouse?

I started this quest about eight years ago, and I first picked up a mouse on my desk.

So instead of using the computer, I opened it up.

A mouse used to have a ball inside, and two rollers that tell the computer what the ball is doing when you move the mouse.

So I was intrigued by these two rollers and wanted more, so I borrowed a mouse from a friend and never returned it, but now I have four rollers.

What we did with that roller is take it off the mouse and line it up.

I attached a string and a pulley and a spring.

And what we ended up with was a gesture interface device that acted as a motion sensor for two dollars.

The movements that I did in the real world were recreated in the digital world through this little device in the year 2000.

I'm interested in the integration of the two worlds, so my next thought was sticky notes.

Is it possible to make everyday sticky notes an interface to electronic sticky notes?

A paper message to your mom can be delivered as an SMS, appointment notes automatically sync with your digital calendar, to-do lists automatically sync, and so on.

And then you can search in the digital world, and you can ask questions like, "What is Dr. Smith's address?"

The results are printed out on paper. This is a system that uses paper for input and output. Only the paper is visible outside.

As another exploration, I also thought of pens that could write in three dimensions.

And with that pen, designers and architects can not only think in three dimensions, but they can actually write in three dimensions, and it should be much more intuitive to use.

Can't you pull Google Maps into your daily life? I thought both

Instead of typing in search terms to find something, you put things on top of it.

Show me the way to the gate if you put your boarding pass

A coffee cup indicates where you can buy coffee or where the trash can is.

These are my early quests, and my goal has always been to seamlessly connect the two worlds.

All of these experiments have one thing in common: they're trying to bring parts of the world around us into the digital world, parts of things, parts of things.

We're bringing the intuitive side of real life into the digital world, and we wanted to make computers more intuitive.

But I realized that we weren't interested in the computer itself.

We are interested in information in computers.

we want to know about things

i would like to know what is going on

So around the beginning of last year, I started thinking, "Can we reverse this approach?"

What if we could take the digital world out and project it into our everyday lives?

The pixel data is contained in a square device that fits in this pocket.

If we could unleash it into the world of everyday life, wouldn't we need to learn a new language to play with pixels?

To make this dream a reality, I actually put a big projector on my head.

It's a head-mounted projector.

I cut a notch in my motorcycle helmet so that the projector would sit nicely.

That's how digital information has enabled us to augment the reality around us.

But later on, I realized that I wanted to manipulate that digital information as well, so as digital eyes.

I have a small camera

And then we took it even further and created a consumer pendant, which is the SixthSense device you know.

What's particularly interesting about this technology is that it allows you to take your digital world with you wherever you go.

You can find a wall somewhere and use it as a control surface.

the camera captures the gesture

interpret various gestures

Early versions used color markers, as you can see here.

any wall is fine

Stop in front of the wall and project

Track more than just one finger

You can use all your fingers on both hands, so you can pinch the map with both hands to zoom in and out.

What the camera is actually doing is edge recognition, color recognition, and a bunch of other fine-grained algorithms.

It's technically quite complex, but the end result is something that's intuitive to use.

The fun thing about this is that you can take it outside.

Without taking the camera out of your pocket, just make a photo gesture and it will take a picture for you.

(Applause) Hi

And once you've taken a picture, you can find a wall anywhere, and you can project the picture and say, "Okay, I'm going to tweak this picture a bit and email it to a friend."

We're entering an era where the computer world and the everyday world are merging.

And when you don't have a suitable wall, you can do simple manipulations in the palm of your hand.

I'm dialing with my palm

Cameras can not only recognize your hand movements, but they can also recognize what you're holding.

For example, what I'm doing here is I'm picking up the cover of a book and matching it against thousands of online sources to figure out which book it is.

Once you know which one, you can pull up a review of the book, or pull up the audio commentary on the New York Times site and listen to it while holding the actual book in your hand.

(…in a famous speech given at Harvard University…) This is from President Obama's visit to MIT last week.

(...special thanks to two outstanding professors at MIT...) I'm watching a live video of his talk outside on the newspaper.

Or live weather information in the newspaper without a computer

You can see

(Applause) When I leave, I can see my flight delays on my boarding pass, without having to pull out my iPhone and hit the icon.

This technology is... yeah (laughs)

It changes not only things, but also the way people relate to each other.

For fun, you can even take the Boston subway and play a game of table tennis on the train floor.

(Laughter) When technology like this becomes part of our lives, the only limit to what we can do is our own imagination.

Some might say that we deal with more than just everyday objects.

In fact, I do accounting, editing, and all sorts of other things.

And I'm sure many of you are eagerly waiting for the next generation of tablet PCs to hit the market.

Instead of waiting for it, I decided to make mine out of scrap paper.

What I did is the webcam has a microphone

So I took it out and put it into a clip so I could attach it to a piece of paper.

Then you can make a touch sound when you touch the paper.

The camera captures the actual finger movements

Of course you can also watch movies

Hello, I'm Russell, a member of the 54th Wilderness Expedition.

and the game

(Engine sound) Here, the camera knows how to hold the paper and controls the racing game.

(Applause) I hope you have a good idea of ​​what we can see.

You can see websites and computer screens on a piece of paper, wherever you are.

What's more interesting is to make this more alive.

When you go back to your room, you can pick up the information and drop it on your computer, and then you can continue with the big computer.

(Applause) And it's not just computers, it can be done on paper.

Playing in the paper world is very interesting

You can take a piece of material here, take something else from somewhere else, and modify the information on the fly.

"Okay, it looks good. Let's print it."

then print

This is the way we used to do things like 20 years ago, and it's more intuitive than the way we do it now, which is to navigate between the two worlds.

Finally, I believe that by integrating information into the objects around us, we can not only bridge the gap between these two worlds, we can bridge the digital divide, but we can also be more connected and more human in the world around us.

And we'll be able to avoid being part of a machine

that's all

(Standing ovation) Thank you very much.

(Applause) Pranav, let's face it, you're a genius.

really amazing

what are you going to do with this? Are you planning to start a company?

Or do you want to continue your research?

In fact, many of the Media Lab's sponsors are interested in how this technology can be developed -- cell phone companies, for example.

We are looking for something different than Indian NGOs "Why only 'Sixth Sense'?

'Fifth Sense' for the disabled

As it should be, we can use this technology to make them talk in a different way." What's your own plan? Are you still at MIT?

What are you going to do with this? Make this available to more people

We want to make it possible for anyone to develop a SixthSense device.

We plan to make this software open source, probably in the next month or so.

that's awesome wow

(Applause) Are you thinking of coming back to India someday?

Yes, of course

What's your plan?

How are you going to divide your time between MIT and India?

There's a lot of energy here, there's a lot to learn.

What you've seen is based on what I learned in India.

And if you're looking at cost efficiency, this system is $300.

Or the two-dollar mouse-gesture system that's similar to the one that was about five thousand dollars at the time.

At one conference, I showed it to Abdul Kalam, the chairman of the conference, and he said, "We should use this at the Barber Nuclear Research Center."

I'm excited about putting technology out there instead of locking it up in a lab.

(Applause) After hearing the opinions of people I met at TED, I think you're one of the greatest inventors in the world today.

I am very honored to have you at TED.

Thank you very much

really great

(standing ovation)

"¿Hablas español?" "Parlez-vous français?"

Beyond the ease of traveling and the ability to watch movies without subtitles, the brains of people who speak more than one language may look and work differently than those who know only one language.

So what does it actually mean to know a language?

Language ability is usually determined by two active abilities, speaking and writing, and two passive abilities, listening and reading.

Well-balanced bilinguals are nearly uniformly competent in both languages, but the proportion is skewed for the majority of bilinguals in the world.

There are three types of bilinguals, depending on their situation and how they acquired each language.

For Gabriela, for example, her family moved from Peru to the United States when she was two years old.

Gabriela is "complex bilingual," developing two linguistic codes simultaneously under one concept system, because she's been learning both English and Spanish since she started processing information around her.

Her teenage brother, on the other hand, could be described as "coordinated bilingual." He uses two conceptual systems, learns English in school, and still speaks Spanish with family and friends.

Finally, Gabriella's parents would be "dependent bilinguals," learning their second language through their first.

Aside from accents and pronunciation, bilinguals of all types can master the language well enough that you may not be able to tell the difference at first glance.

But recent advances in brain-imaging techniques have given neurolinguists a glimpse of how certain aspects of language learning affect the bilingual brain.

It is well known that the left hemisphere of the brain is predominantly analytical during logical thinking, the left hemisphere is predominantly analytical during logical thinking, and the right hemisphere is more active during emotional and social thinking.

The inclusion of both types of functions in language, and the gradual differentiation of left and right brain functions as we grow, gave rise to the "critical period hypothesis."

The theory is that children learn languages ​​more easily because the developing brain is plastic enough to use both hemispheres for language acquisition.In adults, language is usually dominated by one hemisphere, usually the left hemisphere.

If this is true, then learning language as a child may give us a more holistic view of social and emotional contexts.

Conversely, a recent study found that people who learned a second language as adults were more rational when faced with problems while using their second language and were less emotionally biased than when they were using their mother tongue.

But regardless of when we acquire a new language, multilingual brains have some distinct advantages.

Some things you can see with your eyes, such as the high density of gray matter, where most of your neurons and synapses are concentrated, and certain areas become more active when working on a second language.

Bilingual brains are highly trained throughout their lives, and can delay the onset of diseases like Alzheimer's disease and dementia by as much as five years.

The idea that being bilingual is a huge cognitive advantage seems intuitive now, but it would have surprised the old experts when they heard it.

Before the 1960s, being bilingual was considered a handicap, because the excessive effort required to distinguish between languages ​​was thought to slow children's development, a view largely based on flawed research.

Indeed, a more recent study also showed that some bilingual students are slower to respond and more likely to make mistakes on tests requiring both languages, but it also showed that the effort and attention required to switch between languages ​​can trigger increased activation and strengthen the dorsolateral prefrontal cortex.

This area of ​​the brain plays a major role in executive function, problem solving, task switching, filtering out unnecessary information, and staying focused.

Being bilingual doesn't necessarily make you smarter, but it does make your brain healthier, more complex, and more active. Even if you weren't lucky enough to learn a second language as a child, it's never too late.

To understand the business of mythology and the role of the "chief creed officer," hear the story of Ganesha, the elephant-headed god, the scribe of the story, and his brother, Kartikeya, the commander of the divine army.

One day, the brothers decided to race around the world three times.

Kartikeya rode on his peacock and flew over continents, mountains and oceans.

We went around the world, we went around it twice, we went around it three times

His brother Ganesha just circled his parents one, two, three times and said, "I win."

"Why?" Kartikeya said

Ganesha said: "You have circled the 'world' three times. I have circled 'my world' three times." What's more important?

If you can tell the difference between "the world" and "my world," you'll know the difference between "reason" and "myth."

The "world" is objective, logical, holistic, factual, and scientific

"My world" is subjective

emotional and personal

Perceptions, thoughts, feelings, and dreams

my belief system

The mythical world in which I live

The "world" tells us "how" the world works How the sun rises How we are born

"My world" tells us "why" the sun rises, "why" we were born

All cultures try to understand themselves "why do we exist?"

Every culture has its own interpretation of life, its own tailored mythology.

Culture is a response to nature, a way of understanding our ancestors passed down from generation to generation into stories, myths and rituals that are always irrelevant to rationality.

When we study culture, we learn that every nation in the world has a different worldview.

Different ethnicities see things differently: different perspectives

I have my world, I have your world, my world is always better than yours, because my world is rational, yours is superstitious.

is faith

not logical

This is the fundamental principle of the clash of civilizations.

In 326 BC, this clash

It happened on the banks of the Indus River, in what is now Pakistan.

The name of the river is the etymology of "India".

"India" "Indus"

A young Macedonian king, Alexander, met a so-called "naked wanderer" or "naked sage."

i don't know who

It's probably a Jain monk, Gamateshavara Bhaubari, which you can see here, and the picture is from near Mysore.

Or maybe he was a yoga teacher sitting on a rock, staring at the sky, the sun, the moon.

Alexander asked, "What are you doing?"

The Naked Wanderer replied, "I am experiencing nothingness."

A nudist asked, "What are you doing?"

Alexander said, "I'm conquering the world"

and they both laughed

Both thought the other was an idiot.

The Naked Wanderer said, "Why is he conquering the world?

It's pointless."

Alexander thought: "Why is he sitting around doing nothing?

I'm wasting my life

To understand this difference in perspective, you have to understand Alexander's subjective truths, his myths and the myths that shape them.

Alexander's mother, parents and his teacher Aristotle told him Homer's Iliad

It speaks of Achilles, the mighty hero, that when he joins the battle he is sure to win, and when he leaves he is sure to be defeated.

"Achilles made history, he's destined, and so will you, Alexander."

he heard that

"What are you not supposed to be?

Don't be Sisyphus Every day he carried the rock to the top, but the next day it was rolling down.

I can't live a monotonous, ordinary, meaningless life

Be grand! Heroes of Greece Like Jason who crossed the sea with the Argo crew and brought back the golden fur.

Be grand! Like Theseus who entered the labyrinth and defeated the bull-headed Minotaur

If you join the competition, win! Then the exhilaration of victory will be closer to the divine dish (food of immortality)."

Because the Greeks only live once, and when they die they cross the Sanzu River

They believed that if they had lived an extraordinary life, they would be welcomed into the paradise of Elysium, on what they call the Champs-Élysées in France -- (Laughter) -- a hero's paradise.

But that's not the story the nudist heard

he heard a completely different story

He heard about King Bharat, after whom India is called Bharat.

Bharat also conquered the world

And I climbed to the top of Mel, the great mountain in the center of the world.

And I was going to raise his flag and say, "I was the first to come here."

But when he came to the summit, it was covered with countless flags, all of which belonged to conquerors who had come before him, and all said, "I am the first--

I thought until I came here."

And suddenly Bharat felt his own meaninglessness in front of this myriad of cloths.

This is the myth of the nudist

He also has heroes like Raghupathiram, Krishna and Govinda Hare.

But they are not two characters in two adventures

It's the name of the same hero in two lives.

When the Ramayana ends, the Mahabharata begins.

When Ram dies, Krishna is born

When Krishna dies, he is reborn as Ram again.

So India also has a river that divides the place of life and death.

But it's not just a one-time crossing

come and go endlessly

It's called Vitalna

i go there again and again

Because in India nothing is permanent, not even death

So there is this great ceremony, where the image of the Mother Goddess is made and worshiped for ten days--

And what do you think will happen in 10 days?

to be submerged in the river

because it has to end

and the next year she regenerates

Things that go around always come around, and that applies not only to humans, but also to gods.

In other words, God also has to come back again and again like Ram and Krishna.

While living eternal life, you must be reborn an infinite number of times, all the way to nothingness.

It's the day of Candlelight

(Laughter) Two separate myths.

which one is correct?

Two myths Two ways to see the world

One is a straight line and the other is a circle

One life only once

one of many lives on the other

The denominator of Alexander's life is '1'

So his life's worth is the sum of his accomplishments.

The denominator of a nudist is "infinity"

So no matter what you accomplish, the result is always zero.

I believe that it was through this mythological framework that Indian mathematicians discovered zero.

I do not know

That brings us to our business myth

If Alexander's beliefs influence his actions, and the Naked Wanderer's beliefs influence his actions, so will the businesses they engage in.

Business is how the market moves How the organization behaves?

If you look at the cultures of the world, if you understand the myths, you also know how people behave in business.

please look

If you only had one life and lived only one life culture in the world, you would be obsessed with clear black-and-white logic, absolute truth, standardization, absoluteness, and linear planning.

But in a culture of cyclical, infinite life, you're comfortable with fuzzy logic, opinion, contextual thinking, everything is relative, "well" -- (Laughter) "mostly."

(Laughter) What about the arts, ballerinas? What a linear performance

What about Indian classical dance? Kuchipudi Dance, Bharatanachan Dance

(Laughter) What about business?

Standard Business Model: Vision, Mission, Values, Process

Is it like a leader commanding you to travel across the wilderness to the promised land?

If you follow me, the way to heaven is promised

But in India there is no "that" promised land

There are many different Promised Lands, depending on your social standing, depending on your life situation.

And business is carried out not as an organization, but as individuals.

In short, it's a "preference"

It's always a matter of "my preference"

Indian music, for example, has no concept of harmony.

No orchestra conductor

When one player stands, everyone follows

You can never play the same thing twice

Not documented or routine

conversation and trust

It's not obedience, it's setting the scene Bending and breaking the rules to get the job done -- Look at the Indians around you.

(Laughter) Look at people who have done business in India, and the frustration is on their faces.

(Laughter) (Applause) This is India today.

Fast-changing, highly diverse, chaotic, ambiguous, unpredictable

they're fine with that

there is globalization

The demands of modern organizational thinking are coming

It is built on the culture of "once in a lifetime"

We're having a collision like the one on the banks of the Indus.

it has to happen

I have personally experienced it too. I was trained as a doctor.

I didn't want surgery, I don't know why.

Mythology has taken my mind,

I wanted to learn mythology, but no one taught me

so i studied by myself

Myth isn't gold, until today

(Laughter) So I looked for a job, and I went to work for a pharmaceutical company.

then in the medical industry

Marketer, salesman, intellectual, content man, trainer

Developed strategy and tactics as a business consultant

I've seen my American colleagues and European colleagues get annoyed with Indians.

For example: “Please tell me the flow of billing the hospital.”

"Procedures A, B, and C, roughly."

(Laughs) How do you quantify "generally"?

Can it be put into software? Impossible

Even if I explain my point of view to them

Nobody listened to it until I met Kishorebiyani from Future Group

He created the largest retail chain called Big Bazaar.

Over 200 retail outlets in 50 cities across India

in dealing with a diverse and dynamic market

He intuitively realized that the "best practices" developed in Japan, China, Europe, America, etc., were not working in India.

Organizational forms of thinking are useless in India, must be idiosyncratic

He intuitively saw through the structure of Indian mythology.

So he asked me to be the "chief creed officer": "I just want you to reconcile the beliefs."

Sounds easy, doesn't it?

But belief cannot be measured

You can't manage what you can't measure

So how do you build belief?

How to increase people's sensitivity to "Indian"

Even for Indians it is not clear, it is not clear

So I used the standard cultural model: stories, symbols, rituals.

Let me introduce you to one of those rituals.

It is based on a Hindu ritual called Dashan.

Hinduism does not have the concept of "commandments"

There's no right or wrong in what you do in life

I don't really know how to stand before God

So go to the temple and seek audience with God

i want to see god

God has very big eyes because he wants to see you too Big, unblinking eyes Sometimes he looks at you with silver eyes

You don't know if you're right, so you ask God's sympathy

"I want you to know where I come from and why I weave jacquard."

(Laughter) "I just want you to know why I set the situation, why you didn't follow the procedure, please."

And based on this I made a ritual for the leader

Just before the leader completes his training and is put in charge of the store, he is blindfolded and surrounded by investors, customers, family, teams, bosses, etc.

Read him some performance indicators, give him the keys, and remove the blindfold.

Without exception, he has tears in his eyes because he finally understands

He didn't have to be professional to be successful, he didn't have to cut off his feelings, just bring all these people in his world together, make them happy, make the boss happy, make everyone happy.

I will make you happy because the customer is God

We need this sensibility. Once we have this belief, the action will happen and the business will start.

in fact it is

So back to Alexander and the nudist.

Everyone asks: "Which one do you prefer? Over there? Over here?"

It's a dangerous question, because beyond that lies fundamentalism and violence.

so i won't answer this question

I'll give you the Indian answer. Indian bobble.

(Laughter) (Applause) Depending on the situation, depending on the outcome, you choose a framework.

Both frameworks are man-made.

It's a creation of culture, not a natural phenomenon.

The next time you meet someone you don't know, try: Recognize that you live your subjective truth, and understand that he does too.

Please understand

Once you know that, you discover something very dramatic.

You will know that in countless myths there is an eternal and immortal truth.

who can see them all?

Varna has 1000 eyes

Indira is 100

only two for you and me

Thank you very much

(applause)

One day a one-eyed monkey came to the forest

I found a woman under a tree meditating desperately.

The one-eyed monkey knew that the woman was Sekuri.

She was also the wife of a famous Brahman

The one-eyed monkey climbed a tree so that she could have a better look

Then there was a loud noise and the sky split open (Tan!) Indra jumped into the clearing.

indra saw sekri

ha ha

Sekuri doesn't care about him

Indra pulled her up, threw her to the floor, and raped her.

Indra disappeared (tan! tan!) Her husband Brahman appeared

he immediately recognized the situation

He appealed to a higher god, asking him to give him his just reward.

Vishnu came

"Are there any witnesses?"

"Only one-eyed monkeys," said Brahman

The one-eyed monkey was desperate to justify Sekuri, so he explained exactly what had happened.

Lord Vishnu has passed judgment

"Indra has sinned because he has sinned against Brahman.

He is asked to wash away his sins."

Indra came and sacrificed a horse.

So the horse was killed God was angry that the guiltless Brahman's ego had been satisfied Her heart was wounded The one-eyed monkey... we humans say

I'm so confused about justice

Rape happens every 3 minutes in India

Only 25 percent of all rapes reported to the police in India, and only 4 percent of the 25 percent reported to the police result in a conviction.

Many women don't get what they deserve

It's not just for women

Look around, what is your country like?

There is a certain pattern to those accused of crimes

Most people detained in prisons in Australia are indigenous.

In India, it's either Muslim or indigenous or our tribe, Naxal.

most black people in america

there is a tendency to

In my stories, the Brahmans and the gods always speak their truth as 'Truth'.

Have we all become one-eyed monkeys or two-eyed monkeys instead of one?

Have we stopped recognizing wrongdoing?

good morning

(Applause) Ladies and gentlemen, I've told this story nearly 550 times, to audiences in 40 countries -- students, semi-dress dinners at the Smithsonian -- and whenever it suits the situation.

If I say to the same group, "I want to give you a lecture on justice and injustice," they'll say, "Thank you, but I have other things to do."

This is the amazing power of art

There are things that only art can do

You can't break down your preconceived notions and put up barriers It's a mask that covers you - "I am this, I am that, I am that"

smash them all

Get to places you can't get anywhere else

In a world where it's hard to change mindsets, we need a way to move people's hearts.

Hitler understood that with Wagner's music he roused the Nazis and the Aryans.

Berlusconi understood that he was at the top of a vast media and television empire.

The wonderful creative minds of advertising agencies, the people who sell us things we don't need at all, they too understand the power of art.

i knew it early on

When I was a child, my mother, who was a choreographer, had a very painful experience.

It was about young brides committing suicide in rural Gujarat, where they were forced to give money to relatives' families.

My mother made a dance piece, and then Prime Minister Nehru saw it.

He came to my mother and asked, "What are you talking about?"

His mother explained to him, and he began his first research into what is now called the "dowry dance."

Imagine the dance piece that inspired the investigation that thousands of women take their lives today.

Many years later, I had a similar experience when I played a female feminist named Droopidi in Peter Brook's "Mahabharata."

A fat black mom from the Bronx came up and said, "You're right!"

Then the fashionable young men of the Sorbonne said, "Madame Dropidi, we are not feminists, but wow!"

Indigenous African women said, "This is it."

I thought this was exactly what we needed as a means of communication.

I asked public health to come. Dudet also talked about public health

Millions of people around the world die each year from waterborne diseases.

That's because there's no clean drinking water, and in countries like India, people don't know to use soap before bowel movements.

what are they doing?

You drink water that you know is dirty. You get cholera, you get diarrhea, you get jaundice, you die.

Government fails to provide clean water

We try to build a pipeline, but it won't happen

A multinational provides a machine, but we cannot afford it

Let them die?

I had a great idea

Simple idea. No one wins, but it's a useful idea for all areas of hygiene.

Most homes in Asia and India have cotton clothing.

We've found a WHO-approved method where you can take a clean cotton cloth folded eight times and let the water through it, and it can reduce bacteria by up to 80 percent.

Why doesn't the government advertise this on TV?

Why isn't it on posters all over the third world?

because there is no profit

because no one gets anything in return

But people need it

there is one way

[Video] Woman: Hey, buy me a fancy water filter

Man: Do you know how expensive the water filter is?

There's a solution that doesn't require machines, trees or cooking gas.

Woman: What kind of solution?

Man: Bring your cotton sari

Boy: Grandpa, tell me the solution

Man: Hold on, I'll tell you.

Woman: Please, Dad (Man: Is this clean?) Woman: Yes, of course

Man: Do as I say. Fold the saree into 8

Woman: Yes, Dad

Male: Count because she does (Boy: Okay Grandpa) Male: 1, 2, 3, 4 folds

remove all bacteria from water

Chorus: 1, 2, 3, 4 fold♪

Removes all bacteria from water

5, 6, 7, 8 folds♪

Safe drinking water

5, 6, 7, 8 folds♪

Safe drinking water

Woman: Hey, Dad. I got an 8-fold cotton saree

Man: This is a cotton saree

This will make clean water

(Applause) I think it's safe to say that I'm deeply concerned about the escalating violence in our daily lives.

While universities are trying to create conflict resolution courses, governments are trying to stop border skirmishes, we are surrounded by violence. Frustration in traffic jams, domestic violence, teachers beating and killing students who don't do their homework, violence is everywhere.

Why don't you do something to pay attention to the problem on a daily basis?

What are we doing to teach our children and young people that violence is something that indulges them that we can stop and that there are other ways to channel violence, anger and frustration into other things that don't hurt others?

Let's talk about how

(Video) (Laughter) You are peace loving people.

Your parents are peace loving people

Your grandparents are peace-loving people

A lot of peace in one place?

If not, why?

(music) But if...

yeah, if...

What if the little gene inside of you is trying to survive?

From its origins in Africa through generations it may be passed down to you It's an instinct hidden deep in your heart

If it's in you, it's in me too

Smacking my little brother's butt, stomping on cockroaches, scratching my mom

The feeling that comes from deep inside, when your husband comes home drunk and you want to punish him

When you want to kill someone on a bike on your way to work When you want to hang your cousin because he's such a jerk

Time to denounce foreign whites, blacks, and browns and drive them out of town

It's a small gene. small and trivial

too small to find. innate protection

Adrenaline, killing gives you the will

You can't replace it, so you better stand up

you are a

be a victim or be a guru like me

Goodbye, Abraham Lincoln

Goodbye, Mahatma Gandhi

Goodbye Martin Luther King

Hello gangsters in this district Gangsters killing gangsters in that district

Hello, governments of rich countries, governments of countries so poor that they can't afford to feed, who sell arms to governments.

Hello civilization. hello 21st century

look what we've been up to

see what they've been up to

(Applause) Film, as mainstream art, is being used around the world to talk about social issues.

A few years ago, a movie called "Rang De Basanti" came out, in which thousands of young people suddenly volunteered for social reform.

In Venezuela, one of the most popular melodramas had a heroine named Krystal.

More than 75,000 young women went for mammograms when Krystal got breast cancer in the show.

Of course you know about "vagina monologues"

Some comedians talk about racial and ethnic issues.

Why, I mean, if we all agree that we need a better world, we need a more just society.

My message to the world's planners, governments and strategists is, "Art has been treated like an afterthought.

It must be yeast.”

Because if future plans reach their goals in 2048, we won't get there unless we put art on the same level as scientists, economists, and all those who prepare for the future.

If this is not really understood, it will not work

What do we want, what do we need?

You have to break through the conception of what a planner is and what is the right way to live.

So for the last few years, I've tried to make the world a better place, but I've failed.

Rape victims are on the rise. war is increasing

More and more people are dying from simple things

something has to change. and that's what i want

last music please

Once upon a time, there was a princess who was good at whistling.

(whistle) my father the king said don't whistle

Mother Queen said, "Don't whistle"

princess won't stop

(Whistling) Years later, the princess grew up to be a young and beautiful woman, and she began to whistle more beautifully.

(whistling) Father the King said, "Who will marry the whistling princess?"

Mother Queen said, "Who will marry the whistling princess?"

But the king had an idea

The King announced that he will hold Sovayamvara

I decided to invite all the princes and find the one who can whistle better than my daughter.

"Whoever wins my daughter, I will hand over half of the kingdom and let her marry!"

Soon the palace was filled with whistling princes

(Whistling) There was a prince who was bad at whistling.

There was also a prince who was good at whistling

But no one could beat the princess

"Now what shall I do?" said the King

"Now what shall I do?" said the Queen

Then said the princess. "Father, mother, don't worry

I have a good idea. I will go to the princes and ask them one by one if I lost.

If someone admits defeat, that's what I want."

The princess went to each prince and asked, "Do you accept that I have won?"

Then he said, "Me? Lost to a woman?

No way! no! unreasonableness! Absolutely impossible."

Finally, a prince said, "Princess, I admit I lost."

"fault..."

"Father, mother, this is who will be my husband," said the princess.

(whistling) Thank you

(applause)

As an Indian, and now as a politician and cabinet member, I'm concerned about the hype about India: that India will become the world leader, much less that we will become the next superpower.

In fact, my book, "The Elephant, The Tiger and the Cellphone," and in fact, my book, "The Elephant, The Tiger and the Cellphone," was given an awkward subtitle in the United States, "India: The Next 21st Century Powerhouse."

But I don't think it's India, and I don't think it should be the only one.

In fact, the very concept of a world leader bothers me because it seems so old-fashioned.

It reminds me of James Bond movies and Kipling's ballads.

What are the requirements for being a world leader?

If we're talking about population, we're on our way to the top.

Overtake China by 2034

Is it military power? Our military is the fourth largest in the world.

What if we have nuclear weapons? I have it properly

Even America recognizes it, so it's an agreement.

What about economic strength? India is now the fifth largest economy in the world according to purchasing power parity theory.

And it continues to grow, growing 6.7 percent last year, while the rest of the world was hit hard.

But beyond this, I believe there is much more for India to contribute to the world in the 21st century.

And so I thought, maybe what the world wants from India is power that is even more ideal than what I just said, the appeal of Indian culture, what we call "soft power."

"Soft power" is a concept coined by my friend and Harvard scholar Joseph Nye.

For lack of time, to put it simply, it's basically a country's culture, its political values, its foreign policy, and so on, that attracts other countries.

It's used by many countries. Nye wrote about the United States first, but the Alliance Française is an example of soft power in France, and so is the British Council.

The Beijing Olympics was an exercise in China's soft power.

America has the national broadcaster Voice of America and the Fulbright Scholarship.

But the reality is that Hollywood, MTV, and McDonald's are doing more to spread America's soft power around the world than government action.

So soft power comes from governments, but it also comes from non-governmental sources.

In today's information age, you could call it the TED age, countries are increasingly being valued by the global community, which is flooded with internet news, images from television, cellphone videos and gossip emails.

In other words, communication tools tell us the stories of nations, regardless of their intentions.

Now, in this day and age, countries with diverse means of communication and information have a particular advantage.

Sometimes it can have an effect on how you are seen.

India has more news channels than any other country in the world, more than all the countries in the region combined.

but that's not all

To have soft power, "connection" is also important

You might think it's amazing how India is connected right now.

I'm sure you've already asked for the number.

It now sells 15 million phones each month.

500 million and 9 million mobile phones are in Indian hands.

So the phone market is bigger than the United States.

In fact, that 15 million number means that we're connected faster than any other country in the history of telecommunications, including the United States and China.

But do you know how long we've come here?

When I grew up in India, telephones were very rare.

Unusually, members of parliament had the right to set aside the quota of 15 telephone lines for those of their choosing.

If you were lucky enough to be a wealthy businessman or an influential journalist or a doctor, you could have a phone.

But sometimes I just have

I went to high school in Calcutta

A telephone was installed at the front door

But when I picked up the phone in anticipation, most of the time there was no dial tone.

Even if there is a dial tone and you turn the dial, 2 out of 3 times you will be connected to the wrong person.

"You're wrong" seems to be the more common response than "Hello"

(Laughter) Also, if you wanted to make an out-of-town call, say, from Calcutta to Delhi, you would have to book a long-distance call and sit at the phone all day waiting for it to connect.

Or you could have paid eight times the price and used something called a "lightning call."

At that time, lightning was slow to fall in Japan, and it took 30 minutes for a lightning call to be connected.

Telephone service was so dire that in 1984 a member of parliament protested about it.

The Minister of Communications at the time haughtily replied, "In developing countries, telecommunications is not a right, but a luxury, and it is not the government's responsibility to provide better services. Rather, if MPs are unhappy with their phones, they have an eight-year waiting list, so why don't you give them back?"

Jump to the present day and look around, 15 million phones are sold every month.

So what's striking is who has a cell phone.

For example, if you visit the suburbs of Delhi, you'll see a man on the side of the road pulling a cart that looks like it was designed in the 16th century, and he's skillful at using a coal-heated iron, probably invented in the 18th century.

I'm an "ironer", but I have 21st century tools.

The reason I have a cell phone is that it's usually free, so I use my cell phone to take orders from my neighbors and collect clothes to iron.

I was in my home state of Kerala the other day, and I went to my friend's farm, 20 kilometers away from the city.

It was a hot day, so he asked me, "Would you like some coconut juice?"

I said, "Of course."

He took out his phone and dialed, and a voice said, "I'm upstairs."

Nearby at the top of a coconut tree, with an ax in one hand and a cell phone in the other, was a local tapper who came down the tree and brought us coconuts to drink.

Even fishermen carry mobile phones when they go out to sea.

When you catch a fish, call the harbor market to see where you can get the best price.

Farmers used to spend half a day toiling to find out if the market was open, whether they could sell what they had harvested, and at what price.

So to get this kind of information, I sent an eight-year-old boy into town, and he went and waited for him to come back, and then he loaded the wagon.

Now, this half-day job is done with a two-minute phone call.

So being able to tap into the power of those at the bottom of society is the real achievement of connecting India as a whole.

This transformation is part of where India is headed.

India is not the only one spreading

There's Bollywood, and my thoughts on Bollywood can be summed up by the story of two goats in a Bollywood dump -- I'm sorry, director Shekhar Kapoor -- and they're eating film that Bollywood studios throw away.

When one bites and says, "This movie isn't bad,"

The other one says, "No, the book was better."

(Laughter) I usually prefer books, but still, Bollywood is now promoting a particular Indianness and Indian culture to the world, not only among Indian immigrants in the United States and the United Kingdom, but also in Arab countries, Africa, Senegal and Syria.

In New York, I met a man whose mother is illiterate. His mother lives in a village in Senegal, and he takes the bus to Dakar, the capital, once a month just to watch a Bollywood movie.

if you can't understand the conversation

she can't read french subtitles

However, these movies are made to be enjoyed even with such a handicap, and she enjoys singing, dancing, and action.

As a result, I leave India with a twinkle in my eye.

This phenomenon is increasing

Afghanistan is a major security issue for countries around the world.

India has not sent troops to Afghanistan.

What has India done most in Afghanistan over the past seven years?

Actually, this is the Afghan who stopped answering the phone at 8:30 at night.

Why? Because that time is when the Indian soap operas air, dubbed into Dari on Todo TV.

It became the most popular television show in Afghan history.

Every Afghan family should watch this show

I stop doing what I'm doing at 8:30

I've heard that even wedding ceremonies were interrupted so that the guests could gather in front of the TV, and then return to the bride and groom.

Crime increased at 8:30. It's a Reuters report, so it's not Indian propaganda. The British News Agency reports that in the town of Mazar-e-Sharif, thieves stole everything they could get their hands on, wipers, hubcaps, side mirrors, at 8:30, because the security guards were preoccupied with the television during that time.

In addition, the window was painted with graffiti, "Tulsi Zindabad: Long live Tulsi," after the heroine of the drama.

(Laughter) That's soft power, and that's what India is developing through the E part of TED, through its own entertainment industry.

I don't have time to give too many examples, but our music, our dance arts, our yoga, our Ayurvedic medicine, our Indian cuisine.

From the time I first went abroad as an exchange student in the 70s to the present day, the number of Indian restaurants has skyrocketed! It's almost impossible to find a medium-sized town in Europe or North America today without an Indian restaurant, which may not taste as good.

For example, in England, Indian restaurants employ more people than the mining, shipbuilding and steel industries combined.

Yes, the empire can strike back.

(Applause) Now, as the story of Afghanistan, through me and all of you, grows more aware of India, the more I realize something important in today's information society is that it's not the side with the bigger army that wins, but the country that can tell the better story wins.

India, in my view, is the country with the better story and must remain.

Stereotypes are changing

I know the image of India in America in the 70s when I was an exchange student.

Today, in Silicon Valley and elsewhere, IIT (Indian Institute of Technology) has the same respect it once did to MIT (Massachusetts Institute of Technology).

This sometimes has unexpected results

I had a friend who was a history major like me, and he was stopped at Amsterdam Airport Schiphol by an anxious, sweaty European man who said, "You're an Indian, you're an Indian, aren't you? Can you fix my laptop?"

(Laughter) He asked me to. (Laughter) The image of India has changed from mendicant monks lying on beds of nails and snake charmers wielding ropes to a country of math and computer geniuses and software professionals.

This is also changing the story of India around the world.

But there's something even more substantive.

This story is built on the basic policy foundation of the multi-party system.

But this is also the story of civilization.

India has been an open society for thousands of years.

India gave shelter to Jews fleeing the destruction of the temple by the Babylonians and Romans.

Legend has it that when Thomas the Unbelieving, St. Thomas the Apostle, reached the shores of my hometown of Kerala, sometime around AD 52, he was greeted by a Jewish girl playing a flute on the shore.

India is still the only country in Jewish history where Jewish immigrants have never faced anti-Semitism.

(Applause) This is India's story.

Islam came amicably to the south, and history in the north was a little more complicated.

All the different religions were welcomed and found their homes in India.

We had a general election this year, and it was the greatest exercise of democratic voting rights in human history.

Our voting population is growing by 20 million people each year, so the next election will be even bigger.

But the fact is, the last election, five years ago, was an astonishing phenomenon for the world. Sonia Gandhi, a female politician of Italian descent and Catholic, won the election and appointed Manmohan Singh, a Sikh, as prime minister, and he took the oath of office in front of the Muslim president, Abdul Kalam, in a country that is 81 percent Hindu.

(Applause) And the reason this is even more shocking is that four years later, an event that the world celebrated, the United States, the world's oldest democracy with a history of more than 220 years of free and fair elections, only last year elected a white, male, non-Christian president or vice president.

So--I'm sorry, he's a Christian, and he's male, but he's not white.

In the past, there were only people who had all three of these things.

(Laughter) I was trying to say that every president before us had all three.

(Laughter) But the point of this example is neither Indian propaganda nor propaganda.

For the most part, election results don't matter to countries other than India.

It's essentially just India trying to be Indian.

I think that's ultimately more effective than propaganda.

Governments aren't very good at telling stories.

But people see society as it is, and I think that's what ultimately matters in the modern information age, the TED age.

It's no longer racial, linguistic, or religious that Indians want today, because all races coexist and all religions are practiced, except for Shintoism, which also has some hints of Hinduism.

There are 23 languages ​​recognized by the Constitution

Those of you who have exchanged money for Indian currency must have been surprised by the number of languages ​​that represent the amount written in the rupee.

there are all these

We don't even have a geography that unifies us, because the subcontinent's geography, naturally surrounded by mountains and seas, was changed with the partition of Pakistan in 1947.

In fact, even the name of the country makes me think, because the name "India" comes from the Indus River in Pakistan.

But the point is, India is a nation of ideas.

The idea of ​​Everland, born of an ancient civilization, united by a shared history and, above all, sustained by a pluralist democracy.

This is a 21st century story, but it's also ancient.

And what underpins this country is the idea that we can all agree to talk about class, beliefs, skin color, culture, food, customs, dress, even the pronunciation of words.

This agreement is a very simple principle, which is that in a pluralist democracy like India, you don't have to agree to everything as long as you agree on the rules of how to disagree.

The key to India's success, a country that many scholars and journalists predicted would collapse in the '50s and '60s, was that it was able to hold on to the agreement to survive without a deal.

This is India, which is gaining prominence in the 21st century.

I want to make a point here: there's nothing about India worth admiring, neither its military strength nor its economic strength.

We need them all, but we still have a lot of problems.

Someone once said that India is a "very poor superpower."

cannot be both

We have to overcome this poverty. We have to deal with all the infrastructure that will come with the development of ports, roads, airports. And we have to deal with all the infrastructure. And human capital.

A great adventure is taking place that will overcome challenges we cannot ignore.

And it's happening in a very open society, in a rich, diverse and complex civilization that will unleash the creative energy of people and live up to their expectations.

That's why India deserves TED, and TED deserves India.

thank you

(applause)

One of the great joys of traveling, and one of the joys of doing ethnographic research, is living with people who have not forgotten their old way of life, people who still feel the past in the wind, in the rain-beaten stone, and in the bitterness of the leaves.

To know that jaguar shamans still travel across the Milky Way, that ancient Inuit myths still hold great significance, and that Buddhists in the Himalayas are still searching for signs of the Law is also a reminder of one of anthropology's most important discoveries: that the world we live in does not exist as an absolute, but as a form of reality -- our ancestors, generations ago. It's the concept that we choose to adapt and are only the result of successful combinations of alternatives.

Adaptation, of course, is essential for all of humanity.

We are all born of someone and give birth to children

everyone goes through a rite of passage

We all endure the inevitable bereavement, so it's no surprise that every culture has songs, dances, and arts.

But what's interesting is that each culture has its own song and dance rhythms.

The Penan in the forests of Borneo, the voodoo cultists of Haiti, the warriors of the Kaisut desert in northern Kenya, the curanderos of the Andes, and the caravanserai caravans of the Sahara.

What they all teach us is that there are other ways of being in the world, other ways of thinking, other ways of finding our place on earth.

This kind of thinking just fills us with hope.

The spiritual and cultural lives of countless cultures around the world are important elements that envelop this planet and lead it to happiness.

We might think of this cultural world as an "ethnocultural sphere," which could be defined as the sum total of all the thoughts, dreams, myths, ideas, inspirations, and intuitions that have been generated by the human imagination since the dawn of human consciousness.

Folk culture is a wonderful heritage of humankind.

It's an amazingly curious species that represents the way and the potential of humanity as a whole.

And just as the biosphere has been eroded violently, so has the ethnocultural sphere—and it's eroding even more rapidly.

No biologist can say that more than 50 percent of all species are threatened with extinction, because that's not the case. Yet the outlook for cultural diversity is so bleak that the worst-case biodiversity scenario is far from even the most optimistic.

The disappearance of language is clear

When everyone here was born, there were 6,000 languages ​​spoken on Earth.

Language is not just a set of words or a set of grammatical rules

Language is the manifestation of the human spirit

It's also a means of sending the soul of each culture into the physical world.

Every language is to the human mind what an ancient forest is, what rivers, thoughts and ecosystems are to the potential of the mind.

Half of those 6,000 languages ​​are out of reach for children as we sit here.

There are no more babies to learn the language, and unless something changes, the language is effectively dead.

Nothing is more lonely than not being the last person to speak the language, surrounded by silence, with no means of passing on the wisdom of our ancestors to the future, and not entrusting the future to our children.

Yet this terrible fate befalls someone, somewhere, because almost every two weeks, somewhere on Earth, an elder dies and is buried with the last word of an ancient word.

Some people say, "Wouldn't it be nice if we all spoke one language?" So let's standardize on Yoruba, or Cantonese.

Kogi is fine

Only then will you realize what it's like to lose your language.

Today, I'm going to take you on a journey through the ethno-cultural sphere, and I want you to feel what's really being lost through that journey.

A lot of us tend to forget that when we say "different human beings," we really mean "different."

For example, this child is from the Balasana tribe of the northwestern Amazon, a tribe of anacondas who believe in the myth that they were protected in the belly of a sacred serpent and came up the Milk River from the east.

The color perception of this family makes no distinction between blue and green, for to them the canopy of the forest and the canopy of the sky are one and the same thing upon which they depend for life.

They have a peculiar language and marriage code that requires you to marry someone who speaks a different language than you, a linguistic exogamy.

It's a custom that has its roots in old legends, but what's interesting is that in the tenements they live in, six or seven languages ​​are spoken because of this marriage system, but no one practices the language.

they just listen and start talking

Another example is one of the most interesting tribes I've lived with, the Huaorani people of northeastern Ecuador, who were first peacefully contacted in 1958.

In 1957, five evangelists attempted contact and made serious mistakes.

They threw out large-format photographs of themselves from the sky, as a sign of friendship, but they forgot that the people of the woods had never seen anything in two dimensions before.

They picked up pictures from the ground and looked for the people behind the pictures, but when they couldn't find anything, they thought it was evidence that the devil had come, so they speared the five evangelists to death.

But the Huaorani don't just sting outsiders.

stab each other to death

54% of their deaths were from stabbings.

I researched eight generations back in the family tree, and there were only two natural deaths. When I questioned it a bit, one of my friends confessed that he was so old that he died of old age and was speared (Laughter).

A hunter can smell animal urine from 40 paces away and tell which species left it.

In the early '80s, my professor at Harvard University presented me with an astonishing research project: Would you be interested in going to Haiti and infiltrating the secret society that underpinned dictator Duvalier's power and served as the base for the secret police, and to obtain the poisons used to create zombies?

Of course, to understand this sensational object, I had to understand the amazing belief in voodoo. Voodoo is not a black magic cult.

On the contrary, it's an interesting religion with a complex philosophical worldview.

If you asked me what the world's major religions were, what would you give me?

Christianity, Islam, Buddhism, Judaism...

There's one continent that's always gone unmentioned: sub-Saharan Africa, as if there were no religion, which is, of course, wrong.

The interesting thing about voodoo is the living relationship between the living and the dead.

the living give birth to souls

Souls are awakened from beneath the great ocean, and in response to the rhythm of the dance, the souls of the living temporarily leave their bodies, and for that brief moment God descends upon the believer.

So voodoo believers say, "White people go to church and talk about God,

We dance in temples and become gods."

"It can't be hurt because it's possessed and possessed by spirits."

In fact, we're seeing an astonishing spectacle like the one above, where believers in a trance don't get burned when they touch the embers, which is an astounding manifestation of the power of the mind to influence its vessel, the body, when it's in a state of extreme excitement.

Now, the most extraordinary and amazing thing I've ever spent time with was the Kogi people of the Sierra Nevada Mountains in northern Colombia.

The descendants of the ancient Tayrona civilization, which dominated Colombia's Caribbean plains, were invaded and fled to the isolated volcanoes high above the Caribbean plains.

The only clan on the bloody continent that wasn't conquered by the Spaniards.

Even today, they are ruled by priests in charge of their ceremonies, but becoming a priest requires extraordinary training.

Their training begins at an early age. At the age of three or four, they are taken away from their families and placed in a dark chamber at the foot of a glacier for 18 years. Repeating nine years twice is a symbol of the nine months of gestation spent in the womb of the great Mother Earth.

All the while, they are inculcated in their society's culture of values, accepting the values ​​that sustain the proposition that only their prayers sustain the universe and maintain ecological balance.

At the end of this marvelous ritual, one day they are suddenly brought out and, at the age of eighteen, they see the sunrise for the first time.The hills around them are bathed in the sun, creating an awe-inspiring scene.Seeing that first light, in a moment of clarity and enlightenment, suddenly realize what they have been learning in the abstract as a glorious glorious moment.

It's so beautiful, you'll protect it

They call themselves "older brothers," and they say that we, the younger brothers, are responsible for destroying the world.

This kind of intuition is very important

When we think of indigenous peoples and natural landscapes, we think of Rousseau's simplistic racist fiction of the noble savages, or we might recall Thoreau and call them people closer to the earth.

Indigenous people aren't sentimental, they're not emaciated by nostalgia.

Neither the malaria-infested swamps of Asmat nor the freezing winds of Tibet have room for that. Yet, through history and ritual, they have worked out the traditional mysteries of the Earth, not by consciously trying to get closer to it, but by a more sensitive intuition, thinking that the Earth exists only because it is breathed by human consciousness.

What does that mean??

For example, if a child in the Andes grew up believing that the mountains were the spirits of Apu, and that the mountains guided his destiny, and a child in Montana grew up believing that the mountains were just heaps of rock waiting to be mined, deep down he would be a different person, and his relationship to resources and places would be different.

It doesn't matter if the mountain is a haunted place or a mountain of ore.

What's interesting is the metaphor that defines the relationship between the individual and the natural world.

I grew up in the forests of British Columbia believing that forests exist to be cut down.

I became a different person than my Kwakiutl friends, who believed that the forest was home to the Crooked Beak of Heaven, Hakuwuku, and the cannibal ogres that lived at the far north of the world.

If you look at the different realities that different cultures create, you can understand that each culture has made some amazing discoveries, like this plant.

This photo was taken in the northwestern part of the Amazon in April last year.

You may know the name, this is ayahuasca, the most powerful psychotropic substance used by shamans.

What's interesting about ayahuasca is not just the medicinal potential of this preparation, but the elaborateness of its formulation. It's made from two different ingredients.

This plant contains some of the strongest tryptamines, very similar to brain serotonin, dimethyltryptamine, 5-methoxydimethyltryptamine.

Have you ever seen the Yanomami snorting it? That ingredient is made from a combination of different species, but it also contains methoxydimethyltryptamine.

Inhaling that powder is like being shot out of a baroque-lined rifle barrel and falling into a sea of ​​electric currents.

I argued a lot with Professor Richard E. Schultes, who helped spark the psychedelic era by discovering magic mushrooms in Mexico in the 1930s. I argued that tryptamines should not be classified as hallucinogenics, because by the time they take effect, the very consciousness that allows us to experience hallucinations has already been blown away. is ineffective when taken orally because

Tryptamines must be taken with monoamine oxidase inhibitors.

And what's really interesting is that the beta-carbolines found in the vines I mentioned earlier are inhibitors of monoamine enzymes that are needed to enhance the efficacy of tryptamines.

How, among 80,000 species of vascular plants, did they search for two morphologically unrelated plants and discover the biochemical fact that this combination has more than the sum of their effects?

We prove it by doing a very circuitous trial and error that is almost pointless.

But when you ask the Indians, they say, "The plants speak to me."

What do you mean?

This Cofan tribe has 17 varieties of ayahuasca, and they can spot them from afar in the woods, but from our eyes they all belong to one species.

When I asked them how they came up with the taxonomy, they said, "I thought you knew a lot about plants, but you don't know anything?"

I say "I don't know"

They say that if you pick each of the 17 species on the night of the full moon, they will sing to you with different sounds, so you can tell.

That doesn't get you a PhD from Harvard, but it's a lot more interesting than stamen-counting research. (Laughter) Now (Applause) The problem is that even those who are sympathetic to the situation of indigenous peoples think they're unique and interesting, but they're just marginalized people, and meanwhile, the real world, our world, is moving forward.

The truth is that 300 years from now, the 20th century will not be remembered for wars or technological revolutions, but for actively contributing to or silently allowing the holocaust of both the biodiversity and cultural diversity of our planet. The problem is not change.

All cultures, in all ages, have always played with the possibility of new lives.

The problem is not the technology itself

The Sioux Indians are Sioux even when they give up their bows and arrows, just as Americans are still Americans when they don't ride wagons.

It is neither change nor technology that threatens the principles of folk culture. It is power, the raw fact of domination.

If you look around the world, you'll see that these are not cultures destined to disappear. Strong people are being disabled by specific powers beyond their capacity to adapt. There has been a truly terrible deforestation in the homeland of the Penang, a nomadic tribe in Sarawak, Southeast Asia. Half of Borneo appears to have been hauled out into the South China Sea, where Japanese freighters gleam on the horizon, tugging to load logs cut from the forest, or in the case of the Yanomami, the discovery of gold has caused trouble.

Or if you go to the mountains of Tibet, where I've been doing a lot of research lately, you'll see blatant occupation.

While the genocide and physical annihilation of ethnic groups is generally condemned, the destruction of culture is not only condemned, but celebrated as part of development strategies around the world.

The suffering of Tibet can only be understood by seeing the actual site.

After traveling 4,000 kilometers by land from Chengdu, in western China, through southeast Tibet with a young colleague, to Lhasa, it was only then that the statistics revealed the dire reality: 6,000 monasteries were razed to pieces and 1.2 million people were killed by the Red Guards during the Cultural Revolution.

The young man's father is believed to have ties to the Panchen Lama.

was killed immediately during the Chinese invasion

His uncle fled with the Dalai Lama and emigrated to Nepal.

his mother was imprisoned for being wealthy

The mother didn't hesitate to leave the two-year-old, hiding him under his skirt and smuggling him into prison.

My sister who bravely resisted was sent to an education camp.

One day, my sister accidentally stepped on Mao Zedong's armband and was sentenced to seven years of hard labor for the crime.

It is impossible to endure the pain of Tibet, but the spirit of redemption of the Tibetan people is something to behold.

In the end, what do you choose? Do you want to live in a dry, monochromatic world? Or do you want to embrace a diverse and multicolored world?

Before she died, the great anthropologist Margaret Meade said, "The greatest fear is not only that we will be swept away into a vague, impersonal worldview, that the gamut of human imagination will be reduced to narrow, patterned thinking, but that one day we will wake up from our dreams and forget that we could have been wrong."

It's humbling to think that we humans are only 150,000 years old.

Neolithic It wasn't until 10,000 years ago that we learned about agriculture and worshiped seeds, when shamanic poetry was replaced by priestly hymns and surplus production gave birth to a class system.

Modern industrial society is only 300 years old.

As our shallow history suggests, we don't have all the answers to all the challenges we'll face in the next millennium.

If you ask the myriad cultures of the world what it means to be human, you'll hear 10,000 different voices answering.

And in that harmony, we rediscover our potential to be who we are. I'm so optimistic about the potential to be the seed of an open consciousness that knows the importance of making sure that everyone, everyone's paradise, finds a way to thrive.

This photo was taken on the northernmost tip of Baffin Island when I went narwhal hunting with the Inuit, and this man, Olaya, told me about his grandfather's heroic tale.

The Canadian government was not always friendly to the Inuit, forcing them to relocate to settlements in the 1950s to establish national sovereignty.

Olaya's old grandfather refused to go.

His family feared for his life and took away his weapons and tools.

The Inuit have no fear of the cold and have lived by making the most of it.

Inuit sleds were originally made of fish covered in caribou skin.

So Olaya's grandfather wasn't frightened by Arctic nights or by nighttime blizzards.

He went outside and pulled down his seal fur pants and defecated in his hands, and when the excrement froze, he shaped it into a knife.

I sprayed the poop blades with saliva, and when they finally solidified, I sliced ​​through the dog with them.

I skinned the dog, made a harness on the spot, built a sled out of the same dog's ribcage, attached a harness to a nearby dog, wrapped a poop blade around its belt, and disappeared over the ice floe.

(Laughter) And in many ways, (Applause), it's a symbol of the life force of the Inuit people, and of all indigenous peoples around the world.

In April 1999, the Canadian government returned to the Inuit an area larger than California and Texas combined.

Nunavut, the new home of the Inuit.

It's an independent territory whose residents control all mineral resources.

A great example of how the state did not forget to reparate its people.

And finally, at least for those who have traveled from these far-flung modern societies to isolated lands, it's not far away.

It's home for someone

It represents a branch of the human imagination that goes back to time immemorial. For all of us, these children's dreams are like our children's dreams, and their dreams shape the landscape of hope.

And finally, National Geographic, we believe politicians can achieve nothing.

We believe that political debate is -- (applause) unconvincing -- that stories change the world, and we believe we are the best storytelling agency in the world. Our website hits 35 million times a month.

156 COUNTRIES HAVE OUR TV CHANNELS

The magazine has millions of readers

What is posted is a trip to the cultural sphere -guiding readers is an amazing cultural heritage. I hope that the most important revelation of anthropology is to be amazed at what you see, and I would like you to gradually accept one and one person. It is a revelation that we can find a means of using the wisdom of all mankind for a group happiness and coexisting.

thank you

(applause)

One morning in 1957, neurosurgeon Wilder Penfield wondered what humans might look like: freaks with giant hands, giant mouths and tiny bodies.

Actually, this is the product of Penfield's research.

he called it a homunculus

A homunculus is a human being whose body parts are represented in proportion to the area they occupy in the brain.

So the homunculus is not at all eccentric

it's about you and me

It's an invisible reality

This figure might explain why, for example, newborns and smokers instinctively stick their fingers in their mouths.

But this doesn't explain why so many designers are so interested in designing chairs.

I don't fully understand science, but I always refer to it in my designs.

I'm fascinated by the way science allows us to delve so deeply into how humans work and feel.

And it helps us understand how humans see, how they hear, how they breathe, and how they come to think right or wrong.

Science is a wonderful tool for finding out what humans really need.

It's an idea you'll never get from marketing people.

Marketing makes things simple

group consumers

Scientists, on the other hand, are in the midst of complexity, change and uniqueness.

What do we really need?

maybe it's silence

We are constantly annoyed by unpleasant noises on a daily basis.

We all know that this kind of sound creates stress and interferes with our quiet and focused state.

So I wondered if there was a kind of sound filter that could protect people from noise pollution.

But instead of isolating people and covering their ears with headphones and using complex technology to do so,

rather than using complex techniques

I just wanted to tap into the complexity and mechanics of the human brain.

I used white noise

"dB" is short for -- "dB" is the name of the product, but it's basically a white noise diffuser.

this is white noise

A sound synthesized so that all frequencies audible to the human ear have equal intensities

You will hear a "shhhhh"

this is a meaningless sound

Fits perfectly in the ear and brain

When you hear this sound, you feel protected and protected from noise pollution.

When I hear white noise, my brain immediately focuses on it

You won't be bothered by other noises

it's like magic

It's just human physiology

our minds are doing well

To take advantage of this white noise, I created a rolling ball. It analyzes and identifies where the annoying noise is coming from, and then it rolls toward that noise, whether it's at home or at work, where it creates white noise that neutralizes the noise.

(Laughter) It works.

Did you feel the effect of white noise?

Feels like a quiet place

You can see the effect when you make a sound

This object uses some technology, but it's nothing more than a normal speaker, a normal microphone, and other normal electronic components, and it doesn't have a particularly good brain.

I don't want to make things that are too high tech

I don't want to build something that looks like a perfect robot.

i want to be like us

so of course it's not perfect

Imagine, for example, at home

It's a scene of a silly argument between a boyfriend or a girlfriend.

"Who the hell is this guy?" when you yell

"dB" will roll to you

And I'll 'shhhhh' around you

(Laughter) It's not perfect. Maybe you'll get angry and kick it there.

(Laughter) Anyway, I designed the "K" with a concept similar to this one.

"K" is the transmitter and receiver of light

It's something you put on your desk, on your piano, in places you spend most of the day.

And it senses the amount of light you receive during the day and compensates for the lack of light.

The outer surface is completely covered with optical fiber

The optical fiber acts as a sensor for this object, while also providing an image of the object to the eye's sensitivity.

With this design, I want to make it so that when you look at it, you intuitively feel that the object is very sensitive and that it reacts to the faintest of things.

This object knows what you need better than you do, before you do.

Lack of sunlight can cause energy and libido problems in humans.

It's hard when that happens

(Laughter) Most of my projects are collaborations with scientists.

i need them because i'm just a designer

Biologists, psychiatrists, mathematicians, you name it.

I give them my inspiration, my hypotheses, my initial ideas.

And they'll respond and tell me what's possible and what's not.

And together we refine the initial concept.

And finally make the project a thing

This designer-scientist relationship began when I was a student.

In fact, when I was in college, I was a guinea pig for a pharmaceutical company.

I find it ironic that I didn't do it for the advancement of science.

I was just doing it for the money

This project, this experience led me to start a drug design project.

Forgetting to take medicine or taking the wrong medicine often happens.

So even with constant advances in drug active ingredients, improvements in chemical potency, organ selectivity, stability, etc., what patients do remains uncertain.

taking too many medications

Not drinking a set amount at a set time

Various problems occur, such as non-compliance with prescription instructions

So I wanted to develop new classes of drugs and new relationships between patients and therapies.

So I made a normal tablet like this

Let's see an example

this is an antibiotic

The goal is to help patients stick to their medications throughout.

The concept is to create something like an onion and create a layered structure.

Start with the darkest layer

You can see the treatment period at a glance

Relief of symptoms can also be visually perceived.

First day is this big guy

And take one sheet each day, peeling off the layers.

Antibiotics are getting smaller and lighter

We can happily wait for recovery just as we wait for Christmas.

If you follow these treatments until the last day,

A white center part will appear

I can feel myself getting well soon

(Applause.) Thank you.

This is the third lung, a device for long-term asthma treatment.

Designed to help children follow treatment

The idea of ​​this was to bring interdependence into the relationship between patient and treatment.

But in this case, the patient is not dependent on the drug.

It makes the child feel that the therapeutic device needs them more.

What this does is that during the night, the elastic surface of the third lung slowly expands and draws in air.

When the child wakes up, he knows the inhaler needs him, so he puts his mouth to the air and inhales the air inside.

This allows the child to "take care" of the inhaler for their own health care.

And he no longer thinks he's dependent on his asthma treatment, he feels that the device needs him more.

(Laughter) I like this "living object" approach as an invisible design, where the function exists around the object itself, like an invisible "space."

It's as if you can feel that things have souls.

It's like a poltergeist

Passive objects like this seem alive when they suddenly move.

I would like to share my memories of designing an exhibition for John Maeda at the Fondation Cartier pour l'art contemporain in Paris.

John Maeda planned to show graphic animation at this exhibition.

For this exhibit, I came up with the idea of ​​recreating a ping-pong game like this one.

We're going to set up a few benches in the main exhibition room that move around on their own.

A moving bench becomes a game ball

John got excited about this idea and said to me, "Okay, let's do it."

remember the opening day

I arrived a little later than planned

I'm going to bring ten self-moving benches into the exhibition room, and John will come to my side and go, "Hmmm... hmmm."

After a long silence, he said, "Mathieu, this is going to make the audience fall in love with your chair instead of my film."

(Laughter) What I thought was a very honorable, wonderful tribute, he hurriedly took down all the benches two hours before the doors opened.

very disappointed

It's no wonder I say that one of my biggest influences is Pinocchio.

Pinocchio is a masterpiece of design products, and one of my favorites.

It's a conscious object that undergoes changes in its environment and changes itself.

Another thing that has been affected is mine canaries.

In the mine, the canary is supposed to be on the side of the miner.

And it keeps crying all day long, and when it stops crying, it's time to die

So the canary is a living alarm, and it's been very effective.

It's nature's technology to let miners know that the air isn't good, get out now.

i think this is a great product

So the canary thing in the mine

I tried to design it. It's Andrea.

Andrea is a living air purifier that captures toxins in indoor polluted air.

To do this, we need plants that have the ability to adsorb gases.

We all know that indoor air is more polluted than outdoor air.

I mean, even the chair you're sitting in now emits an invisible, odorless, noxious gas.

I have a carpet too so it's the same

This situation is the same at home.

Because all the products that we have in our hands have raw materials that give off some kind of volatile substance.

Let's see how things are in the house

The invisible realities of sofas, plastic chairs, children's toys, they're pretty toxic.

So I worked with Harvard scientist David Edwards to create a plant-based toxin adsorber.

But the air has to hit the useful part of the plant.

Because it doesn't do much for roots.

NASA's Bill Wolverton took measurements in the 70's.

The idea here was to create an object that would allow air to effectively hit the active part of the plant.

this is the product

Scheduled to be released in September

(Applause) This is a similar approach, using plants in the same way as Andrea.

In this case the plants are used to filter the water.

also contains fish

But unlike Andrea, this one is edible.

So this is actually a kitchen garden for fish and plants.

The purpose of this is to provide each household with locally grown food.

"Local eaters" use whatever food is available within a 150-kilometer radius.

'Local River' serves food directly from your living room

The basis of this product is an ecosystem that combines aquaculture and hydroponics, called aquaponics.

In aquaponics, sewage from fish tanks is pumped up and used to water plants.

The plant then filters the fish-populated sewage through its roots back into the original water tank.

return

After this you have two options

Do you want to sit in front and watch it like it's on TV?

It's an interesting program

or catch a fish

I'd like to make some sushi with the fish and the herbs on top.

Potatoes can also be grown

It's not different potatoes, but tomatoes, herbs, etc.

breathe good air

Enjoy local food

receive intelligent medical care

We've created something that allows us to live a balanced life with the biorhythms of sunlight.

But it's also important to have a great space, so I designed a creative space.

For an American scientist living in Paris, we've created an office that's highly stimulating for brain activity.

I wanted to create a place where you could work, you could play, where your body and mind could work together.

In this office, you don't have to work at a desk like a politician.

Sit, sleep and play on a leather polygon mesh island

you can see it here

In this office, you don't write or draw on paper, you draw directly on a giant cave-like whiteboard, like a prehistoric scientist.

Work can be fun like this

In this office, you don't have to leave the house to be in touch with nature.

Because nature is right there on the office floor.

you can see it there

This is the inspiration for developing this office.

It really helped me in my design work.

I don't show this to my clients because they might get nervous.

(Laughter) I just use it for work.

Maybe it's my own revenge for being a guinea pig.

Or maybe it's our instincts as monkeys and homunculus.

we should follow the natural human way

Thank you very much

(applause)

What I'm about to tell you is what I've discovered through my work around the world.

It's not a planetary discovery or a new technology -- it's not a scientific -- discovery.

I made discoveries about people, about people and about new leadership.

his name is binky

Chief of the Ashyaninka tribe

His tribe lives in Brazil and Peru.

Binky comes from a remote village in the Amazon, and the only way to get there is to land on the water by air or travel by canoe for days.

Three years ago, I met Binky for the first time in São Paulo when I organized a meeting between indigenous leaders and national leaders, and we learned from each other.

i wanted to share the situation

The Asháninka people are known in South America for their dignity, rich spirit and strong resistance to invasion.From their roots in the Inca Empire to the 19th century, they fought against rubber tree sap workers.

The biggest threat to the Ashyaninka and Binky right now is illegal logging -- people encroaching on beautiful forests, chopping down old mahogany trees, floating them on rivers, and transporting them to markets around the world.

Binky has noticed something strange happening in his forest and environment.

Binky was aware of the anomalies occurring in his forest and environment. At the age of two, Binky was sent to live with his grandfather to begin learning about the forest and the tribal way of life.

His grandfather died when he was only 10 years old

At the young age of 10, Binky became the paje of his community.

In the traditions and culture of the Ashyaninka people, Paje is the most important person in the community.

It's an entity that carries within it all the wisdom and knowledge of life that we've accumulated over the centuries. It's not just about our tribe, it's about everything that matters to our tribe's survival: trees and birds -- water and soil and forests.

Binky was only 10 years old when he became Paje-- became the leader of the tribe.

I started talking to them about the forests they should protect, about the lifestyle they should nurture.

Binky explained to everyone that it wasn't a matter of survival of the fittest, it was about understanding what it takes to survive and protect the forest.

Eight years later, as a young man of 18, Binky left the forest for the first time, 3,000 miles.

He traveled to attend the Earth Summit in remote Rio, to let the world know what was happening in his small village.

and hope the world will listen

some listened, but not all

Imagine a young man in a long robe and headdress, learning a new language, not to mention English, but also Portuguese, and leaving for Rio, building bridges to connect with strangers in a world that is often hostile.

but he didn't get discouraged

I came back to the village with a lot of ideas, new technologies, research results, new ways of thinking about things.

Since then, he and his colleagues have continued to work on the problem, involving not just the Ashyaninka, but the people who live in the Amazon and beyond.

He builds schools and teaches children to take care of forests.

At the same time, he spearheaded reforestation, regenerating 25 percent of the land destroyed by loggers.

And they created cooperatives and diversified their means of making a living.

He's brought the internet and satellite technology into the forest -- so he can not only monitor deforestation, but he can speak from that forest to the world.

If you meet Binky and say, "Why are you doing this?

why do you risk yourself

Why do you expose yourself to this hostile world?"

As he answered me, he will answer you, "I asked myself, what were my grandparents and great-grandparents doing to protect the forest for me?

And what am I doing now?"

When I think about what he said, it makes me wonder what answers my grandchildren and great-grandchildren will find when they ask themselves that question.

When I think about it deeply, it seems to me that the world is headed for a less desirable future.

I don't know the details of the future, but there are signs about the future, just like Binky saw signs all around him.

we're running out of what we need

running out of fresh water

Running out of fossil fuels

land is running out

It's also clear that climate change affects everyone.

I don't know how it affects me, but it does.

We're going to have more people than ever before -- 40 years from now, we'll have five times as many people as we did 60 years ago.

we don't have what we need

We also know that the world is changing in another way: since 1960, the number of independent nations on the planet has increased by a third.

The ego and the political system -- exploring each other -- it's really a big change.

In addition to that, we know that five new great powers will have a voice in the future. The voices still unheard of are China, India, Russia, South Africa and the country of Binky, Brazil.

but you all know

I know more than Binky had before he left the woods and embarked on his 3,000-mile journey.

What we also know is that if we continue to do things the same way we've always done, we're going to repeat the same results.

It reminds me of what Lord Salisbury said over a hundred years ago when Queen Victoria asked him to change.

He said, "Change?

why change?

As you can see, the situation is already very bad."

we have to change

As I look around the world, it seems to me that it's imperative that we change ourselves.

We need a new example of leadership

As a leader, as a person, we need a new model.

I first worked as a banker

Although, I hate to admit it to anyone other than my closest friends.

But for the past eight years, I've been doing something completely different.

In my work, I've traveled the world, and like Binky, I've had the privilege of meeting people who are making a difference in their own communities -- people who see the world differently, ask different questions, come up with different answers, and understand the filters they have when they go out into the world.

This is a photo of Sanghamitra

Sanghamitra hails from Bangalore

Eight years ago, I met Sangamitra when I was in Bangalore conducting a workshop with leaders of NGOs working on difficult social issues.

Sanghamitra didn't start out as an NGO leader, he started his career as a university professor, teaching English literature.

But that work must be connected to the surroundings

I loved my job, but I realized there was no connection.

And so in 1993, a long time ago, I decided to start a new organization called Samraksha, which was in India to tackle the most difficult problem in the world at the time -- HIV/AIDS.

Since then, Samraksha has grown and gained influence, and is now one of the leading health NGOs in India.

But if you think about the state of the world in 1993 and what we know about HIV/AIDS -- India at that time, there was an explosion of cases, no one knew why, and everyone was very afraid.

Even today, there are 3 million people living with HIV in India.

second highest number in the world

One day, I asked Sangamitra, "How did you get from English Literature to HIV/AIDS?"

The two seem like very different paths, and she replied, "Everything was connected.

Literature sensitizes us to empathize with people and their dreams and ideas.

Since then, under her leadership, Samraksha has become a pioneer in all areas related to HIV/AIDS.

They had the first nursing home, the first treatment center, and the first counseling service, not only in the city of Bangalore, home to seven million people, but also in a remote village in Karnataka.

she wasn't satisfied with that

tried to change policy at the government level

Ten of the programs she spearheaded are now funded as policies.

They now serve over 20,000 people in over 1,000 villages around Karnataka.

Like this Murali Krishna from the local

nursing with people

He lost his wife to AIDS two years ago, and he himself has HIV.

He saw Sanghamitra and her team's work, care and care for the village and wanted to be part of it.

Being part of Leader's Quest helps him in his work.

They changed the transmission of information to the villages.

We're doing it in a pioneering way, instead of giving out pamphlets and other commonplace methods, we're offering theatrical companies, singing, music and dancing.

Then we sit down and talk about each other's dreams.

She told me last week that she had been in the village for two weeks and had made a big leap there.

As they sat in a circle about the dream of the village

As we were talking, a woman in the village cried out, "We changed our dreams, our dreams

Instead of choosing our partners and our husbands by fortune-telling, let's decide by HIV test results."

If you were lucky enough to meet Sanghamitra and ask him why and how he was able to accomplish so much,

She'll look at you, very quietly and gently, and she'll answer, "It just happened.

It came from within my heart."

This is Dr. Huang Jianchuan.

He is from Sichuan province in southwestern China.

Born in 1957, it's easy to imagine what he saw and felt as a child in the turmoil of the last 50 years.

He's been a soldier, a teacher, a politician, a deputy mayor and an entrepreneur, all of that.

But if you meet him and say, "What are you really, what do you do?"

And he'll say, "I'm a collector and I own a museum."

I've heard a lot about him, and was lucky enough to meet him at his museum in Chengdu earlier this year.

He's been a lifelong collector since the early '60s, when he was about four or five years old.

Think of China in the early 1960s.

Throughout his life, through the Cultural Revolution and everything that followed, he continued to collect works, and his museum now houses more than eight million works reflecting China's modern history.

You can't see them in any other museum in the world, partly because they document a history that the Chinese people are trying to forget.

For example, he owns more than a million works chronicling the Sino-Japanese War, and the honor of heroes who fought in a war that is rarely talked about in China is not recognized.

why does he do this-

Are you doing it? So that his country doesn't repeat the mistakes it made in the past.

The heroes who fought in the Sino-Japanese war -- including those who killed each other and left mainland China after being defeated -- and made their way to Taiwan -- from erecting a slightly larger-than-life-size statue of them to taking their handprints to honor all the nameless surviving soldiers -- he's trying to tell -- one man is trying to tell -- that history hasn't been forgotten.

And he only cares about Chinese heroes--

No, this building houses the world's largest collection of documents and exhibits honoring American soldiers -- the Flying Tigers -- who sided with China during the long war.

There are nine other buildings, already open to the public, filled with exhibits documenting modern Chinese history.

Two of the most delicate buildings hold a lifetime collection of stories about the Cultural Revolution, a time that many Chinese people would like to forget.

But he doesn't want his country to ever forget this era.

People like them give me hope because they tell us how we see the world and what we can achieve if we change the way we see the world.

They looked to the outside world first, and then changed inside.

they didn't go to business school

I haven't even read manuals like "10 Steps for Good Leaders"

But they all have one thing in common--

You have the drive, the passion, the dedication

They stepped away from the conventional way of doing things into something they never knew.

I tried to connect with a world I didn't realize existed.

they built a bridge and crossed over it

They have a large flow of time and an awareness of their small existence.

I know that I inherited the people of the past and that I will be inherited.

They realize that they are part of a whole and dependent on others.

Not for us, but we have to start

and they are humble

it just happens

But it just doesn't happen, right?

Many things are needed to make things happen, and where the world is headed now--

We know, so I think -- we need global succession planning.

We can't wait for the next generation and newcomers to become good leaders.

I think we have to start

We, like them, know how difficult it is.

But we're not completely groping, and we're fortunate to have models and exemplars like Binky, Sangamitra, and Genchuan.

I can see what they've accomplished

and you can learn from it

You can change the way you see yourself in the world.

And if we're lucky, we'll be able to change the answer when our great-grandchildren ask Binky the same question.

thank you

(applause)

As technology advances, technology improves, and many believe that progress makes us smarter, smarter, and more connected to the world.

What I want to tell you is that it's not always the case, and progress is just a word that means change. With change, you gain something new, but you lose something at the same time.

To illustrate this, let me tell you how technology solves a very simple, ubiquitous, everyday question.

What is the question

What time is it? What time is it?

It's very easy to check the time by looking at your iPhone.

So let me ask you, how do you find out the time if you don't have an iPhone?

How do you know the time, say 600 years ago?

How did you know?

To check the time, we use a device called an astrolabe.

Astrolabe is lesser known today

But in the 13th century, it was a prized prop.

It was the world's first popular computer

It is also a model of the sky

There are several parts, and a net-like part called a reed indicates the position of the stars.

The part called the plate corresponds to the coordinate system

Assemble the whole to a part with a scale called a meter

An educated child would not only know how to use an astrolabe, but also how to make an astrolabe.

The first paper on the astrolabe, the first technical manual written in English, was written by Geoffrey Chaucer.

Geoffrey Chaucer wrote it in 1391 for his 11-year-old son Louis.

Reading that book would have made little Louis aware of big thoughts.

The main idea behind how this computer works is called stereographic projection.

The basic idea is how to represent a three-dimensional image, how to represent the night sky that surrounds us on a flat, portable two-dimensional surface.

the idea was relatively simple

Imagine the Earth as the center of the universe, surrounded by the sky projected onto the celestial sphere.

Any point on the surface of the celestial sphere is projected through the lower pole and recorded onto a flat surface.

Polaris is at the center of this device

The ecliptic, which shows the paths of the sun, moon, and planets, is a distant circle.

The bright star corresponds to the pointed part attached to the reed.

Altitude is indicated on the plate

Projection isn't the only thing the Astrolabe excels at

What's really cool is that it combines two coordinate systems, the two of which fit exactly together.

A movable reed shows the positions of the sun, moon and planets.

The positions of the planets in the sky as seen at a certain latitude are shown on the background plates.

How should I use this device?

let me prepare a little

This is the astrolabe, it's amazing

This astrolabe was borrowed from the Oxford University History Museum.

I can see many parts

A meter that displays a scale from the back,

This is a leit Can you see it?

This is the moving part that shows the sky

What you see in the background is the pattern of a spider's web.

This spider web is the local coordinates in the sky.

This is a part called a ruler, and there are other devices behind it, such as measuring tools, scales, and other functions necessary for calculations.

i always wanted something like this

To write my thesis, I actually made it

This is a copy, based on a 15th-century original.

Probably worth 3 Macbook Pros

But the real thing is one, my house and the house next door, as well as houses on the same block, both sides of the street, school and church.

It's expensive anyway

Let me show you how to use this device

Start with step 1

First pick a star in the night sky if you want to know the time of night.

If the weather is clear tonight, you should be able to see the Great Summer Triangle.

There's a bright star called Deneb, so I'm going to pick that one.

Next, measure Deneb's altitude.

In step two, we lift the device up and look at the altitude of the star, so we can see it clearly.

then read the altitude

It's about 26 degrees, but you can't see it.

In step three, we look at the stars on the surface of the device.

there was a deneb

In step 4, we move the reticulated reeds to move the sky to align the altitudes of the stars with the scales in the background.

I'm ready

There's a model of the sky here, which corresponds to the real sky.

It's kind of like holding a model of the universe in your hand.

Finally, if you take the ruler and move the ruler to the date line, you can see the time here.

This is how I use this device

(Laughter) I know what you're thinking, "Isn't there too much to do? Do I have to do so many things to know the time?"

You can tell the time by just looking at your iPod.

But there's a difference. Whether you have an iPod or an iPhone, you can tell the exact time.

Lewis used a model of the sky to find out the time.

he would have known the correspondence with the actual sky

Not only would you know what time it was, but you would also know where the sun rose from and how it moved across the sky.

You know what time the sun rises and sets

You know basically all the celestial bodies overhead.

In computer graphics and computer interface design, there's this word affordance.

Affordance is a measure of the ability of an object to help you do something with it.

The astrolabe connects us to the night sky, and when we look up at the night sky, we can see what we can see and what we can't see.

It's just one use, surprisingly there are probably 350, 400 uses.

It's been documented that there are over a thousand uses for this first computer.

It has scales and measurements on the back to guide travelers around the globe.

You can also survey with it. This was used to survey Baghdad

You can also find solutions to all kinds of mathematical equations

It would take a university course to explain it.

Astrolabe has a glorious history

invented over 2,000 years ago

The concept of stereographic projection dates back to 330 BC.

Astrolabes come in a variety of sizes and shapes.

Some are portable, some are like large displays.

What all astrolabes have in common is that they're all beautiful works of art.

Craftsmanship and precision craftsmanship, this is an amazing and remarkable thing.

The astrolabe, like all technology, has evolved over time.

For example, the early litters were very simple and easy to make, but the later litters

It symbolizes the high level of culture

this was in oxford

While the patterns on the reeds are beautifully symmetrical, they accurately represent the completely asymmetrical and irregular sky as a map.

It's just wonderful, isn't it? amazing technology

Did Lewis have an astrolabe?

You would have had one made of wood or paper instead of brass, and the vast majority of these first computers were portable and could be kept in the back of your pocket.

What did the astrolabe bring?

The first thing I can say is that it reminds me of how good people and ancestors were long ago.

great device

All technology advances

All technology is transformed and driven by other people

As technology advances, it becomes more accurate and precise.

What we're missing out on is definitely understanding the sky and feeling what's behind things.

Understanding the sky, knowing your relationship to the sky, is the core real answer to the question of what time it is.

So the astrolabe is more than just a great device.

What can we learn from this device?

In the first place, people somehow think that they can connect with various things in the world.

I wondered how all things fit together and what kind of relationship they had with us.

will take you again

Thank you (applause)

A long time ago, when I was 24, at St. John's Medical College in Bangalore,

As an auditor, I studied public health for a month.

Since then, I have completely changed my mind.

The class was fine, and the content of the class itself didn't change my mind.

Critically, I found out on the first morning. Indian students were better than me.

(Laughs) I'm a hard worker,

I have loved statistics since I was young.

I studied a lot in Sweden.

Consistently ranked in the top 25%

At St. John's, they were in the bottom 25%.

In fact, Indian students are more enthusiastic about their studies than Swedish students.

Read the textbook twice, three times, four times.

In Sweden, read once and party.

(Laughter) For me, India was the first time in my life, and it completely changed the way I thought.

I felt that we were at the same time. I thought maybe the Western-led world would end someday.

Do you have a similar experience?

Meeting someone can change the way you see things.

I can't prove it statistically.

So, at this stage, let's make a prediction -- when will Asia regain global hegemony? Asia has been the center of the world for thousands of years.

We want our forecasts to be accurate. In what year will India and China catch up with the West in terms of median income per capita?

We don't look at the economy as a whole. Growing the Indian economy to the size of the British economy is a piece of cake for a country of one billion people.

But when you look at average salaries, per capita, on a monthly basis, when will India and China catch up with the United Kingdom and the United States?

Let's start with the historical background.

Can you see this map?

Let's start with 1858.

1858 was a year of technological progress in the West.

That very year, Queen Victoria sent the first telegram to US President Buchanan via a transatlantic cable.

It was my first intercontinental Twitter.

(Laughter) (Applause) The Internet and Google are useful. I found a telegram from that time. Conclusion of the reply from President Buchanan

It was written like this. “Let us spread religion, civilization, liberty and law throughout the world by the wonderful means of the telegraph.”

Good words, but it bothers me a little. Whose freedom is freedom?

Now let's take a broader view of the world in 1858.

The year 1858 marked a major turning point in the history of Asia.

In 1858, India bravely resisted foreign occupation but was defeated by the British.

For the next 89 years, India was ruled by foreign countries.

In 1858, the British won the Opium War in China.

The treaty liberalized foreign trade in China.

In reality, it was an exchange of Chinese products and opium.

Japan signed the Treaty of Amity and Commerce between the United States and Japan in 1858, accepting trade terms favorable to the United States.

He was threatened by a black ship that called at a port in Japan.

However, unlike India and China, Japan did not lose its national sovereignty.

How does that affect you?

Bring these circles to the Gapminder graph. Each circle represents a country.

The size of the circle represents the population size.

The horizontal axis is the dollar conversion of income per capita.

The vertical axis is life expectancy and national health.

Let us introduce you to our latest invention.

Solidified Laser Beam Eco and Recyclable, Green India.

(Applause) Now

1858, India is here. China is here, Japan is there. America and Britain were richer over there.

Let's look at the world from this position.

India is not always at this level,

A few hundred years ago, India and China had higher per capita incomes than Europe, according to historical records. but,

Before 1850, India had not been industrialized due to a long period of foreign domination.

As you can see, the countries that were growing were the US and the UK.

By the end of the 19th century, health conditions had also improved, and Japan was catching up.

India is also doing its best.

Do you know how it works?

Japan's preservation of sovereignty has paid off.

Japan will rise.

A new century begins and health improves. UK, USA,

But be careful. Come on, World War I.

World War I. There were many deaths, and economic problems.

Britain is falling.

Spanish flu epidemic.

After the First World War, it continues to develop.

India and China are left behind, still under foreign control and without sovereignty.

Not much has changed.

The population will grow, but it won't grow any further.

In the 1930s, Japan is about to enter the war. Life expectancy is shorter.

World War II was the worst. Japan was also hit economically.

However, I recovered quickly.

And plunge into a new world.

India finally gained independence in 1947.

Raise the flag and become a sovereign state. But a big problem remained.

(Applause) In 1949, modern China emerged and surprised the world.

what happened?

What happened after independence

My health has improved.

children go to school

Medical care is now available.

This is the Great Leap Forward policy, and China will be depressed.

It was a central sovereignty plan by Mao Zedong.

China will recover, the government said. "I stopped the unreasonable controlled economy"

China is on the rise and India is about to follow suit.

Yes, we are catching up.

The health of both nations will improve, but the economy will be at the bottom.

In 1978, Mao Zedong died and a new leader emerged.

Look, Deng Xiaoping has appeared.

As Deng Xiaoping said, "A black cat or a white cat can catch a mouse."

The purpose of the two cats is to catch mice.

The two cats are China and India. I'm aiming for that mouse over there.

We decided to aim not only for medical care and education, but also for economic development.

China's transition to a market economy has been successful.

In 1992 India transitioned to a market economy.

The two countries have become quite similar. In many ways, China and India have more similarities than differences.

Both countries are ahead, but can they catch up with other countries?

That's what I'm talking about today.

Now is the time.

What is the meaning of this? (Applause) This is the national average, this is China.

If you divide China, Shanghai has already caught up.

I'm already there.

Healthier than America.

On the other hand, Guizhou, the poorest region in inland China, is there.

If you divide Guizhou into urban and rural areas, Guizhou's rural areas will go down to that level.

The difference is huge, isn't it? This is one aspect of rapid economic growth.

Let's look at India in the same way. Another type of inequality is found in India.

Geographical differences are not that great.

Uttar Pradesh is the largest state but lags behind in health care and economy.

Kerala is on the rise. We are catching up with America in terms of health. But the economy is still there.

Maharashtra, where Mumbai is located, is moving forward.

India has large disparities within states and less so between states.

That's not a bad thing per se.

Large geographic disparities are difficult to deal with in the long run. The poor can also benefit from having a growth-driving city in the same state.

There is another disparity. Here in America.

(laughter) Oh my god, you're out of the frame.

Washington DC is out of the question.

This is what my Gapminder friends wanted to show me. Because the new leader in Washington is very interested in the health care system.

I think it makes sense. Washington residents are

Very rich, but not as healthy as Kerala.

Very interesting, right?

(Applause.) There is a business opportunity in Kerala. It could help improve the health care system in the United States.

(Laughter) (Applause) You can see the whole world right here. The legend is there.

When I see two big cats here, I'm making progress. Between the two lies the emerging economy ahead of the two. This is T. Friedman's "Flattened World"

Healthcare and education are major drivers of world population growth. But in Africa and other regions, such as Guizhou in China, the health and economic situation of the population remains dire.

There is a big difference in the world.

But middle-class countries are progressing rapidly.

Well, my prediction is

When will we catch up? in a normal graph

Let the vertical axis be income per capita. The poor are below, the rich are above.

The timeline is here, and the world moves from 1858.

Let's see what happens.

China's income will drop to India's level amid foreign dominance.

Britain and the United States are getting richer and richer.

After World War II, the US overtakes Great Britain.

But here I am independent,

Growth, economic reforms begin.

Growth has accelerated and this is what 2014 will look like, according to IMF projections.

So when do we catch up?

Let's look at America.

Do you know which circle (bubble) it is?

Not my bubble, but that bubble. It's the bubble of the bubble economy.

That was the IT bubble, this was Lehman Brothers

As you can see, I was depressed.

It looks like another rock is about to fall.

Britain and the United States will no longer be able to grow rapidly.

It seems to grow more slowly.

Those who focus on economic growth are turning their attention to Asia.

Compare with Japan. Let Japan appear.

You can see the growth of Japan.

If we add Japan,

Clearly, we are catching up quickly.

How did Japan grow?

After catching up with rapid economic growth, it is now on par with other countries with higher incomes.

But here's the forecast for actual economic growth that I really wanted to show you.

It will be bad and good.

In particular, it is always difficult to predict the future.

Historians say it's hard to predict the past.

(Laughter) It's a tough decision to make.

I think the gap between China and India is a really big obstacle. We must think about how to create a domestic market, how to eliminate social unrest, and how to effectively utilize the entire population in order to lead the entire nation to growth and prosperity.

Investments in healthcare, education, infrastructure and power generation are needed in India and China.

The world authority on climate in India also says the climate is changing. You have to take action. Otherwise, China and India will be greatly affected by climate change.

These two countries should be the best partners in addressing climate change policy.

However, neither country will wipe up the wealthy country. I feel the same way.

But what really worries me is war.

Will the countries that have been regarded as advanced nations accept a completely changed global economy? So far, we have held the leading power for 50, 100, 150 years, but can we yield to Asia?

Meanwhile, can Asia assume its new role of ruling the world?

War is absolutely useless. War only sets humanity back.

The world would be equal if inequality, climate change and war were avoided. I think we are moving in that direction.

When I was a student in 1972, I thought this way. Indians are much better. It's about to become a reality.

That will happen in 2048, in the height of summer, in July, or more precisely, on July 27th.

(Applause) July 27, 2048 is my 100th birthday.

(Laughter) I'll be speaking at the first session of the 39th TED India.

Don't forget to make a reservation. Thank you for your attention.

(applause)

Because of the nature of our culture, we often use stories to talk about the future, to talk about what the future holds.

In some stories, one person solves the problem for everyone else

Or some predict that the world is on the verge of collapse

The story I'm going to tell you today is different.

This is how this story begins

My long-standing work has been in education, teaching people practical skills, especially how we can grow our own food responsibly, how we can build our buildings out of local materials, how we can generate our own energy, with a particular focus on sustainable practices.

When I lived in Ireland, I built the country's first straw bale house, and I built a house out of corn cobs.

But all of my work starts with the same theory, which is that sustainable work is basically analyzing the growth model of a globalized economy to reduce inputs on the one hand and output on the other.

At some point, I came across a new perspective that fundamentally changed this.

And that's what I'm going to show you today, but I'm going to show you one thing that's the key to that, and here's one of the miracles of modern society.

It's so amazing and amazing that I think you're going to be overwhelmed and hear the gasps as you turn this cloth over.

Please feel free to let us know your surprises.

(Laughter) This is a liter of oil.

The oil in this bottle is crystallized from over 100 million years of geological time and ancient sunlight. That translates to five weeks of manual human labor, or imagine 35 strong men coming to help you with your work.

You can make a lot of amazing things out of petroleum: medicines, clothes, laptops, you can make a lot of different things.

It's historically provided us with more energy than we could have ever imagined.

The design of our villages, the design of our businesses and our transport are predicated on oil.

But when we pause and look back at history, we realize that what we call the oil age is actually a very short period of time.

But as we stand tall on top of this energy mountain, the days when we needed to consume more to maximize our socio-economic and individual performance and well-being are over.

Today, it's becoming more and more clear that we're going to have to move away from the idea that oil is infinitely available.

While we consume four barrels of oil today, only one barrel of oil is discovered.

And this gap is widening.

What's more, the amount of energy that can ultimately be produced from extracted oil is trending downward.

In the 1930s, we were able to produce 100 times as much energy as we put into mining.

Never before has there been such a precedent

Now this ratio has dropped to 11 times

It's against this backdrop that today new frontiers for oil extraction are vying to reach areas like Alberta and the ocean floor.

There are 98 oil producing countries in the world

But 65 of them are already past their peak

Similarly, people worry about when the global average will pass its peak.

In reality, that day may have come in July of last year, when oil prices soared.

Once upon a time, with our amazing talents, our imagination and our adaptability, we climbed to the peak of our energy levels, but now that our energy is running out, will we just be helpless without the same talents flourishing?

No, the important thing is that when we make policy, we develop ideas based on a realistic analysis of the current situation.

The issue of climate change is also central to what I think is another transition policy.

When I listen to meteorologists, what I notice is that every time we get new data, the fear in their eyes grows more and more, and that data is even more recent than what the IPCC has released.

So the IPCC announced that the worst-case scenario is that the Arctic ice melts on a massive scale by 2100.

In fact, if things continue as they are now, it could all be gone in the next five to 10 years.

If just 3% of the carbon in the Arctic permafrost is released into the atmosphere as the planet warms, it will offset the amount of carbon that we must reduce over the next 40 years to avoid climate change.

Then we have no choice but to take drastic measures to reduce carbon dioxide.

I've always been interested in the idea of ​​how people, generations after us, would tell us who we are today.

"The generation that lived on top of the mountain, reveled day after day, abused their heritage."

When I imagine this, what I do is look back at the story of the generation before us, when there was no cheap oil, no fossil fuels, and we used our own power, or the power of animals, and a little bit of wind and water power.

At that time, there were stories like "Shichiri shoes", which were about shoes worn by giants who could go 35 kilometers in a single step.

There was also a story called "The Magic Pot," where with one magic word, you can make as much rice porridge as you want. You don't have to do anything.

Without it, the whole town would be full of itch.

There was also a story called "The Shoemaker and the Dwarves"

While the shoemaker sleeps at night, the dwarves make the shoes for him.

It was all unthinkable in reality

Today, there are cheap airlines as Shichiri shoes.

There is a supermarket like a magic pot

Instead of dwarves, there is a "manufacturing factory" called China.

We take for granted things that were once so amazing.

And now, thinking about where we're going, what story can we tell ourselves?

I can think of four things: First, it's business as usual.

But looking back over the past year, there are parts of this story that make me question it.

When it comes to climate change, it's really not going in the right direction.

There's also the idea of ​​hitting a wall, the view that everything in the world is fragile and will fall apart.

In some areas, this view is prevalent.

The third story is that technology will be the key to the solution, that it will be our trump card to survive the collapse of the world.

It's something that's often talked about in TED talks about whether we can find a way out of our dire economic situation or energy crisis, or how we can avoid this energy crisis by moving to a knowledge economy, or how we've found some great source of energy that will wipe out our concerns about energy security and move us toward a fully renewable world.

But this world is not virtual reality

You can't click a mouse to create new land or energy systems.

And while we're sitting here talking freely, there are people mining coal to power computer servers and mining industrial minerals.

Even the breakfasts we eat while checking our emails come from far away. This undermines the local, more resilient food system that once supported us.

We humans are amazingly creative and inventive.

We live in a world with constraints and demands that are simultaneously realistic.

Energy and technology are not the same thing

The policy that I'm concerned with is transitional policy.

In transition policies, we're going to respond to the challenges we face, the peaking of the oil age and climate change, with the ingenuity, the adaptability, the imagination that's really needed.

This policy spreads incredibly fast.

And this policy has some peculiarities.

It infects people and slips under the radar at considerable speed.

It's something that everyone can share, and everyone involved in this policy can work together to develop and communicate.

It's a self-sustaining policy, not driven by a central organization, it's about people thinking and operating on that theory, translating the status quo into action.

Focusing on solutions, we look at what we can really do in the current situation and deal with it.

This policy will change depending on the area and scale of work

Transition policies take many forms

Chile, the United States and the transition policy groups in the region have different activities in different places

Each group learns a lot from their mistakes

It creates a sense of historical significance, a sense of historical opportunity to do extraordinary work that has never been done before.

this is a really fun activity

have a lot of fun doing activities and connecting with other people

Central to this work is the idea of ​​resilience.

In many ways, this theory is more beneficial than sustainable practices.

Resilience is based on ecological research

It deals with how our social systems and our homes withstand external shocks.

It does not easily break into pieces in the face of external impact.

Again, it's a more useful concept than sustainable activity.

If you can only stock a few days' worth of food in a supermarket at a time, sustainable action looks at: the energy efficiency of your refrigerator, the packaging your lettuce is wrapped in.

When you look at it through the lens of resilience, you could say that we've put ourselves in a situation where we're pretty vulnerable to external influences.

We can go deeper into the idea of ​​resilience, by introducing independence into our codes of conduct and building buffers within the underlying order structure that underpins us.

This is a photograph of the Farmers Association for the Bristol District Market, taken in 1897.

The city of Bristol is pretty close to here, and market farms were all over the place in those days, and they supplied the people of Bristol with a great deal of produce, and people consumed them, and they also created a lot of employment.

In those days there was, so to speak, a degree of resilience.

So how does this theory play out?

Basically, we will create a group with people who support this policy and take action.

They used the tools we developed to

Start a mindset change program and see if it's really going well in your community.

There are also film screenings and lectures.

It's fun, creative work, and it's rewarding work.

And then there are working groups that are going to develop different aspects of the transition policy, and from there start the many projects that the transition policy itself supports and enables.

My work in Ireland was the first, where I taught, and it spread from there.

There are now over 200 projects with formal transition policies.

And thousands of groups are in what we call the review stage.

They are considering whether to go further

And a lot of them really do a lot of work.

What does it actually do? The theory is good, but what does it actually do?

It seems better to say that this organization alone does not do all the activities.

Our work requires international legislation, such as the Copenhagen Accord.

We also need responses from the public and local governments.

But all of this is going to be easier in the future, if there's a lot of energy in the community, brainstorming, leading the way, and over the next five to 10 years, let's make those seemingly unpromising policies possible.

Community food projects have emerged from activities like community-based farming programs, urban food production, and community food supplier directories.

In many regions, we will set up a local energy company, and the community will own this energy company, and the community will invest in this company to build the renewable energy supply infrastructure that we need.

Many communities work in partnership with their local schools.

At Newent, the school is building a long plastic greenhouse where the children are learning how to grow food.

Recycling initiatives like community gardens match the needs of people who want to grow plants but don't have fields with people who have fields that they don't use.

We also plant trees that generate a lot of profit in the city.

And we're also considering introducing alternative currencies.

This is Lewis, Sussex, and they recently introduced the Lewis pound, which is a currency that can only be used in Lewis, which keeps the economy circulating within the region.

This currency is totally worthless anywhere else.

But in Lewis, we can circulate the economy quite effectively.

There's also the so-called low energy plan, which is basically the second plan.

When most of our government sits down and plans for the next 10, 15, 20 years in the region, we assume there's still energy in the future, more cars, more houses, more jobs, more economic growth.

What if it doesn't? How can we accept this fact, how can we come up with a plan that really helps people?

As my friend says, "Life is full of unexpected things."

I have the same experience with transition policy.

Three years ago, this idea was born, and like a virus, it quickly spread around the world.

And it's getting a lot of attention from governments, too. At our recent conference, the Minister of Energy and Climate Change, Ed Miliband, was invited to "listen" to the keynote address.

(Laughter) (Applause) And he's backed the whole project ever since.

In this country, two municipal councils have declared transitional policies, Leishestershire and Somerset, and Stroud's Transitional Group has effectively created the municipal food plan.

The chairman of the local council said, "Without the transition policy, we would have had to build Stroud's foundation from scratch."

Now that transitional policies are widespread, policy hubs are beginning to emerge within the country.

In Scotland, the Government's Climate Action Fund is funding the Scottish Transition Policy Group, an example of how national institutions are helping to scale up their work.

Similar movements are being seen all over the world today.

But the key to transitional policy is not to think that everything has to change now, but to think that things have already changed, and what we have to do is be creative and ask the right questions.

Finally, I would like to return to the narrative.

because stories are so important

And in fact, the stories they tell are sorely lacking in how to creatively move forward from the status quo.

One of the emphasis in transition policy is to get stories out of people's actions.

For example, the story about the municipality that created the 21-pound note for local use, or the municipality that turned a parking lot into a food field, a school, or an energy company.

There was a great story recently: President Obama's family dug up the south lawn of the White House and built a kitchen garden. Once upon a time, when First Lady Roosevelt built a kitchen garden in the White House, there were two million kitchen gardens across America.

So the question for you is for all aspects of what your community needs in order to thrive: What are ways to dramatically reduce your carbon footprint while also building resilience?

Personally, I'm very grateful to be living in an era where oil is cheap.

we are very happy

But let's accept what oil brought us and move forward from here.

Because if we continue to cling to oil and continue to think that oil is the axis of our choices, the future will be truly unmanageable.

And we will be able to cherish and leave behind all that oil has brought, and all that the oil age has brought, to create a stronger, more prosperous world, a world that is more in tune with each other, more technologically advanced, and more connected.

thank you

(applause)

It's kind of funny that I'm here at a conference like this, for the invisible, and I'm proposing to build a 6,000-kilometer wall across the continent of Africa.

It's about the size of the Great Wall of China, so you'd think this wall wouldn't be invisible.

But this wall is primarily made of materials that are barely visible to the naked eye: bacteria and grains of sand.

Architects are trained to solve problems

But I don't really believe in "architectural problems," I believe only in opportunities.

So that's why I'm presenting the threat and showing the response from architecture.

The threat is "desertification"

A sand wall of bacteria and compacted sand across the desert is my answer.

Now, sand is a magical material with a wonderful self-contradiction.

simple and complex

gentle yet violent

Always the same but never the same Endlessly captivating

1 billion grains of sand are born every second all over the world

it's a cyclical process

Rocks and mountains break and grains of sand are born

some of that sand naturally hardens as sandstone

And when sandstone weathers, new grains of sand are formed.

Some of those sand grains accumulate in large scale and form sand dunes.

In other words, a solid, immovable pile of stone becomes a moving sand dune.

But moving sand dunes can be dangerous, and I'll explain why.

More than one-third of the earth's land area is arid

Some of them are already desert; others are severely eroded by sand

The Sahel lies just south of the Sahara

It means "desert helicopter"

This is the place most closely associated with desertification.

In the '60s and '70s, massive droughts in this region left 3 million people dependent on emergency food aid and killed 250,000 people.

This catastrophe is about to happen again

Yet little attention has been paid to

In the accelerated media, desertification is too slow to make headlines.

It's not like a tsunami or Katrina, because there's hardly any screaming children or destroyed houses.

Nonetheless, desertification is a major problem on all continents, affecting about 110 countries and 70% of the world's agricultural drylands.

Seriously impacting the lives of millions of people, especially in Africa and China

Many of them are problems created by our own unsustainable use of scarce resources.

That's why climate change is happening

Drought, increasing desertification, collapse of food supply, water shortage, famine, forced migration, political instability, war and depression.

It's a scenario that can happen if you don't take things seriously.

But how far is it?

I went to Sokoto in northern Nigeria to see how far it was.

This dune moves 600 meters each year towards the south

So the Sahara is eroding almost a meter of arable land every day, pushing people out of their homes.

Here I am -- second from the left -- (Laughter) with the elders of Guidankala, a small village outside Sokoto.

In 1987, they had to move out of here when a giant dune nearly swallowed them up.

So one house at a time, the whole village was moved.

This is where the village used to be

It took 10 minutes to climb to the top of the dunes I can see why they had to move to a safer place

This is the forced migration that desertification can bring.

If you live on the edge of the desert, you'll realize just how short it is to have children, to abandon your home, to leave your life behind.

Dunes cover only one-fifth of the desert

Yet this extreme environment is the perfect place for us to stop the migration of the desert.

Four years ago, 23 African nations came together to create the Great Green Wall Sahara

It's a great project, and the original plan was to create a windbreak across the continent of Africa, from Mauritania in the west to Djibouti in the east.

If you want to stop the dunes from moving, you have to make sure they stop avalanching over the cliffs.

The most efficient way to do this is to use something like a trap.

Trees and cacti are great

But the problem in this region is that the people are so poor that they cut down the trees for firewood.

So there are alternatives to planting trees that are unlikely to be cut down.

The sandstone walls I propose do three things.

(1)By bonding sand grains together, the dune surface and dune structure are roughened.

(2) it provides a physical support for the tree, and (3) creates a habitable physical space in the desert sand.

If people live within this green barrier, they can grow trees, they can protect them from loggers, they can protect them from the forces of nature.

shadows in the desert

We can collect the condensed water and green the desert from within.

In some ways, the dunes are like ready-made buildings.

Solidify what you need, then dig sand to get the building.

You can dig it by hand, or you can let the wind dig it for you.

The wind will bring the sand to the problem area, and then it will carry the sand away from the building for us.

But you want to ask me how to solidify sand?

How do the grains of sand stick together?

The answer is to use something like this, a bacterium commonly found in swamps and muds called Bacillus pasteurii, that does exactly this job.

Making sandstone out of piles of fluid sand

This photo from the American Society for Microbiology shows how the process takes place.

When you pour Bacillus pasteurii into a sand pile, it begins to fill the gaps between the grains of sand.

A chemical reaction forms calcite, a natural cement-like substance that holds the grains of sand together.

Full solidification takes about 24 hours

I learned about this from Professor Jason DeJong at UC Davis

he did this in just 1400 minutes

This is me, a mad scientist, at UCL in London, testing solidification against bacteria.

What is the cost?

I'm no economist, but still, I've literally done the back-of-the-envelope math -- (Laughter) -- and it looks like a cubic meter of concrete costs about $90.

And if you pay 60 bucks to buy the germs in the first place, it won't cost you anything more, and a cubic meter of sand with germs will cost you 11 bucks.

how do i make this?

You can easily see two methods

The first method is to create a balloon-like structure and put the bacteria in it and let the sand wash the balloon.The balloon bursts and the bacteria mix with the sand and solidify.

In a few years, we'll make that desert green with fully subsistence farming.

The second method is to drive a pile for injection.

Press the pile into the dunes to create the initial bacterial surface.

And then when you pull the pile out of the dunes, the sand becomes a mold, and you can create just about any shape in the sand.

So there's a way to turn sand into sandstone, and you can use that to create habitable spaces inside the dunes.

But what is it?

In my case, the architectural style is inspired by "Tafoni" and is mostly like this model.

in rocks with sponge-like structures in the Sokoto region

We found that if we scaled it up, we could create spatial properties suitable for things like air conditioning and temperature control.

Some of the morphological control of this structure will naturally be delegated to the bacterial process.

By doing so, I believe that beauty without borders will be born.

I'm sure it will be a wonderful combination.

You'll see the traces, or the process, of transforming the desert into a habitable environment using Bacillus pasteurii.

Some people think this could spread out of control, and the bacteria might destroy everything in the process.

that's totally wrong

It's a natural process that happens all the time in nature, and bacteria die as soon as they're deprived of their nutrient supply.

So, here's an architectural anti-desertification structure using the sand itself.

Sand preventer made of sand

It is estimated that one-third of the world's arable land will be lost by the end of the century

In a time of unprecedented population explosion and food demand, it could be catastrophic.

Frankly, we are not facing reality.

At the very least, I hope this plan is controversial.

But if I had something like TEDwish, I would like to actually build this, build this habitable wall, build this very long but narrow city in the desert, and make the desert landscape itself.

It's not just about supporting trees, it's about holding people and nations together.

Finally, let me show you an animation of this structure, and I'll quote Jorge Luis Borges.

Borges said: "Nothing is built on stone, everything is built on sand, but it must be built as if the sand were stone."

To pursue this plan, much remains to be done: political, practical, ethical, financial, etc.

This plan of mine to bring you to the rabbit's den has many challenges and difficulties in reality.

But this is the beginning and the vision

As Borges said, this is sand

And now is the time to turn it into stone. Thank you.

(applause)

(♪In the "Sound of Silence" section) Hey voicemail my dear friend

(Laughter) I called tech support again.

I didn't listen to my boss's advice and called on Monday morning.

It's already midnight now Dinner was cold at first and then hardened

Still holding the phone and listening to the silence

I don't think you understand I'm sure there's no one on the other end of the phone

I pressed all the buttons as I was told, but I was kept waiting for 18 hours.

Their software not only crashed my Mac, it hung constantly and even bombed my ROMs!

Listening to the now silent Mac

Thinking about dreams of revenge

they had a motorcycle accident

Blood flows from the wound, in my fading consciousness

Dial 119 and wait for the doctor to come, but it's me.

(Laughter) And they listen to the silence

(Applause) Thank you very much. Good evening.

Welcome to "Find the TED Speaker Who Was Your Broadway Accompanist"

(Laughter) Six years ago, when I was asked to write a column for The New York Times, the deal was, "I'm going to get the coolest, coolest, latest gadgets.

delivered to your home every week

Try it, play with it, rate it until it's no longer novel, then send it back for a reward." Just think about it.

I've always been a technology geek, and I loved this job.

But there was one little problem with this job, which was that my email address was always at the end of the column.

So I got a lot of emails

If you're struggling with loneliness, write a column for the New York Times and you'll get hundreds of emails.

A lot of the emails I get these days are about complaints.

What people are feeling is... oops, there was a warning pop-up, glad it wasn't on the projector.

We're all overwhelmed, we're all feeling that there's too much technology, that it's changing too fast.

It may be good technology, but it's hard to say that there is enough support.

Easy to use design-

Not enough thought has been put into making it fun to use

I wrote a column about how I struggled to get in touch with Dell technical support, and within 12 hours, I received 700 reader messages in the comments section of the New York Times site, saying, "So did I." "So did I."

Whoever finds a way to turn this anger into money...why is this happening? just kidding

(Laughter) Why is it getting worse?

Ironically, it's because the industry has put a lot of effort into making software easier to use.

let me explain

This is the old computer DOS

Computers have become easier to use over the years.

This is the original Mac operating system

It was when Reagan was president and Madonna was still a brunette.

Entire operating system fits in 211KB

Mac OS X logo alone is over 211KB

(Laughter) Ironically, the ease with which computers can be used and the ability of non-technical people to use them has opened the door to a wider range of people for the first time.

I once spent a day at Apple's call center on a special occasion.

I listened to the conversation on my spare headset.

"This phone conversation may be recorded for quality assurance purposes." Do you know what they say?

no no they record

To make a CD out of funny stories from stupid users.

(Laughter) That's what they do.

(Laughter) I got a copy too.

(Laughter) It's in your conference bag. (Laughter) It's a lie.

I have your voice!

Some stories are very typical and understandable.

A woman called Apple complaining that her mouse was squeaking.

"What does it mean when a mouse squeaks?"

"Anyway, the faster you move it, the worse the screen will sound," I replied.

(Laughter) When the person in charge was surprised and said, "Are you moving the mouse on the screen?"

"It said click here." (Laughter) Do you like stories like this? Do you have time?

A man called me. It's true! My computer crashed and said it wouldn't restart no matter how many times I typed 11

I asked, "Why did you type 11?"

"I got a message saying 'Error type: 11'." (Laughter) So, frankly, sometimes it's a user problem.

But why is the crisis of technology overload, the crisis of complexity now looming? In the world of hardware—

Consumers Want Everything Smaller

So gadgets keep getting smaller and smaller, but fingers basically stay the same size.

So it's getting harder and harder

There's another force at work in software: there's a constant demand for new versions.

Software isn't bought and owned like vases and candy.

It's like joining a club where you pay an annual membership fee.

I know someone who, without realizing it, spent $4,000 just on Photoshop.

Software companies get 35% of their revenue from upgrades

I call it the "upgrade paradox," because software is something that, if you keep improving it, it'll eventually go bad.

Microsoft Word was just a word processor as far back as Eisenhower's time (1950s).

(Laughter) But what's the alternative? Microsoft has actually tried

"People are complaining about adding too many features

Let's make a word processor software

Simple and pure web page creation or something without a database.”

It appeared Microsoft Write

you don't know

It was a disaster. Nobody bought it.

I call this "the SUV principle"

I like being surrounded by powers we don't need.

You don't need a database or web page building capabilities, but you say, "Upgrade it, because you might need it someday!"

The question is, what happens when we add more features?

I have so many tools that I don't know where to put them.

It has a button It has a slider It has a submenu in a popup menu

But if you don't choose carefully, this is what happens.

(Laughter) No, I'm not joking. This is a picture of Microsoft Word.

I don't think you'd do that, but this means you'll be typing in this tiny place.

(Laughter) We live in the age of the interface matrix. There are so many features and options that we need two dimensions: vertical and horizontal, and Microsoft Word turns dots into bullet points.

Everyone complains about underlining URLs without permission.

there's a switch to turn it off

It's really there somewhere!

The trick to designing a simple, good interface is knowing where to use which features.

This is the Windows 2000 logoff dialog

Why use a dropdown when there are only four options?

It's not like you have other components and you have to cut the space down

I was able to see everything

Apple would create the same dialog box like this

(Applause) Thank you. Yeah, I designed it. It's a lie.

Apple and Microsoft have very different approaches to design.

Microsoft's approach to simplicity is to break it down into steps.

Wizards like this are everywhere

A new version of Windows is coming out this fall.

If they continue like this, I have no idea what will happen.

("Word Input Wizard") (Laughter) Welcome to the Word Input Wizard. Let's try it. Click "Next."

(Applause) Please select the first letter you want to type from the pull-down menu.

(Laughter) So there's a line that shouldn't be crossed. What's the answer?

How can we pack all these features in a simple and intelligent way?

My idea is to be as consistent as possible and label as many things as possible using real-world metaphors like trash cans.

But I want designers to sometimes break all the other rules for the most important rule of being intelligent. What does that mean?

Give examples of inconsistencies that can be improved by applying knowledge.

When you shop online, you enter your address, but you choose your country, right?

There are about 200 countries in the world, and I would like to think of the Internet as a global village.

unfortunately it's not yet

The Internet is mainly in America, Europe and Japan.

So why put the United States on the "U"?

(Laughter) You have to scroll seven screens to get there.

Putting America on top is an inconsistent but intelligent move, and I've talked about this before.

Why is the button you press when you shut down Windows called "Start"?

(Laughter) One more thing: printing.

Most of the time, all you want to do is put one copy out in page order to your usual printer.

So why do I get this every time I print?

It looks like a jumbo jet cockpit

(Laughter) And the button at the bottom isn't even "print."

(Laughter) (Applause) Apple isn't the only company that believes in simplicity.

Palm was also great at this, especially in the old days.

Back in the '90s, when Palm was at its peak, I went to give a talk, and I talked to some of the employees.

"What do you do here?" I say, "I'm counting taps."

I said, "What's that?" and he said, "That's what CEO Jeff Hawkins says.

"We're going to redesign any task that requires more than three taps on the Palm Pilot."

An example of a company not counting taps

Let me show you, let's say you create a new blank document in Word.

…Is there such a thing?

(Laughter) First, go to the File menu and select "New."

What happens when you select "Create New"? Can I get a new blank document?

wrong

On the other side of the screen, you'll see a taskbar, and somewhere in it -- not at the top, by the way -- one of the many links is a button to create a new document.

It's a company that doesn't count taps

Even if Microsoft is moss, it's boring just talking about it, isn't it...

Audience: Do it! Delighted! (smile)

(Applause) Bill Gates song!

(♪In the verse "Gift of a Song") I was a geek and wrote the first DOS

Sold my software with IBM I took the profit and they took the loss

(Laughter) I made software that the world uses.

get royalties from everyone

There are things that look like trash, but the media is deceived

I bought a computer, then buy the software

All software companies research and develop for Microsoft

I can't keep hold of good ideas these days

Even Windows is a rip-off Based on Mac

That's why you're so big and slow You can't go anywhere

I build software for today's world

Moonlight everywhere

we're on the verge of world domination

You have no choice, buy my software

I'm Bill Gates and I'm writing this software

(Applause) But I think there are two Microsofts.

The old Microsoft that makes Windows and Office

I want to throw everything away and start over, but I can't

Because too many add-ons and stuff from other companies are stuck in 1982 boxes.

But it's a new Microsoft, and it has a nice, simple interface design.

I liked Media Center PC I liked Microsoft SPOT Watch

This wireless watch failed spectacularly on the market.

It wasn't because it wasn't a simple and beautiful design.

Because who would pay $10 a month for a watch that would have to be recharged every night like a cell phone and wouldn't work if you moved to a different area code?

(Laughter) It looks like the complexity crisis is only going to get worse.

Is there no hope? the screen is getting smaller

People try to use it without even reading the manual, new things appear at a rapid pace.

Steve Jobs came back to Apple in 1997, after a 12-year hiatus, at MacWorld Expo.

I felt like I had seen it somewhere, I had just seen Madonna's movie "Evita."

(Laughter) It's unfair that we have to do Steve Jobs.

(In the verse "Don't cry Argentina") It won't be easy People think I'm weird

He tried to explain why he returned after saying Apple's future was bleak.

maybe you don't believe

What you're seeing is a teenager starting out with his only friend in the garage, Woz.

(laughs) Garage and Woz rhyme?

(Laughter) Don't cry for me Cupertino

(Laughter) I never really abandoned you.

(Laughter) Now I know what to do, I know the trick.

I made a lot of money with Pixar

(Laughter) Don't cry for me Cupertino I still have the drive and the vision.

I still wear sandals no matter what the weather is like

The current one is made of GUCCI leather.

(Laughter) (Applause)

thank you very much steve jobs always

I believed in simplicity, elegance, and beauty. To be honest, I've been disappointed. Americans clearly don't value those things.

So I was disappointed when I heard Al Gore's talk.

I realized I didn't know the meaning of disappointment

(Laughter) But I was wrong.

defies all common sense

Others are cheaper and have more features, like voice recorders and FM transmitters.

Other products are backed by Microsoft and follow open standards, not Apple's own.

But everyone wanted an iPod!

The lesson here is that simple things sell.

and the industry is learning from it

There's a small company that does very well in terms of simplicity and elegance.

Sonos is very popular

I've brought you some examples that are very cool as objects.

An elegant and well-thought-out product has come out recently.

How do I transfer photos from my digital camera to my computer?

You either pull out a USB cable, or you buy a memory card reader and pull it out.

Either way, it looks like it's going to go somewhere

Mine takes out a memory card and folds it in half to reveal a USB connector.

Then you plug it into your computer, transfer the photos, and put it back in the camera.

Let me give you another example, to Chris, the source of everyone's power.

Please act as an outlet

Chris: oh okay hold tight and don't let go

This is Apple's new laptop, I'll leave the power cord hanging.

Have you ever done something like this

or your child

It's a borrowed thing, so I don't care

Wow! It's magnetic, so the laptop won't fall to the floor.

(Applause) As a final example, I do a lot of my work with speech recognition software, because it's sensitive.

Please be quiet

Speech recognition software can write emails quickly Great period

I get hundreds of emails every day period

This is more than just writing out what I dictated, period.

I also use a function called voice macro Period

Fix "dissuade" to "not just"

This is not a very ideal situation, because the sound reverberates in the hall.

If you put short words into long sentences, you'll be able to respond to emails faster. Let's say someone sends you a fan letter.

I say "Thank you"

(A long thank you note appears.) (Laughter) (Applause) On the other hand, when I get some nasty email, which happens every day, I say, "I'm mad."

(Long, polite response appears) (Laughter) (Applause) This is my secret, so please keep it a secret.

(Laughter) There's an interesting story to this.

This software is version 8. Do you know what was added in version 8?

No new features In software it's never been like that before

they simply said

"Make sure the software works properly"

People keep buying this software, trying it out, and it's 95 percent accurate, or one out of 20 words wrong, and they stop using it.

The company got fed up with that and said, "I'm not going to do anything with this version other than make it absolutely accurate."

I did it, and the belief in doing things right is starting to spread.

So my advice to people who are consumers of technology is

I want to say that if something goes wrong, it's not always your fault

The product may be badly designed.

Learn to distinguish between good design and bad design

And what I want to say to people who make products is that easy is hard.

Pay attention to details for those who use it Count your taps

The hard part isn't what features to add, it's what to drop.

And most of all, simple things sell.

bravo thank you very much

It was great! (applause)

I will give a 2-hour presentation to a student here in 3 minutes! On the plane when I came to TED.

It was seven years ago. next door

High school, maybe a teenager, she came from a poor family

"I want to succeed in something," I confessed. and asked a simple question. "How can I succeed?"

but i can't answer

I'm sorry.

Shortly after that, I came to TED and had an epiphany!

As far as the eye can see, there are only successful people!

Listen to the secrets of success here and pass them on to your kids!

And now that I've interviewed 500 people in 7 years, I'm answering! What is the secret of success? What drives TED members?

The first is passion

Freeman Thomas "Enthusiasm is my driving force"

TED members do it because they like it. money is not the goal.

Carol Collette: "I want to do what I'm doing, even if it means hiring people."

What's even more interesting is that if you follow your passion, the money will follow.

work! Rupert Murdoch: "Let's do our best.

Nothing is easy, but it's fun to do."

Rupert is "fun"? ! that's right!

TED members work hard and have fun.

They are work geeks, not workaholics.

Special skill! Alex Garden: To be successful

Take it.” There are no shortcuts. Simply practice! training! training!

Concentrate. According to Norman Jewison

"All you have to do is focus on one thing"

push! David Gallo “Push yourself.

Push physically and mentally! push! push! ”

Push out your shame and lack of confidence!

Goldie Hawn ``I used to say this when I was in doubt''

"Because I'm clumsy and stupid

I'm sure I won't succeed.』

People invented mothers because it's hard to keep pushing yourself. (laughter)

Frank Gehry replied: "My mother made me do it"

Be useful! Sherwin Nuland: "It was an honor to serve as a doctor"

A lot of kids say they want to be millionaires.

So the first answer is, "You can't be useful to yourself, so let's give something useful to others.

That's the only way to get rich."

idea! According to TED member Bill Gates,

"I wanted to create the world's first computer software company."

I think it's a good idea too.

There are no shortcuts to being creative. Just keep doing the basics.

they are like this.

Persevere! Joe Krause says

“By persistence, we were able to succeed.”

Keep going even if you fail. Persevere even in the face of a headwind!

What is a "headwind"? Criticism, ignorance, idiots, pressure!

(laughter) The obvious answer is simple! Pay $4000 to come to TED!

If that doesn't work, keep doing these 8! These 8 are the secrets of success!

A TED member who was interviewed Thank you!

Chris Anderson: Thank you very much, Prime Minister. It was very interesting and thought-provoking.

The prime minister advocates for global ethics,

Is that what we call global citizenship?

Do you think so? And what is its definition?

Gordon Brown: It's about being global citizens, recognizing our responsibility to each other.

It's clear to most of us that we have a lot of work to do in the next few years to make the world a better place.

There's a very strong common sense of what needs to be done, and it's very important that we all work together.

Sometimes there is no way to cooperate

so there is a problem

The concept of global citizenship will naturally emerge from conversations between people across continents.

But then, of course, we need a system for a global society to exist.

So what we shouldn't underestimate is the revolution in technology, because it connects people all over the world.

Anderson: But I think the idea of ​​global citizenship is both fascinating and a little perplexing. It's related to, say, patriotism. How do you combine the two?

You were elected prime minister and had a role to play in supporting Britain.

How do you reconcile the two?

Brown: Of course, national self-awareness is important.

But that shouldn't come at the expense of our global responsibility.

And one of the problems with the recession is that people are becoming very protectionist, looking only at themselves and trying to protect their own country, sometimes at the expense of others.

If you look at the dynamics of the global economy, you can't move forward without trade between different countries.

Countries undergoing protectionist transformation in the years ahead will miss out on the benefits of a growing global economy.

You should have a healthy patriotism, it's very important

But I realized that the world had changed fundamentally

It should be understood that it is not something that can be resolved

Anderson: Well, but what if, say, the two collide and you have to make a decision? For example, what if you chose the interests of the United Kingdom or the interests of the British people over the interests of the rest of the world?

BROWN: I think I can convince people that what the long-term interests of Britain require, and what the long-term interests of the United States require, is proper cooperation with the rest of the world and the necessary actions.

I have an amazing story about Richard Nixon.

In 1958, Ghana became independent, a little over 50 years ago.

Richard Nixon went to Ghana's Independence Day on behalf of the US government.

In the early days of his visit to Africa as Vice President,

I wasn't sure what to do, so I started talking to people around me. He asked people something unique, "How does it feel to be free?"

Then again, "How do you feel about being free?"

"How do you feel about being free?"

And someone said, "I don't know, I'm from Alabama."

(Laughter) This was in the '50s.

And what's amazing is that America won civil rights in the '60s.

Equally astonishing is that socioeconomic rights in Africa haven't developed much since the colonial era.

Yet America and Africa had common interests.

We should be aware that if we don't link with the wise voices of Africa, the democratic voices, and move towards a common cause, al-Qaeda and its affiliates are more likely to take root in Africa.

So what sometimes seems to be altruism about Africa and the developing world is not only that,

Cooperating with other countries is also an act of wise self-interest.

If I had to say, national interests such as efforts to solve poverty and environmental problems, or even universal interests of the world, would harmonize as the same thing in the long run.

Whatever the short-term costs of addressing environmental issues, security issues, and education issues, these hardships will build a stronger global society, enabling people to coexist more comfortably with each other and to communicate in a way that builds stronger ties between nations.

Anderson: I'd like to dig into this issue.

You're on a nice beach vacation and you hear that there's been a massive earthquake and a tsunami is hitting the beach.

At one end of the beach is a house that houses a Nigerian family of five.

On the other side, there's an Englishman living alone.

In the time you have left -- (Laughter) you can't tell both of them the danger.

Well what do you do?

(laughs) Brown: I'll call you on my cell phone.

(Applause) Both.

(Applause) It's true that my responsibility is to keep my people safe first.

I don't want you to think that by speaking in today's conversation, you're downplaying the responsibility that a leader of a country has for his country.

I just want to point out that it's opened up a great opportunity for us that we never had before.

The power of cross-border dialogue allows us to see the world differently.

Think about the tsunami story, which is a classic example.

What happened to the early warning system?

Why hasn't the world worked together on what we know is a looming problem? Earthquakes and climate change

If the world came together and had better warning systems, we could do much better to address these problems.

We haven't yet seen this great opportunity that opens up before us, in a world that was once caught up in isolationism and limited cooperation based on geographic convenience that didn't help solve the underlying problems.

Anderson: I think that's a frustration that many of you in the audience feel.

Because most of us can relate

I think that's what the world should look like in the future.

But when things change, politicians suddenly start saying, say, that the life of one American soldier is equivalent to the lives of millions of Iraqi civilians.

Idealism can easily get sidetracked when it goes too far

Do you think that will change as time goes by, or are you seeing a shift in attitudes in the UK, or are more people sympathetic to the global ethics you're talking about?

BROWN: All religions and beliefs, not just religious people, have a universal ethic at the heart of their beliefs.

Whether it's Judaism or Muslim, Hinduism or Sikhism, at the heart of each religion is the same universal ethic.

So this is what people intuitively see as part of their moral

It's something that captures something that isn't pure selfishness.

Based on people's ideals and values ​​- they may be like a very dimly lit candle in some circumstances.

But for me, those are values ​​that should never be erased.

The question is how do you make that change?

How can we convince people that this is for them? After World War II, we created strong institutions like the United Nations, the IMF, the World Bank, the WTO, the European Recovery Plan.

These institutions were very new and people said creation.

But these are things of the past and not enough to solve the problem.

As I said earlier, the existing framework is inadequate for tackling environmental problems.

Security and-

So are economic issues.

We need to rebuild our global framework to meet the challenges of our time.

I believe the biggest challenge we face today is convincing people that we can build a global society with these rules-based organizations.

Coming back to the opening point

Sometimes I think it's impossible

Fifty years ago no one thought apartheid would end in 1990, that the Berlin Wall would come down as we moved from the 80s to the 90s, that polio would be eradicated, 60 years ago no one would have thought that humans would go to the moon.

And all these things have come true

It is only by working on the impossible that we can find the opportunity to make it possible.

Anderson: There was a speaker who said exactly that, and then swallowed the sword right after that. It was dramatic.

(laughs) Brown: It's my turn next.

Anderson: But isn't a true global ethic something like this: "All human life on Earth is equal, regardless of nationality or religion."

And the politicians -- they were elected.

Why can't politicians say that?

If you personally believe that you were elected in the British national interest,

You can't say that to politicians, can you?

Brown: We have a duty to protect

Look back at the 1918 Treaty of Versailles, and the Treaty of Westphalia that preceded it, all of which guaranteed the sovereignty of a country, its freedom of action.

And then the world continues to move forward, partly because of the Holocaust, partly because of what happened in Rwanda, partly because of what happened in Bosnia, partly because of the growing concern for individual rights within our borders that need to be protected.

The idea of ​​a duty to protect all individuals in humanitarian danger is now becoming a global norm.

So while I can't automatically say that the UK will not hesitate to come to the aid of another country's citizens when they are in danger, I can say that the UK is in a position to work with other countries so that the whole world accepts the idea that the UK has a responsibility to protect people who are suffering from genocide and human rights violations.

Now, this is ultimately possible because of the functioning international institutions.

Now back to the discussion about the future role of the United Nations and its mandate.

This "duty to protect" is, in a way, a new idea, born out of the idea of ​​national self-determination as a governing principle of the international community.

Anderson: Is it possible that any politician in our lifetimes will address global ethics and global citizenship head-on?

"All people on earth are equal, and those in power should respect that fact when forming politics.

And our people are equally global citizens and support this global ethic..."?

Brown: Isn't that what we're actually doing in the climate change debate right now?

Because they say, "No one country can solve climate change alone, we have to work with all countries."

It's saying that we have an obligation to help countries that can't cope with climate change on their own.

To save the world's environment, we should work together with every country in the world to reduce our carbon footprint.

This has never happened before, because the Kyoto conference was ineffective.

At the United Nations Climate Change Conference in Copenhagen, an agreement was reached, and people first agreed on A long-term goals to reduce their carbon footprint, and B setting short-term goals, realistic goals. People were making decisions now that would make a difference now. Only then will the world be equal, taking into account the needs of every country on the planet.

This doesn't mean that all countries will act in the same way -- because the poorest countries need more financial assistance -- it means that the needs of every citizen on the planet will be given equal attention.

Anderson: yeah

Yet the dogma is that these negotiations will be torn apart by various nations competing for their own benefit.

BROWN: Yes, but Europe is already 27 countries in one coalition.

The biggest problem in Europe is that there are 27 people in the conference, so decisions take a very long time.

Yet we reached an agreement on climate change

America has made its first decision, and President Obama should be congratulated for passing this bill through Congress.

Japan announced

China and India embraced collaboration on scientific evidence

Next, get them to agree on long-term goals, and then agree on short-term goals.

But I think we've made more progress in the last few weeks than in the last few years.

And if we work together, at the United Nations Climate Change Conference in Copenhagen,

I believe we can reach an agreement, and I have certainly put forward proposals that allow the poorest countries to feel that the developed countries have taken into account their particular needs.

we're going to help them get in step

and help them transition to a low-carbon economy

For this reason, transformation of international institutions is essential.

When the IMF was created in the 1940s, it had a budget of about 5% of the world's GDP.

Now the IMF has limited resources, just 1%.

Not enough to bring about the transformation needed in this time of crisis.

So international institutions must change

It's a big challenge to convince the different countries that belong to these institutions and have different voting powers.

There's a short story about three leaders about how they met God.

First, Bill Clinton met God and asked when the solution to climate change and the low carbon economy would come.

God shakes his head and says, "Not this year, not in ten years, not even in your lifetime."

Bill Clinton didn't get the results he wanted and had to leave in tears.

Then Barroso, President of the European Commission, went to God and asked, "When will the global economy recover and grow?"

God said again, "Not in this year, not in ten years, not even in your lifetime."

Barroso also walked away crying

And then the UN Secretary-General asked God, "When will this international organization work?"

Then God started crying

(Laughter) It's very important to clearly recognize that this reform of international institutions is the next step in the agreement between our nations, rooted in a clear ethic.

Anderson: Prime Minister, I think many in the audience appreciate your efforts during this economic crisis.

And there will be many who will support your efforts to promote global ethics.

Thank you for coming to TED

Brown: Thank you.

(applause)

How can we observe the invisible?

This is a fundamental question for anyone trying to discover and study black holes.

Because a black hole's gravity is so strong that not even light can escape from it, so it's not directly visible.

Today I'm going to talk to you about a special black hole.

What I'm interested in is whether there is a very large "supermassive" black hole at the center of the galaxy.

I'm interested in it because I have the opportunity to prove that strange objects like this really exist,

Second, it gives us an opportunity to understand how supermassive black holes interact with their environment and affect the formation and evolution of the galaxies around them.

First of all, let's understand black holes so that we can believe they exist.

What is a black hole?

In some ways it's a very simple object, because it has only three physical properties: mass, spin, and charge.

Today I'm only going to talk about mass

So in some ways it's a very simple object.

In other words, it's a very complex object that has to be described by strange laws of physics, and that would mean the collapse of our physical understanding of the universe.

But today, to help you understand what a black hole is, and how it exists, think of an object whose mass is tucked into space with zero volume.

So let me explain what it's like to have a body that has a supermassive mass but doesn't have a finite size.

It's a little annoying

But there's a comprehensible finite size, known as the Schwarzschild radius.

It's named after the man who discovered how important size is.

This is an imaginary radius, not a real one, because black holes have no size.

Why is it important?

Because it shows that any object can become a black hole.

In other words, you, your neighbor, your cell phone, this hole, etc., will become a black hole if you squeeze it below the Schwarzschild radius.

What happens when you go there?

Gravity wins there

Gravity overcomes all other forces

Objects continue to shrink and become infinitely smaller.

that's a black hole

If you squeeze the Earth down to the size of a sugar cube, you get a black hole, because in this case the size of the sugar cube is the Schwarzschild radius.

The key here is what is the Schwarzschild radius

I found it very easy to know

it depends only on the mass of the object

A large object has a large Schwarzschild radius

For small objects, small

If you squeezed the sun to the size of the University of Oxford, it would become a black hole.

Do you know the Schwarzschild radius?

This is a very useful concept that not only tells us when black holes can form, but also gives us the key ingredients for the proof of black holes.

Only two things are needed:

The mass of the object you want to prove to be a black hole, and its Schwarzschild radius.

And since the Schwarzschild radius is determined by mass, all we really need to know is mass.

So my role is to convince you that black holes are real and that there are objects that fit within their Schwarzschild radius.

Your role is to be skeptical

So I'm not talking about ordinary black holes, I'm talking about supermassive black holes.

So let's talk a little bit about normal black holes first, just like there are "normal" black holes.

A normal black hole is thought to be the end of the life of a supergiant star

In other words, a star born with a mass far greater than that of the sun explodes at the end of its life, leaving behind a beautiful supernova remnant like the one you see here.

And in the remnants of that supernova explosion, there's a tiny black hole, roughly three times the mass of the Sun.

On an astronomical scale, it's a very small black hole.

Now let's talk about supermassive black holes.

A supermassive black hole is believed to be at the center of the galaxy

This beautiful picture taken by the Hubble Space Telescope shows that galaxies take all shapes.

Some are big, some are small

Almost everything you see in this picture is a galaxy

There's a very nice spiral galaxy in the upper left.

There are 100 billion stars in that galaxy, can you get a sense of the size?

And all the light that comes from galaxies, like this galaxy right here, comes from stars.

In other words, we can see galaxies because of the light of the stars.

there's a very strange galaxy inside

I call it the primandonna of the galaxy because it's "show-off"

It's called an "active galactic nucleus"

Because its galactic nucleus, or center, is very active.

So that central part is where most of the starlight comes from.

And we're seeing light that can't be explained by starlight alone.

Much higher energy than expected

Just like this galaxy we're looking at

Also, a jet is blowing out from the central part

Given that galaxies are made up entirely of stars, this source of energy is also inexplicable.

It's speculated that there's a supermassive black hole there, and matter is slumped into it.

So you can't see a black hole, but you can see the gravitational energy there converted into light.

That's why the idea that there might be a supermassive black hole at the center of the galaxy holds true.

but that's an indirect argument

Nonetheless, it suggests that supermassive black holes exist in the centers of all galaxies, not just primadonna galaxies.

If so - this is a normal galaxy, and all you see is starlight.

If there's a supermassive black hole here, it's on a diet.

Because it suppresses the energetic phenomena seen in active galactic nuclei.

If we're looking for an invisible black hole like this at the center of the galaxy, the best place to look is in our own galaxy, the Milky Way.

This is a wide-angle shot of the center of the Milky Way galaxy.

I see a band of stars

Because we live in a flat, disk-shaped galaxy.

We live in the middle zone, and when we look toward the center from there, we can see the plane, or the line, that forms the galactic plane.

The advantage of studying our own galaxy is simply that it's the closest galactic center to us, and the next closest galaxy is 100 times further away.

We can see more detail in our own galaxy than anywhere else.

And as I'm going to show you, how much detail you can see is the key to your research.

Now, how do astronomers prove that there is a lot of mass in a small space?

I'll show you that later

The way to do that is to watch stars as they orbit around a black hole.

Stars orbit black holes in the same way that planets orbit the sun.

The gravitational pull of gravity determines the orbit of an object.

If there wasn't a massive mass there, the star would either fly away, or it would orbit more slowly, because it's the mass in its orbit that determines how it orbits.

It's just right, because my job is to prove that there's a lot of mass in a small space.

So if you know how fast a star is orbiting, you know its mass.

And if you know the size of the orbit, you know the radius

So I want to see stars as close as possible to the galactic center.

We want to show that there is mass in as small a region as possible.

In other words, I want to see as much detail as possible.

So for this study, we're using the world's largest telescope.

This is the Keck Observatory, which has two 10-meter primary mirror telescopes with a radius roughly the size of a tennis court.

This is a great thing, because the promise of giant telescopes is, "The bigger you see, the more detail you see."

But all these ground-based telescopes have a little trouble keeping up with their promises.

it's because of the atmosphere

The atmosphere is what keeps us alive on Earth, and it's wonderful.

But it poses considerable problems for astronomers looking at astronomical light sources through the atmosphere.

It's like looking through the water of a stream to see pebbles at the bottom.

If you look at the pebbles at the bottom of the water, it's very difficult to see the pebbles at the bottom of the stream, because the water is constantly turbulent.

By the same token, it's very difficult to see astronomical sources through a constantly moving atmosphere.

So I've spent a lot of my career trying to correct for atmospheric turbulence and get a clear image.

Up to 20x better results

If you could figure out how to improve your life by a factor of 20, your lifestyle would be completely different, wouldn't it be in terms of your salary, or your children?

The video I'm showing you is an example of a technique we use called adaptive optics.

In the image you see, you can see what it would look like without that technique, which is a normal-looking image of a star.

I can't see the stars without correction

Using adaptive optics technology, you can suddenly start seeing stars

With this technology, the telescope's optical system incorporates a mirror that deforms continuously to counteract atmospheric fluctuations.

The telescope has very nice glasses

In the next few slides, I'm going to focus on that little square.

You can see the rest, but I'm just going to focus on the star in the little square.

I would like to know how the stars move

In this study, the star is moving very large.

In the 15 years I've been doing this research, I've been watching stars as they orbit.

Most astronomers have a favorite star, and my favorite today is this SO-2.

my favorite star in the world

Because you've come full circle in just 15 years

And how short is that? The sun takes 200 million years to go around the center of the galaxy.

The closest known star to the galactic center would take 500 years.

This planet goes around in a person's lifetime

this is a blessing

And that's the key to this study, which tells us how much mass there is in this very small radius from the orbit of the star.

In the next diagram, we show how large we thought we could confine the mass of the galactic center prior to this study.

We've known for some time that there's four million times the mass of the Sun inside this circle.

As you can see, there were various things in the circle

there are many stars

So you can pack a lot of different things into it, and besides the theory of a supermassive black hole at the center of the galaxy, there were a lot of other options.

But our research shows that the same mass is in a much smaller space, 10 million times smaller than it used to be.

So we were able to prove that a supermassive black hole exists there.

How small is it, roughly the size of the entire solar system?

So four million times the mass of the sun is packed into the size of the solar system.

So it's just as advertised, right?

I said my job is to shrink it to the Schwarzschild radius.

I haven't really gotten that far yet.

But there's no other way to explain this concentration of mass.

And this is proof not only that there is a supermassive black hole at the center of our galaxy, but that it is in all galaxies.

So what's next? Actually, I think this is the best we can do with current technology. So let's tackle the problem.

So what I've just briefly told you today about the galactic center, and the most exciting thing I can tell you about right now, is that there is, or I believe, a supermassive black hole at the galactic center.

What's interesting about this study is that we've tested several hypotheses about what might happen if there were a supermassive black hole at the center of the galaxy, and none of them match what we can actually observe.

It's funny, is not it

I'll give you two examples

Question: "What happens to old stars that have been around the galactic center for a long time due to long-term interactions with black holes?"

We would expect old stars to cluster around the black hole.

There must be many old stars near black holes

Likewise, or in contrast, young stars cannot be there

Black Holes Are Not Friendly Neighbors When It Comes To The Cradle Of Stars

Stars need very large balls of gas and dust to clump together

it is very fragile

What do you think black holes do?

take the gas away

One end is pulled with much more force than the other and the cloud is torn apart.

In fact, I predicted that the birth of a star would not occur in such a place.

young stars can't be there

how was it actually?

The observations that I didn't show you today will tell you which stars are old and which are young.

The red ones are old stars.

The blue one is the young one. The yellow one is still unknown.

Now you can see the surprise

there are only a few old stars

There are lots of young stars, which was the complete opposite of what we expected.

It's funny, is not it

Now we're trying to figure this out, the mystery of this result, how do we resolve this contradiction?

In fact, at this very moment, my graduate student is observing with that telescope in Hawaii, and is about to go to the next step, which is to find out why there are so many young stars and so few old stars.

To make further progress, we need to look at the orbits of stars that are much more distant.

To do that, we probably need much more advanced technology than we have today.

This is because, although I am correcting for atmospheric turbulence, I am only able to correct about half of the error.

To do this, we're shooting lasers into the atmosphere, but if we add more lasers, we'll be able to compensate for the rest.

I hope to be able to do that within the next few years.

And for longer time spans, we want to build even bigger telescopes, because in astronomy, "bigger is better."

So I want to build a 30m telescope

With it, we'll be able to observe stars even closer to the center of the galaxy.

And I want to test part of Einstein's theory of general relativity, and test the cosmology of how galaxies form.

The future of this research is very exciting.

So to summarize, the video you'll see shows how these orbitals move in three-dimensional space.

And, apart from other things, we want you to understand: (1) there is a supermassive black hole at the center of the galaxy.

that they exist throughout the universe and that we must address them and explain how they can be incorporated into our physical world.

(2) to observe how supermassive black holes interact, and possibly to understand their role and how they form galaxies;

And last but not least, none of these outcomes would have happened without the tremendous advances that have been made on the technological frontiers.

And it's an area that's advancing very quickly and has a lot more potential.

thank you very much

(applause)

You shouldn't rush to the desert, let your emotions take over.

First of all, there is a little caution. Please stop the English speaking ability check program that is installed in your head.

(Applause) So welcome to the Golden Desert, the Thar Desert!

It's the place with the lowest rainfall in India.

Annual rainfall is only 16 cm [6] in centimeters per year.

There's groundwater at 100 meters below the ground.

It's mostly salt water, not suitable for drinking.

So you can't install hand pumps, you can't dig wells, and most villages don't have electricity.

You might think you could use green technology, solar power, but that's not the place for these technologies.

Anyway welcome to the golden desert

Clouds are rare here

There are 40 cloud names in the local dialect.

There are a number of rainwater harvesting technologies here.

This is a new study and a new program.

In this desert community, it's not a program, it's life itself.

people get water in many ways

This is the first device used to collect rainwater.

called "kund"

As you can see, we have an artificial water collector.

I see dunes and small fields in this desert

And this is a whole raised plateau.

You'll see a little hole where rain falls into this catchment and heads for the slope.

Sometimes engineers and architects forget to slope the floor in the bathroom, but here it's really taken care of.

water flows to the right place

12 meters deep

This system is completely waterproof and doesn't waste a single drop of rainwater, so it's better than urban builders in that regard.

It collects 100,000 liters of water in one season.

This is drinking water without turbidity

Groundwater is hard water containing salt.

You can drink this water all year round here.

this is two houses

We often use the word "regulation"

because we are used to what is described

But there are no written rules here.

When people built houses, they also built water tanks.

It's raised like this stage.

It's actually about five meters deep, and it collects rainwater from the roof, and there's a small pipe that goes into the courtyard.

It can collect about 100,000 liters of water during the rainy season.

This is another big water catchment, and it's not in the middle of the desert, of course.

This is a place near Jaipur called Jaiger Fort.

It can collect about 30 million liters of water in one season.

400 years old

So we've been supplying about 30 million liters of water each season for 400 years.

It's equivalent to a large water bill.

It draws water from 15 km of channels.

You can see modern roads that were built about 50 years ago.

this sometimes damages

But this 400-year-old catchment has been maintained for many generations.

Of course, even if you want to break in, both doors are locked.

But I'll open it up for you at TED.

(Laughter) I asked

You can see someone bringing out two cans of water.

It's not an empty can, it's filled to this level with water.

Many local governments envy the color, taste and purity of this water.

It's called zero type B water because it comes down from the clouds as rain and is distilled.

So here's a little commercial, and then we'll get back to traditional water catchment techniques.

The government thought that this area was so outdated that they should undertake a multi-million dollar project to draw water from the Himalayas.

This is why I said commercial

(Laughter) I'll come back to that traditional water catcher later.

If you try to draw water from 300 to 400 kilometers away, this is what happens immediately.

Water hyacinths breed here and there in large waterways.

Of course, there are some places where the water will end up.

But it ends up in Jaisalmer, but in Bikaner, this is what happens, where water hyacinths don't grow, sand runs through the waterways.

A bonus is seeing wildlife around

(Laughter) About 25 or 30 years ago, when this waterway was built, it was advertised as a full-page advertisement.

"Abandon traditional technology. New cement tanks will supply water."

it was a dream but it turned out to be a dream

Water soon stopped reaching this area.

and people started remodeling themselves

These are all traditional water intake facilities, but I don't have time to explain.

it's not a woman standing there

(Laughter) They have their hair tied up.

(Applause) This is Jaisalmer, in the heart of the desert.

A town built 800 years ago.

I'm not sure, but cities like Bombay, Delhi, Chennai, and Bangalore probably existed at this time.

This was the end of the Silk Road

Eight hundred years ago, this place was deeply connected to Europe.

None of us would have gone to Europe, but Jaisalmer was deeply connected to it.

The annual precipitation for this location is 16 cm

Despite the limited amount of rainfall, it was once home to a very diverse array of creatures.

I don't see any water in this slide.

but it's just invisible

Somewhere in here there's a river or stream

If you want to color it, you can paint it blue everywhere, because each of the roofs you see in the picture collects rainwater and stores it in an internal reservoir.

Apart from this system, people built 52 beautiful reservoirs around this town.

It's called public-private partnerships, and maybe you can add landlords as well.

So landlords, government, and people worked together to build this beautiful reservoir.

We have water all year round

You can enjoy this beautiful scenery all year round.

Even if the water level rises or falls, this beauty will remain there.

Of course, other reservoirs dry up in the summer, but you can see how traditional societies combined engineering with aesthetics and hearts.

These amazing statues give us information about water levels.

When it rains and the tanks fill with water, these beautiful statues sink into the whirlwind of "popular word of mouth."

This was for mass communication.

Everyone in town knows that when this elephant sinks, there will be water for seven to nine months, or 12 months.

Then they will come to this pond to worship, pay their respects and give thanks.

There's a small reservoir called Jesseri.

It's difficult to translate into English, especially in my English.

In the closest sense, it would be 'honor'.

This little reservoir in the desert has a reputation for never drying up.

This water has never dried up, even during periods of severe drought.

Maybe I could see the future

this was made about 150 years ago

But it was probably painted this color in anticipation of the Green and Blue session at TED on November 6, 2009.

(Laughter) (Applause) This is a dry reservoir with kids on top of a device that's very difficult to explain.

This is the "queen," although in English we have words for surface water and groundwater.

this is not groundwater

Wells are for pumping groundwater.

this is no ordinary well

This squeezes the water out of the sand.

People call this water the third water - Reidani.

There is a gypsum vein in this underground

Deposited 3 million years ago by Great Mother Earth

Water can be collected wherever this gypsum vein is located.

This is also a dry type water intake

The Queen doesn't seem to be in sight, but she's submerged beneath the water's surface.

But even as the water dries up, it's possible to collect water from this device year-round.

There was only 6cm of rainfall this year.

We get six centimeters of rain per year, and people say on the phone, "If your cities, Delhi, Bombay, Bangalore, Mysore, have a water shortage, come here with six centimeters of rain and we can provide water."

(Laughs) What about maintenance?

There are three things: conceptual design, planning -- and construction and maintenance.

It's a system that can be maintained and managed for hundreds of years, across generations, without relying on organizations or financial resources.The secret is "respect."

Your property is not personal property, it will always be mine.

These stone pillars let you know when you've stepped into the watershed.

If you don't spit, the water will stay clean

There's another stone pillar on the right side of the picture.

If you climb three or six steps, you'll see something amazing.

It was completed in the 11th century

let's keep going down

As the saying goes, "a picture is worth a thousand words."

When the water level goes down, a new staircase appears.

If the water level rises, some will sink

All year round this wonderful system keeps us entertained.

Three sides have stairs, and the fourth side is a four-story building where you can have a TED conference like this at any time.

(Applause) Excuse me. Who built this?

those people are in front of you

The best civil engineers and designers and architects.

Because of them, and because of their predecessors, India had its first engineering college in 1847.

English middle schools didn't exist then, not even Hindi schools.

Our ancestors were forced to join the East India Company, which was set up to start a business, and it was a very dirty business.

(Laughter) I didn't come here to found a technical college.

But thanks to them, the first technical university was founded not in a town, but in a small village.

Finally, we all learn in elementary school that camels are a form of transportation in the desert.

So from the jeep you can see the camels and the carts.

This tire was from an airplane

Look at this beauty -- look at the beauty of a desert community that collects rainwater and modifies jet tires for camel-drawn wagons.

The last picture is a tattoo, a tattoo from 2,000 years ago.

people carved it on their bodies

Once upon a time, tattoos were thought to belong to people of interest and scammers, but now they're all the rage.

(Laughter) (Applause) You can copy this tattoo. I have a few of these posters.

(Laughter) Water is the center of life.

these are beautiful waves

As you saw in the slide earlier, it's a beautiful staircase.

these are trees

These are the flowers that give fragrance to our lives.

This is a message from the desert

thank you

(Applause) (Chris Anderson) I wish I could have your eloquence in any language.

(Applause) The artefacts and designs you mentioned are inspiring.

Do you think the world can learn from here and use it elsewhere?

Or do you think it's only suitable for this place?

(Anupam Mishra) I think the basic idea is to use the water that is in your area.

Ponds and bodies of water are everywhere, in Sri Lanka, Kashmir, and elsewhere.

And the mechanism for storing water has two components.

replenishment and storage

So it varies by region.

For a queen using gypsum veins, we have to go back to three million years ago.

If you have gypsum, you can make it right away.

otherwise it would be impossible

(Laughter) (Applause) (Chris) Thank you.

(applause)

I'm going to talk to you about one of the worst human rights violations on Earth, the third largest organized crime in the world, and a billion-dollar industry.

modern day slavery

Let me tell you about these three children: Pranita, Shaheen and Anjali.

Pranita's mother was a prostitute She was forced into prostitution

Her mother was infected with HIV, and when she was nearing the end of her life, when she reached the final stage of AIDS, she could no longer sell sex, so she sold four-year-old Pranita to a broker.

By the time we got the information and got to the scene, Planita had already been raped by three men.

I don't even know Shaheen's background

I don't know how many, but she was raped by several men and found on the railroad tracks.

It was so bad that her intestines were exposed outside her body.

When I took her to the hospital, she had to have 32 stitches to put her intestines back in.

Her parents and her identity are still unknown

All we know is that hundreds of men have brutally treated her body.

Anjali's father was a drunkard and sold his children into the porn industry.

What you're seeing here are pictures of three-, four-, and five-year-olds who have been trafficked for commercial sexual exploitation.

In this country and around the world, hundreds and thousands of children as young as three and four years old are sold into sexual slavery.

But that's not the only purpose for which humans are bought and sold.

It is also sold under the name of "adopted child"

Also sold for organ trafficking

For forced labor, camel jockeys, and everything else.

I work on commercial sexual exploitation issues

let's talk from the place

My journey with these children began as a teenager.

At 15 I was gang raped by 8 guys

I don't remember the rape as much as the rage that was committed.

Yes, eight men defiled me and raped me, but I don't remember the whole story.

I never thought of myself as a victim and I still do

But what hasn't left me since then - I'm 40 now - is a huge, ferocious rage.

For two years I was ostracized, stigmatized and isolated because I was a victim.

That's how we all treat human trafficking survivors.

We, as a society, are experts at victim-victimizing.

Since I was 15 years old, I've looked around and seen hundreds and thousands of women and children forced into the work of sexual slavery, and made to do so incessantly because we wouldn't accept them.

Where will their journey begin?

Most of them come from laissez-faire families, not only from the poor

sometimes trafficked even from the middle class

This cop's daughter, 14, was in the ninth grade, and she was courted by a man, raped, and ran away from home. She wanted to be a tragic heroine, and she was trafficked.

There are hundreds and thousands of cases of trafficking of children from very good families.

deceived and coerced

99.9% of them are dragged into prostitution while resisting.

some will pay the price

They will be killed and their children will not even be known

voiceless, nameless people

But the rest of the women who gave in were to be tortured every day.

The men who come there don't want to have a girlfriend or have a family.

They buy her for an hour or a day, spend it, and throw it away.

The women I've rescued -- and I've rescued more than 3,200 -- tell similar stories.

(Applause) You've definitely experienced something: a man who puts chili powder in your vagina, a man who burns you with a cigarette, a man who whips you.

We live with these men: our brothers, our fathers, our uncles, our cousins, and everything around us.

and silent about them

Prostitution makes easy money—

I think it's because it's a shortcut

I think she does it because she likes it.

But they pay not just money, but all the sexually transmitted diseases, HIV, AIDS, syphilis, gonorrhea, drug addiction, drugs, everything.

And finally give up hope 'cause we give her nothing

Then you come to accept this exploitation as a normal thing.

She believes: "Yes, this is my destiny."

"I get raped by 100 men every day, this is normal

help is unlikely

There's no way I'll ever get rehabilitation."

i work in that situation

rescue children from such situations

I've rescued small children, from 3-year-old women to 40-year-old women.

When we rescued them, the big question was where to start.

many of them were infected with HIV

1/3 of rescued victims are HIV positive

So my challenge was to figure out how to get the strength out of this pain.

My own experience has been a great strength

Understanding myself, understanding my pain, understanding my loneliness was my greatest teacher.

What I did with them was to understand each possibility.

This woman was trained as a welder

I make furniture in the workshop of a large company in Hyderabad.

earn 12,000 rupees

I'm illiterate, but I've been trained to become a skilled welder.

Why welding and not computers?

I think what they have is infinite courage.

There is no purda in their bodies, no veil to cover their faces, they have jumped the boundaries.

And I could fight in a male-dominated world very easily and fearlessly.

We train them as carpenters and masons, we train them as security guards and drivers.

Each of them excels in their chosen field, gaining confidence, restoring dignity, and rebuilding hope in their lives.

They also work as full-time masons for big companies like Ramki Construction.

What was the challenge for me?

Not the traffickers who beat me

I have been assaulted more than 14 times in my life

I can't hear out of my right ear

Some staff members were killed during rescue operations.

The biggest challenge for me is society.

a task for you and me

The biggest challenge is the attitude of societies that do not accept these victims as part of themselves.

One supporter who was a friend of mine and was very friendly, donated 2,000 rupees each month to buy vegetables.

When her mother got sick, she said: "Sunita, you know a lot of people.

Can someone come to my house and take care of my mother? ”

Then there was a long silence

She said: "But not those children."

It's very trendy to talk about human trafficking in this A-C hall.

Human trafficking is good fodder for debates, lectures, movies, etc.

But I don't want to bring them home

I don't want them in my factory or company

We don't want our children to study with their children.

that's the end

that was the biggest challenge for me

I am not only here today as Sunita Krishnan.

I speak as a voice for victims and survivors of human trafficking.

they need compassion

need your empathy

and most of all need to be accepted

When I talk to people, I always tell them one thing: Please don't give me 100 reasons why I can't deal with this problem.

Can you think of a way to tackle this problem, just one?

That's why I'm here to ask for your help, ask for your help, ask for your help.

Can you break your culture of silence?

Can you tell this story to at least two more people?

Talk to them Convince them to talk to two more people

I'm not asking you to be like Mahatma Gandhi or Martin Luther King or Medha Patkar.

I want you to open your heart in the world around you

I want you to accept these people

they are part of us

because it's part of this world

For the sake of these children you are watching, please, they are gone.

died of AIDS last year

Accept them not as charity or charity, but as human beings, as human beings who deserve our support.

I pray that no child, no human being, will experience what these children have experienced.

thank you

(applause)

For the past 20 years, I've been designing puzzles.

And today I want to share with you some of the early puzzles I've been designing and what I'm doing now.

I've been designing puzzles for books and print.

Design columnist for Discover Magazine

I have worked for 10 years

There is also a monthly puzzle calendar

We also make toys, but mostly computer games.

I also made a “Bejeweled” puzzle

(Applause) I didn't make "Bejeweled," so I didn't make any money.

So this is a very early puzzle. In sixth grade, my teacher said, "This kid likes to build things.

For him, I cut out letters from construction paper and put them on a board, so let's take a look.

i thought it was a great mission

What is this made of?

I found this letter to be an alphabet folded only once.

The question is, what are the letters I spread out?

Hint 1: Not L

(Laughter) Of course it's like L.

What else?

you all seem to understand

correct answer

yes this was the first puzzle i was hooked

I was obsessed with crossword puzzles trying to create something new, but I just put them in order to fit into someone else's mold.

I fell in love with creating something truly original.

I read Martin Gardner's column in Scientific American

And finally I decided to dedicate all my time to puzzles.

I have to say what puzzles mean to me.

A puzzle is a problem that you enjoy solving and finding the answer to

If you look at the everyday problem as "fun to solve," let's be honest, it's not a well-designed puzzle.

they may have a solution

It may take a long time, but no one has clearly written down the rules.

who designed it?

Life isn't a very well-written story, just like you have to hire a writer to make a movie.

I create puzzles from everyday problems

And then I'll give you the correct answer. Of course, there will be other correct answers.

But compared to some other forms of play, such as toys and games, toys are played without a set goal.

you can make something out of lego

you can do whatever you want

Or a competitive game like chess, where the goal is to beat the other player without trying to solve the problem.

I think puzzles are art

Puzzles are classics, and puzzles take us back to written history.

It's like a joke or a poem or a magic trick or song, very small and simple.

Worse, it's expendable for fun.

But the good thing is that you can reach something and create unforgettable memories.

You can see that I've always set my sights on creating puzzles that make a lasting impact.

I hope that my early creation of computer games will change your perception.

Now let me show you a famous computer game.

There is a vase between black and white profiles

It's called the "figure-ground illusion"

The artist M.C. Fisher took advantage of it in his wonderful paintings.

this is day and night

This is using a map and ground

And this is the figure in black

This is a figure in white

and they all have the same design

Each substrate is different

At first, I tried to modify the figure and the ground.

But I found I couldn't do it, so I changed my method.

I made a diagram of everything

(Laughter) There's another. This is my name.

And the name of my first book changed to "Inversion."

These kinds of designs are now called ambigrams.

I'm going to show you a few others, which actually represent the numbers 1 through 10 with the Arabic numerals 0 through 9.

Each letter is an arabic numeral

Not exactly a traditional ambigram

I like to give meaning to an ambigram

This is the letter "mirror," and the letter itself isn't symmetrical.

this way it will be the same

We have a wonderful researcher at the Media Lab, John Maeda, who was appointed president of RISD.

It's like a visual test that I made for him.

(Laughter) Recently, a magazine called Magic has a lot of ambigrams for the names of magicians.

This is "Penn and Teller." It's symmetrical vertically and horizontally.

Also in my puzzle calendar

let's go back to the slides

thank you

it's fun to see them

how do you exchange information

For a while I was an interface designer

And I thought a lot about interaction.

So let's start by simplifying it with a trompe l'oeil vase, let's touch the right side.

If you lift the black vase, the figure appears to be on top.

If you lift the white part, the figure looks like it's below.

Yes, you can't actually do it, but you can do it on a computer, so let's do it on a PC.

So this is the map and the ground

The goal is to move the pieces on the left to make it look like the shape on the right.

I'll explain the rules Black areas surrounded by white can be grabbed

The same is true for white areas.

Now there's a white area in the middle that you can grab.

let's go next

So here it is -- we have a pair of parts that we're going to move together.

Please really understand and let me do something

Like the old adage, explain and show, but to really learn you have to do it.

next

It's a game called Rush Hour.

This is one of the masterpieces of puzzle design based on the Rubik's Cube.

There is a crowded parking lot with cars everywhere

A moving block puzzle where the goal is to bring out a red car.

It's made by a company called Think Fun.

very well done i like it

So let's do it. It's a very easy puzzle.

It's very easy Let's add other parts

how do you figure this out?

So move the blue car out of the way.

Let's make it a little harder, it's still easy

Now let's make it harder, just a little harder

I'm going to put this in a little subtle place.

Do you understand what are you going to do?

What do you move first?

Lift the blue car up to move the lavender car to the right.

Even if you can't solve it at all, you can make a puzzle like this.

These four are geared together and cannot be separated.

I wanted to put out a sequel.

I couldn't come up with an original idea, so I worked in the sequel inventor way.

Now there's this thing, the Railroad Rush Aller, which I introduced.

It's basically the same game as before, except the base squares move horizontally and vertically.

In other games, cars can only go forward and back.

everything was made on that level

I'm making it available for school now

And it involves training not just how to solve puzzles, but how to extract principles that will allow you to solve mathematical puzzles, problems in science and other domains.

I'm very interested in you making your own puzzles, just like I do.

Gary Trudeau calls himself a comic book investigator

He does a lot of research before writing comics.

At Discover Magazine, I'm a puzzle investigator.

I got interested in gene sequences

So the question is, "What do you associate with the sequence of base pairs in DNA on Earth?"

You cut the DNA, you line it up piece by piece, and then you look for commonalities, and at the edges, they actually come in pairs.

This is what I created for Discover Magazine.

must be solved in the magazine

You can't cut parts or move them around.

I have nine pieces, and I want to put them in a grid.

And you have to pick the part where the edges overlap.

This is one solution, not too difficult.

but it takes persistence

And when it's done, you have this design, and if you look closely, you'll see the word "helix."

The shape of the "helix" of the puzzle was not inverted, but rather made from content.

There are still some physics-based puzzles.

Which way do you think you'll fall?

50 pounds 30 pounds 10 pounds

It falls in different directions depending on which way the weight rests.

A puzzle of mixed colors

I divided this image into the basic colors of printing: cyan, magenta, yellow and black, and mixed them separately, and then I got this strange image.

Do you know what colors you mixed to make this painting?

it makes me think about color

Finally, let me tell you what I'm doing right now, which is ShuffleBrain.com, the website I started with my wife, Amy-Joe Kim.

I'll give you a brief introduction to her work.

We make smart games for social media

I'll explain what this means. There are three trends.

This is what is happening in the gaming industry right now.

First of all, you've known it for a long time, it's a computer game like "Doom," a kind of super fast-attacking shooter for teens. it depends on who plays computer games

What do you think? it will change

"Bejeweled" was a big hit, what you would call a casual game, and it was a real hit.

The main players are women over the age of 35

And recently "Rock Band" became a big hit.

A game you play with others

It's physical, and it's completely different from traditional games.

There are some electronic games that are becoming popular.

something interesting is happening

The gaming trend is heading in the right direction for everyone.

Why? Yes, Baby Boomers are aging. Baby Boomers are eating healthier and exercising. Why?

Unfortunately our parents have Alzheimer's and we need to do something good.

It turns out that crossword puzzles actually slow down the progression of Alzheimer's disease.

"Brain Age" released by Nintendo DS was an explosive hit

A lot of people are doing "Sudoku" and doctors actually recommend it

Something Happens on Social Media and the Internet

We now think of ourselves not only as users of games, but also as creators.

So what will it be like from now on?

It goes like this

A game that fits a healthy life

They're part of life and don't need to be separated.

both useful and fun

I'm a puzzler and my wife is a social media expert.

We decided to combine our technology

This is our first game called "Photo Grab." It's about a minute and 20 seconds long.

This is the first release, okay?

Let's see what we can do There are 3 images

24 seconds each

where is it?

i will try as soon as possible

If you understand, please answer in a loud voice

further down okay where?

Okay J-O is here where is next

There are a lot of "figure and ground"

The first is easy Okay, let's move on to the next

ok lens

Who are you?

It's a black shape. Where is it?

it's on the corner

This picture is a puzzle I made that I've done before, but you can put your own image in it.

And there are people all over the world who are using it right now.

If you'd like to give it a try, please visit ShuffleBrain.com Thank you

(applause)

Chris feels so good

I really can't do it

You've been amazing all week I might say to him... "Chris I'm so sorry I hit your car."

"On top of that, it was your house that I bumped into."

"And the house is on fire"

"On top of that, your wife eloped with your best friend."

You know, Chris would say, "Thank you."

(Laughter) "Thanks for letting me know. Really interesting."

(laughs) "Thank you for taking me to a world I didn't know."

(Laughter) After all... (Applause) Welcome.

The beauty of being late at TED Week is that as the day progresses, more and more people say most of the things I was going to say.

(Laughter) I had 10 minutes to prepare for fusion.

The same is true for spectroscopy

parallel world too

So this morning I thought, "Okay, let's do some tricks."

(Laughs) The magic trick was also taken

Today is Emmanuel's day Isn't that right, everyone?

where is emmanuel (Applause) I thought I'd decide by dancing.

(Laughter) It looks lousy now.

So, in honor of Emmanuel, today is the first TED Global auction.

Let's get started. Enigma Decryptor.

(Laughter) Starting at $1,000 Anyone?

Thank you, when Bruno's face says, "Please stop, please, please stop."

"Don't touch that, please stop."

(Laughter) I was worried because the invitation I received said, "15 minutes to change the world." "On your stage." 15 minutes to change the world.

It took me 15 minutes to change the plugs.

(Laughter) That's why the idea of ​​changing the world is truly extraordinary.

Well of course I don't need to plug it in right now I just saw a great demonstration of wireless electricity...it's really exciting.

300 years ago he would have been burned at the stake.

(Laughter) Now it's an idea.

(laughs) It's great, it's great.

You're just meeting the best people, people who see the world in a completely different way.

Yesterday David Deutsch almost said what I meant to say, another one.

(Laughter) But when you think about the world in that way, doesn't it make going to Starbucks a whole new experience?

So when he walks in, the clerk says, "Would you like a macchiato? A latte, an Americano, or a cappuccino?"

He'll say, "You're selling something that can change infinitely."

(laughs) "Is this coffee real?"

(Laughter) And their answer was, "Can we move on to the next customer?"

(Laughter) Elaine Morgan yesterday was amazing.

great it was really good

The connection between stories about aquatic apes and, of course, Darwin's theory of evolution and the fact that we're all naked under our clothes, because we're not furry and we can swim well.

She said she was 90 and didn't have enough time.

She desperately wants more Link tokens

And I thought, "My neighbor is Lewis Pugh."

(Laughter) This guy has swum around the North Pole. Do you want more proof?

(Laughter) And there he is

(Applause) That's how TED brings connections together.

I wasn't there on Tuesday and I missed Gordon Brown's job application - oh sorry

(Laughter) Excuse me. (Applause) I'm sorry, no, no, no.

(Laughter) The trouble is, Gordon Brown looks like a guy on stage who just took the head off of his bear suit.

(Mimicking Brown) "Hey, let me tell you what happened in the woods over there.

(Laughter) "Sorry, we only have 18 minutes. We have 18 minutes to save the world, save the planet, and talk about international institutions."

"We're only 18 minutes into working on climate change, so I'm afraid I can't talk about all the great things we're doing to raise awareness about climate change in the UK, like the planned third runway at Heathrow Airport."

(Laughter) "Large coal power plant under construction at King's North, and of course the exciting news of the day is that just this week, Britain's only wind turbine manufacturer has been forced into bankruptcy.

I'm sorry, but I don't have time to talk about this."

(Applause) "British jobs for Scots...

No.” (laughs) “Christian doctrine, Christian values

Thou shalt not kill Thou shalt not steal Thou shalt not fall in love with the wife of the neighbour."

(Laughter) "Honestly, when I was at the Prime Minister's official residence, everything was fine."

(Laughter) (imitating Tony Blair) "Okay, that's good.

Gordon Hey Oh

Let me tell you first, Sherry because she's a wonderful woman My wife with a beautiful smile

So I have to mail the letter I remembered."

(Laughter) People forget, Gordon and I always got along perfectly.

"Well, it's not like 'Brokeback Mountain' at all."

(Laughter) The other thing Gordon might say is, in his 2002 speech dedicated to Mansion House... it was against the building, and no humans were listening.

Speaking of the financial industry, he said, "What you did for the financial industry as Citi, we as government want to do for the economy as a whole."

(Laughter) When I thought about what happened to the financial industry, and when I saw what happened to the economy, I thought, "Wow, some people keep their promises."

(Laughter) But we're in a new world now, a whole new world.

For the first time in my memory, it's like getting a letter from a bank manager about a loan, and I don't know if you owe him or if he owes you.

Right?

Extremes like an Icelandic online bank account

Anyone here have an Icelandic net account?

Why did you do that? Because you think it's a step up? Than reply to an email from Nigeria?

(Laughter) The one that asks for account information.

There was no hope that Iceland would do well.

I had no such collateral.

what did you have fish that's all

So when the Prime Minister appeared on TV, he said, "This has been a huge haddock for us."

(Laughter) I have to understand them before I can joke about them.

It's very difficult to understand the economic crisis.

Having people like George Bush helped me a lot.

At the dinner table he summed up the problem

As he says, "Wall Street was drunk."

(Laughter) "And now I'm hungover.

It's kind of like... (Laughter) it's something you can relate to.

in him is clearly associated

(Laughter) And then there's Donald Rumsfeld, who said, "There are known knowns out there that we know we know.

Then there are the known unknowns, the things we know we don't know.

And there are unknown unknowns, we don't know what we don't know

As an Englishman, what did you think when you heard this?

"It's all stupid." And really, that's what it's all about

As Ben Bernanke put it, the chaotic setback of the global financial system, they didn't know what they were doing, that's all.

To quote the President of the Mortgage Bankers Association of America in 2006, "It is clear that there is not a single seismic event that will overthrow the American economy."

His work is now supervised by someone else.

(Laughter) When the financial crisis hit, the head of quantitative investing at Lehman Brothers said, "The event that the model predicts used to happen once every 10,000 years, but for the last three days, it happened every day."

It was an extreme event, a very difficult new world to comprehend.

But we have new hope, we have new people

America elected its first openly black president.

(Laughter) That's great news.

On top of that, I'm left-handed Did you know?

How many left-handed people are there here?

Look, there are so many people I admire, great artists, designers, thinkers, they're left-handed.

Someone said last night that being left handed means you have to learn how to write without the ink rubbing off.

someone was talking about metaphors on monday

It's a great metaphor that the president of the United States should write so that the ink doesn't rub off.

Like it? By contrast, what is George Bush a metaphor for?

I think it's something about aquatic apes, isn't it?

"Well, I'm sorry about that.

I'm right handed and I think I've rubbed some ink."

(Laughter) But he's gone, he's gone

Eight years in American history, eight minutes in my performance, it was over easily.

"It's the end of failure

I came to think that it was a great failure unintentionally

Some people have told me that they think it's one of the greatest failures in American history.

But it turns out they were wrong about Iraq.

They said there was no connection between Iraq and al Qaeda.

I have now."

(Laughter) "I have a message for the suicide bomber who blew himself up."

(laughs) "I'm sure I'll find you guys."

(Laughter) "I'll make you promise not to do that again."

(Laughter) But he's gone now. It's wonderful to see someone who is arguably one of the worst speakers in American history make way for one of the best speakers, Obama.

You were there on the night of his triumph

In Chicago, he told an audience, "If anyone still can't believe America is a place where everything is possible."

It's really taking too long, I can't do it all

(Laughter) But you got the gist of it, next is the inauguration.

He and the chief justice mess up each other's lines by mistake

And George Bush sitting there, "Heh heh heh"

(laughs) "It's not that easy, is it? Heh heh heh"

(Laughter) Gordon Brown's story is interesting because the audience heard Cicero's speech and said, "That's a great speech."

In the words of Demosthenes, he said, "Let's go on."

we all want to believe in president obama

Like the lines in the movie "Romance Novelist"

Do you remember that movie? Helen Hunt says to Jack Nicholson, "What do you think of me?"

Jack Nicholson just says, "Meeting you makes me want to be a better person."

You want a leader who motivates and motivates you and makes you want to be a better citizen, right?

But for now, it's Cicero's speech.

I love what Obama says, but he doesn't do anything.

When he comes to this country, he'll say, "We need a big financial stimulus."

And they all say, "Great!" And when he goes home, the French and the Germans say, "No, no, forget it", "No way", and nothing happens He goes to Strasbourg

Says 'Afghanistan needs more soldiers'

Everyone says "great idea"

When he left, people were like, "No, no, you can't do that."

"Up to 5000 people, no weapons, no good, no good"

He goes to Prague and says he believes in a world without nuclear weapons

It's great that the President of the United States can pronounce the word "nuclear", but let me say that first.

do you remember? George Bush's "Away"

Excuse me what? "Kakuheeki"

(Laughs) Can you say "uncle"? "Ojii-san"

(laughs) Thank you very much.

Obama said, 'We want a world without nuclear weapons'

And on that very day, I thought North Korea could try to fly (nuclear missiles) over Japan (laughter), but before that, they landed on the water...

Where do we look for inspiration? Bill Clinton is still there

"Run around the world." (Laughter.) "President Dwight D. Eisenhower said this."

(Laughter) "Lie, Diana Ross said."

(Laughs) "Reach out and touch me."

(laughs)

(Laughter) "Make this world a better place if you can.

I think it's really important

I wish Hillary could have made it to the White House, because she's been away for four years.

Well, me too.” (laughs)

(Laughter) Britain has our own Prince Charles, and he said, "The environment is very important. We do what we can.

My wife is tired of me trying to talk about emissions all the time."

(laughter) Or is there someone from South Africa? Our Mandela will also be inspired

mandela great man mandela

now there is a statue

The highest honor he received in England was a visit from the horticultural program "Grand Force" team.

"Now Nelson, do you like the nice fountain?"

"Ah, can you hear me, Mr. Titchmarsh?"

(Laughter) "I was in prison for almost 30 years, on an island in the middle of the ocean.

Would you like some hideous water decorations? ”

(Laughter) I've been undecided on how I ended this place, and yesterday someone sent me this wonderful quote.

thank you

(applause)

The National Portrait Gallery is a museum devoted to the lives of America's greatest men.

That's what the museum is for

Portraits have conveyed the lives of great men.

I'm not going to talk about portraits today.

I'm going to tell you about the program I started at the museum, which I'm most proud of.

It's been worrying to me that fewer and fewer people are getting their portraits painted, even though they're really great people, and I want to tell future generations about them.

So what do we do?

And that's where the idea for the "Living Self-Portrait" series came from.

"Living Self-Portrait" is the idea of ​​having these amazing people come to the museum and interview them, so that I can take the place of the paintbrush in the hands of great people.

So what I'm going to talk about now is not so much about the most popular stories from the program, but rather about what it's like to meet someone under those circumstances, and what I've tried, and what I've done and failed to do, and why.

Well I set two assumptions

one is to interview an american

It's just in keeping with the character of the National Portrait Gallery, a place that showcases the life of an American.

This was easy, and one more thing, which I wish I didn't have to do, was that I decided to work with people of a certain age or older, something that at the time I wrote the program seemed really old-fashioned.

60's to 90's

I don't think I'm that old anymore

why did i do that

For one thing, our culture puts too much emphasis on youth.

So I thought we also needed a program where you could sit around these wonderful older people and listen to them.

And the second reason is that the older I get, the more I feel that this is the essence.

People who know how the story ends make amazing storytellers.

This is an advantage for older people.

And there are other advantages and disadvantages, but anyway, we're past the point in our lives where we can see the end of the story.

If you have an interviewer who knows that, you can look back on your life together and start telling the story of how you got to that goal.

All events intertwined to create a life story to tell.

This is fine, so what does it take to make it work?

As you know, there are many types of interviews.

A press interview is an interview that elicits the answers you expect.

Face the narrator's resistance and caution.

In a celebrity interview, who the listener is is more important than the speaker.

Barbara Walters and other popular people

Frost and Nixon's interview is of this kind, and Frost is just as important as Nixon.

Anyway

But I was hoping for a different interview.

In hindsight, it's an interview that's rooted in empathy, sort of getting a sense of what the narrator is trying to say, and acting as an agent for the narrator to express himself.

By the way, all interviews were conducted in public.

It wasn't a program to dictate history

One person uses me as a paintbrush to paint a self-portrait in front of an audience of 300 people.

And I found myself good at the role of the paintbrush.

I never thought I would be so good

The reason I'd say I'm good at it is an interview I did with Senator Fulbright, half a year after he had a stroke.

After the seizure, the senator did not appear in public.

It wasn't a life-threatening seizure, but it did affect things like your ability to speak.

So I thought it would be a worthwhile interview, and he agreed, so we went up on stage and we talked about his life for an hour.

"I never studied medicine, and I wouldn't call myself a doctor."

She says, "Something very strange was happening.

When he was at a loss for words, especially in the first half of the interview, the words you said were the priming to get to the end of the sentence, and at the end of the interview, the senator was speaking a complete sentence by himself."

I didn't realize it was happening, but it was a change that happened because I was involved in the process.

Well, I was approaching it with empathy -- and I just realized that empathy is the most important thing in this kind of interview.

Then I broadened my mind to other things

So who makes great interviews in the first place?

Great interviews have nothing to do with quality of intelligence.

Some people are very bright, some people are, but most people never call themselves smart, and that has nothing to do with interviews.

It's the narrator's energy that matters.

Energy creates extraordinary interviews and extraordinary lives

i'm sure so

Youthful energy is different

they are in their 90's

In fact, the first time I interviewed him was George Abbott, who was 97 years old.

His presence filled the room and we had improbable conversations.

Abbott was notorious for being a taciturn man, and because he would say nothing more than a word or two to anything you asked him, he was thought to be the hardest person to interview.

As it turned out - by the way, his energy was

This is reflected in the fact that he later remarried at the age of 102. So he was a person full of vitality.

After the interview, I got a call from a woman with a hoarse voice.

The woman who doesn't know who she is says, "Did George Abbott open his mouth?"

"Yeah, it seemed to work."

The woman said, "My name is Maureen Stapleton, and I'm an old lover, but I can't get her to talk to me even once."

So I delivered the tape to her to prove that George Abbott could give the talk.

So you need energy, you need life force, and what you really want is for the narrator to have a story to tell.

Interviews with people who don't talk much are the worst.

Don't do public interviews with people who don't want to say much. The audience is all there to hear the interview, and the silent narrator says, "It's no big deal. It was just a coincidence."

No one bothers to take the time to gather together to hear a story like this.

The interview with William L. Shirer was my worst experience.

The author of "The Rise and Fall of the Third Reich"

This man who met with Hitler and Gandhi every six months, every time I heard about it, said, "I just happened to be there.

It's no big deal," he repeated.

it's terrible

I will never accept an interview from someone who does not speak

You must have accomplished something and want to share it with others.

It's all about how to break out of the shell that everyone has.

It doesn't matter if everyone has a public face and my face and they just talk about the public face.

I understand beforehand, if it's an information program about my life, like an information program.

I've got some great words, some memorable moments, and some things I'm not going to say.

No - does anyone remember that old interview with Mike Wallace, tough and aggressive - and that's also relevant.

I was trying to get them to say what they might have wanted to say, trying to open the cocoon wrapped in the public face.

Now, let's talk about the worst moments and the best moments of this interview series.

This is a story about the shell that everyone has, especially some people.

There's an amazing woman named Claire Booth Ruth

She's the kind of person who can tell generations by how much they know her.

I've accomplished a lot as a playwright.

Make a wonderful play called "The Women"

She was also a female politician, at a time when there weren't many female politicians.

She was also the editor of Vanity Fair magazine, a great woman of her time.

I happened to call her a right-wing Eleanor Roosevelt.

It was more popular with right-wingers, just as Eleanor Roosevelt was popular with left-wingers.

In fact, when we did the interview, when we did the "living self-portrait," three former CIA officers came to talk to us, and they seemed happy to meet her.

Now, I thought this would be an easy task, and I always kept my pre-meetings with the narrators to 10 to 15 minutes.

The reason is that you can't talk about it on stage if you've talked about it first.

Have fun chatting with her at the preliminary meeting

I went up to the stage By the way

When it comes to looking good Clare Booth Ruth

wearing a fine evening gown

On the day of the interview, she was about to turn 80, and with her in front of me, I proceeded with the questions.

And she rejects me I can't believe it

When I ask something, they say something different, they don't care, I give up, and I'm almost stuck.

I can't help it, she's completely flawless

I was at a loss as to what to do.

When we were talking, I was the only listener

Now here I am, a competitor for the audience

That's the situation that she was fighting, so I asked her a question, and I didn't know how to get out of this situation -- I asked her about her life as a playwright, and in the same vein, I, as a playwright, said without speaking, "Every playwright knows me as a playwright.

Most people also think I was an actress, but I never was."

Even though she didn't hear about it, she went out of control and said, "Well, you were an actress once.

When I was in the Senate, I went on stage for charity in Connecticut." The story continues, "And then I went on stage."

She turns to me and says, "You know what happened to the young actors?

"Knock it off. Do you know what that means?" she says.

While being crushed by her treatment

I replied, "I am studying now."

(Laughter) She looked at me, and it looked like the arm wrestling had been won, and after that she told me a lot of incredible stories about her life.

This story must end in memory of Clare Booth Ruth.

was a really great person

I didn't like her politically, but her life force attracted me.

By the time she died - she had a brain tumor

It was a painful illness just to think about. A limited number of people were invited to a dinner party.

she is in great pain

everyone knew that

she was stuck in her room

Everyone gathered and the butler served the canapés.

It's a common way to start

In the meantime, the door opened and she appeared in full dress and perfect make-up.

A public face of beauty and intelligence. As he walked, he chatted with everyone, returned to his room, and was never seen again.

She wanted her way until the very end, and she did it amazingly.

Of course, there are other ways to open people's hearts, and this is just one example.

Even if it's not a conflict like this, it can be triggered by a small surprise on the part of the people involved.

Relatively recently, I interviewed Steve Martin.

I sat down like this, and at the very beginning of the interview, I said to him, "Steve," no, "Mr. Martin, all comedians say they had unhappy childhoods.

were you unhappy too? ”

He looked at me with eyes as if to ask if he would suddenly start talking from there.

He turns around and, in a serious tone, replies, "How was your childhood?"

It was an on-stage battle of kindness.

(Laughter) He looked at me, and then a long, sad story began.

His father was an asshole. He was just one of those comedians who had an unhappy childhood.

The question is, what's the key to making this work?

I talked about the confrontation on stage, but let's talk about the question, which has a lot to do with empathy.

Due to time constraints, I will give two examples

One was an interview I did with an American biographer.

The lesser-known Dumas Malone.

He wrote a total of five volumes of his biography of Thomas Jefferson. He dedicated his entire life to Thomas Jefferson.

"Of course, but I know Jefferson better than anyone who's ever met him, because I've read all his letters."

So Dumas was very happy with his 50-year relationship with Jefferson.

I asked him one question

Have you ever been let down by Jefferson?

Dumas spent his entire life working with Jefferson and unlocking his secrets, he said, though he can't imitate a Southern accent.

Dumas Malone was originally from Mississippi

He says, "Well, not without it."

"I have read all that he has written, and sometimes Mr. Jefferson has rounded the truth a little."

The bottom line is that Jefferson has lied more than Dumas would have liked, and I've seen all the letters, so I know.

"But it's understandable," he says.

"Sometimes Southerners don't like to stir things up and try to avoid direct confrontation."

Say, "Well, John Adams was too honest."

The story began, and later I was invited to Dumas' house, where I met his wife, who was born in Massachusetts.

She's from New England, she's a distinct person, and he's this kind of southerner.

Now let's talk about the most important question I asked, and I'm pretty sure it was the right question, even though most people gasp when I tell you this story because it's so blunt and cruel.

It was a question for Agnes de Mille.

Agnes is the great choreographer of our time

He choreographed dances for the musical "Oklahoma" and revolutionized American show business.

is a wonderful woman

When I made a request to her, and even if I did ask her to come, I still asked her to come, despite her circumstances.

I was told, "Please come home."

she lived in new york

Let's have a meeting in my room for about 15 minutes, and we'll decide whether to proceed.

And then I went to her dark, spacious house in New York, and she spoke to me from her bed.

I used to know she had a stroke about 10 years ago.

I've been bedridden for most of that time, but as far as vitality is concerned, my hair was a mess.

I didn't even think to put on makeup for this time.

She sat surrounded by books, and at the time her primary concern was the will, which she set aside.

I didn't think I was unhappy. I'm retired.

"I always keep my will by my bed so I don't forget to die, and I'm constantly rewriting it because I just want to."

She enjoyed her coming death as much as she enjoyed life.

I thought, who should be added to this series?

she also agreed

She came, of course, in a wheelchair.

Half of her body is sick and crippled, the other half is fine.

She was, of course, wearing make-up this time, and she was a very difficult person physically.

As we started talking, I asked this outrageous question.

"Was it a problem in your life that you weren't beautiful?"

The audience was taken aback, and the audience, who always took the narrator's side, felt kind of insulted, but this was the question in her life she wanted someone to ask.

So she began a story about her beautiful childhood, and from there she turned to the audience with her crippled body and told her that she was like a beautiful damselfly, with her red hair and her light steps, and said, "Then hit puberty."

I begin to talk about what happened during that period. What happened to her body and face. Her beauty was ruined. At home, she was treated as a beautiful sister and an ugly sister. My beautiful sister was sent to ballet lessons.

She went with her as an escort, and along the way she made a number of decisions.

It wasn't a dance lesson for her, but dance became her life.

And also, after trying a little dance herself, she decided to become a choreographer because looks weren't an issue.

I was really excited when I became a choreographer, and it finally became a reality of my life.

It was a real pleasure to work on this series.

There were many moments when it was like talking, there were no moments of silence.

The key point is empathy. The question that everyone is waiting to be asked in their lives is the question to honestly reflect on themselves and tell how they got where they are.

Treat older friends and family with empathy

thank you very much

Hello

What I want to share with you today is how to remove one of humanity's afflictions.

Let me tell you the story of Dr. Venkataswamy.

His Mission and Philosophy are about the Aravind Eye Care System

Let's start by understanding what blindness means.

[Kuppermar Cataract Sufferer] (Woman) I looked for work but was turned down. What good are we blind women good for?

I can't thread a needle and I can't see the lice on my head

Even if there are ants in the rice, they cannot be seen.

CA: Blindness not only robs people of their sight, but it also robs them of their means of livelihood, their dignity as human beings, their independence, their status in the family.

she's just one example of millions

What's even more ironic is that many of them are inherently avoidable.

Simple, well-established eye surgery can restore sight to millions of patients, and even simpler means like spectacles restore vision to millions more.

I'm sure many of you, myself included, have a more productive life because of glasses, just as one in five people in India needs eye care, a total of 200 million people.

Less than 10% of those patients have been treated.

This reality is the reason the Aravind System was born. About 30 years ago, Dr. Venkataswamy, aka Dr. V, retired.

I launched a new project with no funds.

He had to mortgage his retirement savings and get a bank loan to finance it.

Over time, it became a network of five hospitals across the two states of Tamil Nadu and Pondicherry, along with several other facilities called Vision Centers, creating a hub-and-spoke model.

Most recently, we've set up a few more hospitals in other states, and we're starting to do more internationally as well.

Over the last 30 years, we've performed about 3.5 million eye surgeries, the vast majority of whom are poor.

We now perform 300,000 surgeries each year.

Aravind typically performs about 1,000 surgeries a day, sees 6,000 patients, sends medical teams to rural areas to transport patients in need of treatment to hospitals, conducts telemedicine visits, and trains residents and eye assistants, who will be Aravind's future workforce.

Training is done every day from morning to night, so we take care to keep you motivated to achieve results.

This system is possible because of the basic structure that Dr. V put in place -- a value system, an efficient process of healthcare delivery, and an innovative organizational culture.

(Music) (Dr. V) I'm from a rural area, and I was sitting across from a villager, and suddenly one day, I started having conversations with him, and I felt like I was one with him.

his heart trusts me purely

"Teacher, I'll take anything you say."

"I have absolute trust in you."

I have to do my best for those who trust me.

When people grow up in spiritual consciousness, they find themselves part of the world, and therefore there is no exploitation.

we help ourselves

We heal ourselves

(Applause) (Ravilla) This is what he says about a highly ethical, patient-centered organization and the systems that support it.

But in reality, service has to be efficient, and strange as it may seem, he was inspired by McDonald's.

(Dr. V) McDonald's concept is simple.

We believe that we can train people all over the world in the same way, make products the same way, and serve them the same way everywhere in the world, regardless of religion, culture, or other differences.

(Larry Brilliant) He was talking about McDonald's. We had no idea what he was talking about.

What he wanted to achieve was a franchise with an efficient mechanism for delivering eye care, like McDonald's.

(Dr. V) If we could create a process of ophthalmic care that could provide the same quality of care in the same way, so that people could access it anywhere in the world.

Blindness can be eradicated

(Lavilla) All humans have the same eyeballs. Americans and Africans have the same disease, the same treatment.

But why is there such a wide variation in the quality of services and care? This is a fundamental question as we design our healthcare delivery systems.

And, of course, there's the big problem: we want to treat millions of patients, but we have very little financial resources to do that, and then there's the issue of logistics and affordability.

we had to constantly innovate

One of the early innovations that continues today is to create a sense of ownership within communities that confront problems and work together as partners.

This is a brand new community camp. It's organized by people in the community. We start by finding a location, we organize volunteers, we examine them, and then when the doctor finds a problem during the examination, we decide what further tests are needed.

Then, with all the test results, the doctor makes the final diagnosis and prescribes treatment.If the patient needs glasses, they can be made at the campsite - usually under a tree.

You can choose your eyeglass frames, which is very important, because eyeglasses don't just help your eyesight, they're part of fashion, and they pay for them.

Eyeglasses are available in about 20 minutes, and patients who want surgery are consulted, then board a waiting bus and go straight to a referral hospital.

Without this flow and support, these people would never have access to eye care services, especially when they need it most.

The next day, the patient undergoes surgery, spends a day or two in the hospital, and then gets back on the bus to be taken back to the village where his family awaits.

(Applause) This happens thousands of times each year.

It may seem impressive that we've seen so many patients through a very effective process, but when you think about it, are we solving the problem?

When we looked at it in a scientific research way, we found, disappointingly, that it only reached 7% of the people who actually needed treatment.

We needed something different, so we set up a primary eye center, a facility called the Vision Center.

The office is completely paperless, and medical records are all electronic.

Patients can get a comprehensive eye exam here.

We turned a simple digital camera into a retinal camera so that any patient could see a doctor remotely.

And these effects, within the first year, penetrated 40 percent of the target population -- over 50,000 people.

increased to 75% in the second year

In the process of creating the process, we've cut into the patient population so that we can reach out to everyone who needs care.

So how much will they pay?

The cost of treatment is fixed by taking into account the savings in bus fare to the hospital, and they only pay 20 rupees for up to three treatments.

(Applause) Another challenge is how we can provide patients with high-tech, advanced treatments and care.

We've designed a van with a satellite communication system that can send images of patients to hospitals, where they're diagnosed and sent to patients waiting in the village. And then the printed certificate is in the patient's hands, where they can discuss their next steps. They don't have to wait six months to see a doctor.

This impact is also the essence of market growth, because by focusing on non-customers and turning them into customers, we've been able to achieve significant market growth.

Also, the point is how to increase efficiency in a situation where ophthalmologists are in short supply.

This video shows the operation, and as you can see, there's another patient waiting on the other side.

And the position of the operating table is adjusted so that after the first surgery, all you have to do is move the microscope.

And we also need a solid workforce to support ophthalmologists.

Hire rural girls, the backbone of the organization.

They do most of the routine work that requires skill.

They do a very good job when they do one task at a time.

As a result, we have achieved very high productivity, high quality, and very low cost.

A series of innovations have made our staff significantly more productive than any other hospital.

(Applause) It's kind of hard to see, but what I want to show you in this table is that we have a solid quality assurance system in place for the quality of care.

As a result, postoperative complication rates are well below those reported in the UK, which is unusually low.

(Applause) The final piece of the puzzle is how to get financial independence, especially when patients can't afford it.

Our hospital treats a lot of patients for free, and those who can afford it pay a local rate, which is often a lot cheaper than normal.

We were helped by market inefficiencies

still a savior

Of course, we need the mindset of giving away what we have in surplus to others for free.

As a result, spending increased over the years with the number of surgeries.

Our income grew even more than that, so we were able to treat a large number of patients for free and still make a good profit.

In absolute terms, last year we made over $20 million and spent over $13 million with an EBITA return of over 40%.

(Applause) But if we really want to eradicate blindness from the world, we need to do more than we've done so far.

What we did was really counterintuitive.

We've created a competition for ourselves, and we've made eye care affordable by creating low-cost consumables.

We have taken the initiative and systematically promoted this practice in many hospitals in India and elsewhere.

The impact of this is that the hospitals we consulted doubled their productivity the following year, and at the same time, restructured their finances.

Another issue that was raised was how to deal with rising technology costs.

We once had a breakdown in price negotiations for an intraocular lens used in surgery, so we set up our own lens manufacturing unit.

We've made a huge cost cut, down to 2% of what we started with.

Today, these lenses hold a 7% share of the global market and are used in over 120 countries.

In conclusion, is our approach universally accepted? Or is it limited to India and developing countries?

To illustrate this, I compared England to Aravind.

As you can see, we perform about 60% of the 500,000 surgeries in the UK every year.

about 300,000

Also, we train 50 ophthalmologists a year, 70 in the UK, and the quality of education and patient care is the same.

As you can see, we're really on the same playing field.

what about the cost

(Laughter) (Applause) The reason is simple: Britain is not India.

I'm sure there are other reasons

we have to look at the other side

Perhaps the high-cost solutions are in productivity, job efficiency, clinical processes, how much you spend on lenses and consumables, regulatory and litigation-friendly practices, and so on.

Deciphering this will give the developed world the answer, and it may boost Obama's approval ratings in the United States.

(Laughter) From another point of view -- I'll leave it to you -- if the problem is very broad and spans all economic strata and you have good solutions, then the three processes I talked about -- productivity, quality and patient-centered care -- will give you the answer.

Dentistry Hearing aid Childbirth etc.

There are many examples of this way of thinking, but perhaps the hardest part is the soft side.

How can we create “compassion”?

How can you make the problem feel like your own and act on it?

it's a hard question

But the audience should be able to find a solution.

So I'll end my talk with these words.

(Dr. V) There is no exploitation because when a person grows in spiritual consciousness, he or she realizes that he or she is part of the world.

we help ourselves

We heal ourselves

(Lavilla) Thank you very much.

(applause)

People often ask me, "What surprised you about this book?"

I will answer, "I was able to write this book."

never ever

Never in all my wildest dreams did I ever think of becoming a writer.

I'm also often asked, "Why do you think so many people are reading this?

The book is still selling a million copies a month.”

I believe this is because mental emptiness has become a global disease.

At some point in our minds, we bury our faces in our pillows and think, "Life should have more meaning."

Wake up in the morning, go to work, go home, watch TV Wake up, go to work, go home, watch TV, sleep again Weekend, go to a party

"I'm alive," many would say, but it simply exists.

I believe that people have hidden desires.

I believe Christ says you didn't come into this world by chance

Believe God planned your birth even if your parents didn't

Of course, there are many who become parents unexpectedly.

But no child is born by chance.

I think that each person is important.

It's important to God, it's important to history, it's important to the world.

I think the difference between a survival level of life and a successful level of life and a meaningful life comes down to this: Can you answer the question, "Why am I here?"

I often meet smart people who say things like, "Why can't I solve my problems?"

And people who are very successful and still say, "Why don't I feel more accomplished?"

Like I'm fake

Why do I feel like I have to act more than I really am? ”

I think it comes down to questions of meaning, significance, and purpose.

And then there's the question of, "Why are you here? Where are you going?"

this is not a religious issue

problem as a person

I wanted to tell Michael before he talks that I appreciate his work, because it makes my job so much easier.

As a pastor, I see a lot of weirdos.

I learned that there are strangers everywhere

Religion doesn't have a monopoly, but there are plenty of religious oddballs.

There are non-religious freaks, smart freaks, stupid freaks

One day a woman came in and she had a blank piece of paper - Michael, I think you'll like it - and she said, "What do you see?"

Then she started crying, "I can see Jesus," and left.

i'm fine i don't care

(laughs) Thank you very much.

In the last three years, my book has become a bestseller all over the world, and I've had a bit of a life crisis.

It's like, "What's the purpose of this?"

get a lot of money

I don't want it to be a bestseller all over the world, but I have a lot of money and

got a lot of attention

I was 25 when I started Saddleback Church.

started in 1980 with another family

I made up my mind never to appear on TV, I don't want to be famous

I never intended to be a so-called "missionary, televangelist." That's not what I do.

After the book was published, suddenly I had a lot of money and a lot of attention.

Now let's talk about worldviews. Everyone has their own worldview. Everyone has their own worldview.

everyone bets their life on something

So should you, you should know why you should bet on it.

Everyone bets their life on something

When I put my life on the line, I came to believe that Christ is who he says he is

I believe that in a society of diverse values, we all bet our lives on something.

When I started my church, I never planned anything like what I'm doing now.

And then I wrote this book, and it quickly became a bestseller.

I started to wonder what it was, because I thought that wealth and fame would never be given to an individual's ego.

i believe it can never be

When a book that starts with the line, "This isn't life for you," suddenly becomes a historical bestseller, you realize, "I'm not the center."

it is easy to understand

For what?

So that got me thinking about "wealth custodians" and "influence custodians."

So I think leadership is about caring.

If you were a leader, in business, politics, sports, the arts, academics, in any field, you didn't own it.

I'm just taking care of it

For example, that's why I believe in protecting the environment.

this earth is not mine

It's not mine before or after death. I've been on this earth for about 80 years, that's all.

I had this discussion on a talk show the other day, and a guy asked me this question, "Why is a pastor doing anything to protect the environment?"

I asked him, "Do you think we have a responsibility to make this world a little better for the next generation?

Do you think we have a role to play in thinking seriously about the environment? "and

and his answer was "no"

I said "no"

So let me explain again. As human beings -- not religious, do you believe that our responsibility as human beings is to make this planet a little better for future generations? ”

And his answer was, "No, you don't have to do more than other organisms do."

And when he says "living things" here, it's how he sees the world.

And he said, "Like the ducks, I have no responsibility to protect the environment."

Well, we often act like ducks, right? But you're not a duck, are you?

you are human

So my view of the world is that there is responsibility.

Understanding your worldview is very important

The problem is that a lot of people don't really think about it.

Humans never have a worldview

We don't try to legislate it or judge its value qualitatively or quantitatively.

personally i can't be an atheist

but you may be an atheist

But your worldview affects everything in your life, your decisions, your relationships, your self-confidence.

determined by worldview

It's clear that what we believe affects what we do, and what we do affects who we become.

With the publication of the book, a lot of income started pouring in and I started to become famous.

I thought, "What am I going to do with this?"

I made five decisions about my wife and money

That is, "First, don't spend this money on yourself."

I never bought a big house

I don't have a guest house

I'm still driving a 4 year old Ford

We decided not to use it ourselves

Second, I stopped getting paid by the church I pastored.

And third, we added up 25 years of salaries from the church and paid it all back.

Because I don't want anyone to think that what I do is for money.

In fact, I've never met anyone who serves as a minister or pastor for money.

It may be a stereotype, but I don't know anyone like that.

Let me tell you, there are tons of easier ways to make money.

A pastor is a 24-hour job, like a doctor.

I was supposed to be here yesterday, but I left late today because my stepfather has cancer and has 48 hours left to live.

I watched my father-in-law, who had lived his life to the fullest, now in his mid-80s, dying peacefully.

It's not how you behave when things are going well that's testing your worldview.

What is tested in the world view is how to behave at a funeral

When you come to literally hundreds, if not thousands, of funerals, something changes.

change what you believe

So I gave back everything I got. I founded three nonprofits that are working on some of the world's major problems: illiteracy, poverty, and pandemics -- especially HIV/AIDS -- and I donated money to those three nonprofits.

The last one is what I call the "reverse tithe tax."

We started tithes when we got married 30 years ago.

This is a virtue in the Bible, and it means giving 10% of what you get to those in need.

Since we started this, we've increased our donations by 1% each year.

So after 1 year of marriage it was 11%, after 2 years it was 12% and after 3 years it was 13%.

Reason

Because when I donate, it blocks the materialism that has always dominated my life.

Materialism is just about getting everything you can get as much as you can, living on things, and ruining everything else.

Materialism is about having more and more things.

It's all about looking good It's all about looking good Feeling good Having stuff

But it wouldn't be a good life

I meet people like that all the time, but they're not always happy.

If money makes people happy, the millionaires will be the happiest people in the world.

but i know it's not right

it's not right

A good life isn't about looking good and feeling good about yourself and having things, it's about being a good person and doing good deeds.

It's about devoting your life

A meaningful life doesn't come from status, because there are people everywhere who have more than they have.

not even out of sex

not from salary

you get it from serving people

Through service, we find purpose and meaning in life.

I believe that's the way God brought us together.

So I started giving, and it's been 30 years now, and my wife and I pay reverse tithes, we give 90 percent, we live off 10 percent.

Actually that's the easy part

The hard part is figuring out what to do in the face of people's attention.

I started receiving many invitations.

We did a lecture tour that lasted almost a month and spanned three continents, and I won't go into detail about that, but it was an amazing experience.

And I was thinking about what to do with the immorality (getting rich) that I had done with the publication of this book.

I'm a pastor, so I opened my Bible.

In the 72nd Psalm of the Bible is Solomon's Prayer for More Influence.

When I read this prayer, it sounds very selfish and selfish.

It's like, "God, make me more famous."

this is his prayer

He said, "make me famous

Spread my name in all lands and give me more power

Make me famous Give me influence

If you pray for something, there's no more selfish wish

But when you've read all of the Psalms, that chapter,

He says, "The king's" - the king was the most powerful man in Israel at that time - "May the king protect the widows and orphans, help the oppressed, protect the defenseless, nurse the sick, help the poor, the strangers, and the prisoners."

In short, his prayers are for those marginalized by society.

After reading this, I realized that the purpose of influence is to speak up on behalf of those in need.

The purpose of gaining influence is not to build your own ego.

or not for wealth

By the way, your property is not your own value.

Your worth is not determined by your valuables

It's set against something else entirely

The purpose of being influential is to speak up for those who are not influential.

To be honest, I don't remember the last time I thought about widows and orphans.

because there are no such people around

I'm a pastor in one of the wealthiest neighborhoods in America, with many walled communities.

My church is full of corporate executives and scientists.

You can go five years without seeing a single homeless person.

they're not in my path

They're only in Santa Ana, 20 kilometers away.

So I should say, "Okay, let's use whatever wealth or influence I have, for those who don't have it."

The Bible tells the story of Moses, whether it really happened or not, it doesn't matter to me.

Have you ever seen the movie "The Ten Commandments" when Moses comes out and the bushes are on fire, and God says to Moses, "Moses, what do you have in your hand?"

I think that's one of the most important questions to ask. What do you have in your hand?

Moses says, "It's a staff, it's what shepherds use."

Then God says, "Throw it away"

In the movie, if you throw it away, it becomes a snake.

And God says "Pick it up"

He picks it up again and it becomes a wand again.

what do you think this is about

there's one thing i know for sure

First of all, God doesn't perform miracles to show off.

It's not "how cool"

By the way, God doesn't have to appear on cheese bread, does it?

If God appears, it doesn't appear on cheese bread.

(Laughter) The angel Michael appears in public, and that's why I love him. If he reveals himself, I don't have to.

God doesn't show up in water sprinkler images

When God does something, he does it in a better way

But God doesn't perform miracles for the sake of show off.

Second, if God asks you a question, he already knows the answer.

Clearly, if he's God, he's asking for your benefit, not God's own.

When God says, "What do you have in your hand?"

What did Moses have?

Shepherd's staff, listen carefully

This staff represents three things about Moses' life.

First, it represents what he is.

He is a shepherd and his staff is a symbol of his profession Being a shepherd -

symbolizes himself, his life and his profession

Second, it's not just his self, it's also a symbol of his income, because his fortune is tied to the sheep.

Back then, no one had a bank account, no American Express, no hedge funds.

property was tied to the flock of sheep

So it's a symbol of his self and a symbol of his income.

Third, it's a symbol of his influence.

What do you think you'll do with the shepherd's staff?

You use it to move sheep from point A to point B with hooks and pasture sticks.

pulls and pokes

So God says you're trying to put yourself on the ground

what do you have

You have a self, an income and an influence

what do you have

God says, "If you put it on the ground, I will give it life.

I do things you can't even imagine."

If you've seen the movie "The Ten Commandments," these great miracles in Egypt were performed with this staff.

Last year, I was asked to speak at the NBA All-Star Game.

I'm talking to the players. Most teams in the NBA and NFL have followed the book with their 40-Day Journey of Purpose campaign.

I asked them, "What are you holding in your hand?

what do you have "It's basketball.

That basketball represents who you are. You're an NBA player.

It represents your income. With that little ball, you make a lot of money.

and it represents your influence

I may only be competing in the NBA for the next few years, but the fact that I was an NBA player will always be the same.

It gives you great influence over others

What are you going to do with what you've been given

And that's the main reason I'm here today to talk about that, and I'm going to ask the smart people in the TED audience, "What do you have in your hands?"

what are you given

Talent, Nurture, Education Freedom, Relationships, Opportunities Wealth, Thought, Creativity

what are you doing with what you've been given

That's the most important question about life for me

It's all about living with purpose

The book talks about how people can connect to a particular thing. You are SHAPE - the acronym - mind (S), mind (H), ability (A), personality (P), experience (E).

shaped

If you want to know what to do with your life, look at your SHAPE and see what you're attached to.

why does god tie that something to you then you should do it

If you're tied to an anthropologist, you become an anthropologist.

If you're connected to an underwater explorer, you become an underwater explorer.

If you are bound to do business, do business

If it's connected like drawing a picture, draw a picture

Do you know God smiles when you become yourself?

When my children were little -- now they're all grown and I have grandchildren -- I used to sit by their beds and watch them sleep.

I watched little bodies rise and fall with their breath.

Look at the child - this is no coincidence

rise or fall

I felt joy just by watching you sleep

Some people mistakenly believe that God is pleased only when you do "religious deeds," like going to church, helping the poor, confessing, or doing something like that.

But God rejoices when you become who you are.

because he made you

And when you've done what you're supposed to do, God says, "Just my son, just my daughter.

You are using the talents and abilities that I have given you."

My advice to you guys is look at what you have in your hands your self, your influence, your income and say, "It's not for me.

It's about making the world a better place."

thank you

Hello, this is my first time at TED, so I decided to bring an old friend over to help ease the nerves.

yes it's barbie

She's 50 and this young

(Laughter) There's one more person I'd like to introduce to you, which may not be familiar to you.

She's the Barbie of the Hula Arab world

According to Clash of Civilizations proponents, Barbie and Hula are in this completely different realm.

They have different interests and different values.

even if they try to merge

it won't go well

But my experience in the Muslim world is quite different.

In the Arab world where I work, people are obsessed with embracing Western innovation and creating something that's not traditional Western culture or traditional Islamic culture.

I'll give you two examples

Start with 4Shbab

It's a new Arab TV channel that means "to the youth."

video clips from around the world

America

♫ Don't fear persecution ♫ ♫ If Allah sees you Don't fear persecution ♫ ♫ Don't fear persecution ♫ ♫ All will be well ♫ ♫ Don't fear persecution ♫ Arab world

(music) ♫ She was protected by the modesty of Islam ♫ ♫ The illumination of the Quran enhanced her beauty ♫ 4Shbab is called the Islamic version of MTV

Egyptian TV producer and creator Ahmed wants young people to be inspired by Islam for a better life.

The best way, he thinks, is to use popular music videos.

4Shbab was created to replace the existing Arab music channel

It is like this

(Music) She's a Lebanese pop star Arab pin-up girl

In the world of 4Shbab, instead of showing the sweet

I am not a fundamentalist

This video is designed to show young people the generous side of Islam in dealing with life's challenges.

The second example is for a slightly younger generation.

It's called The 99

This is the world's first Islamic superhero

Created by Kuwaiti psychologist Nayef Al-Mutawa

His aim is to save Islam from its image of intolerance with a children's composition.

The 99 characters represent the 99 attributes of Allah such as justice, wisdom and mercy.

For example, there is a character named Noora.

It is said that she has the power to see right and wrong in humans.

Another character, Jami, has the power to create amazing inventions.

The 99 isn't just a cartoon

A theme park was built

An anime series is also planned.

By this time next year, characters like Superman and Wonder Woman will be joining The 99 in slaying evil.

The 99 and 4Shbab are just some of the many examples of cross-cultural mixtures found in Islam.

We are in a clash of civilizations and indistinguishable

I'm not talking about jumbled stuff

I like to see this as a cross-cultural intertwining, a meshing of civilizations.

4Shbab and The 99 look new and attractive, but they have a very long tradition.

Islam has adapted and adapted other ancient and modern civilizations.

After all, the Qur'an makes it this way: "People belong to nations so that they can learn from each other."

Regardless of what you believe, there are no wiser words in my mind. Thank you.

(applause)

I'm going to talk about how terrorism touches on our daily lives.

15 years ago I got a call from a friend

He was defending the rights of political prisoners in Italian prisons at the time.

He asked me if I wanted to interview the Red Brigades.

Some of you may remember the Red Brigades, a Marxist terrorist organization that was active in Italy from the 1960s until the mid-1980s.

As part of their strategy, the Red Brigades didn't speak to anyone, not even their lawyers.

They sit in silence during the trial, occasionally waving to family and friends.

In 1993 they declared an end to armed conflict.

And present a list of who they want to tell their story to.

it had my name on it

When I asked a friend why the Red Brigades wanted to talk to me, she said a female member of the organization mentioned it.

One woman in particular named

she was my childhood friend

She joined the Red Brigades and became the organization's leader.

Of course, I didn't know about it until she was arrested.

I actually learned about it from a newspaper article.

When I got the call, I had just had a baby, and I had just completed a successful MBO at the company I was working for, so I was completely reluctant to go back home and go to high-security prison.

But that's what I did, because I wanted to know what drove my best friend to commit terrorism, and why he didn't invite me.

(Laughter) (Applause) So I went to see her.

I knew the answer immediately

I didn't fit the psychological profile of a terrorist.

The Central Committee of the Red Brigades decided that I was too single-minded and opinionated to be a terrorist.

My friend, on the other hand, was a good terrorist because she was good at following orders.

and accepted violence

At the time, Italy was described as a "closed democracy," ruled by the same party for 35 years, because she believed that the only way out of that situation was through armed struggle.

As I was interviewing the Red Brigades, I realized that their lives were really not bound by politics or ideology, but by economy.

they are constantly short of cash

Always looking for cash

Contrary to popular belief, terrorism is a very expensive business.

to be specific

In the 1970s, the Red Brigades were trading $7 million a year.

Right now, it's roughly 100-150 million.

It's hard to be in the underground and make this much money, isn't it?

But this is why when I interviewed other militant groups, such as the Red Brigades and later, members of the Al Zarqawi group in the Middle East, they were so reluctant to talk about ideology and politics.

because they didn't have those thoughts

The political landscape of a terrorist organization is determined by its leadership, usually five to seven people, no more.

All the other members were busy raising money.

For example, once I interviewed a part-time worker in the Red Brigades.

He was a psychiatrist and loved to sail.

He was a really avid sailor and had a beautiful boat.

He said the best time of his life was when he was a member of the Red Brigades, and every summer he ships from Lebanon to the point where he receives Soviet weapons from the PLO, and then carries them all the way to Sardinia, where armed groups from all over Europe come to get their share.

This service provided the Red Brigades with income, which funded the organization.

I'm an economist by training, so I think of things in terms of economics, but suddenly I thought, "I wonder if there's something here.

Perhaps there is a commercial alliance between the organizations."

But what convinced me that terrorism was real business was when I interviewed Mario Moretti, the leader of the Red Brigades, the man who kidnapped and murdered former Italian Prime Minister Aldo Moro.

I had lunch with him in one of the highest security prisons in Italy.

As I ate, I felt like I was back in London having lunch with fellow bankers and economists.

he had a similar train of thought to me

So that led me to want to look into the economics of terrorism.

Naturally, no one wanted to fund my research.

a lot of people thought i was crazy

That woman is rushing to help fund an investigation into the economics of terrorism...

So in the end, I made a decision that, in retrospect, changed my life.

I sold the company and funded the research myself.

So what I discovered was a parallel reality, another international economic system that exists parallel to ours, which has been created by armed groups since the end of World War II.

What's even more shocking is that this system has evolved to follow the development of Western capitalism step by step.

there are three stages

First, state sponsorship of terrorism

Second, the privatization of terrorism

The third, of course, is the internationalization of terrorism.

Now, state sponsorship of terrorism is a hallmark of the Cold War era.

Two of the world's greatest superpowers fully supported militant groups to compete on the fringes of their territories in a proxy war.

It's a mix of legal and illegal activities

So crime and terrorism were linked from the very beginning.

The most notable examples are the CIA-created Nicaragua Contras, legally funded by the U.S. Congress, and the Reagan administration, in the Iran-Contra scandal, which funded an illegal covert operation.

In the late 1970s and early '80s, several groups successfully privatized terrorism.

They became independent from their sponsors and started raising their own funds.

Here again we see a mix of legal and illegal activities

Arafat once profited from smuggling hashish from the Bekaa Plateau between Lebanon and Syria.

The IRA, which controls the private transportation system in Northern Ireland, did exactly the same thing.

So every time someone takes a taxi in Belfast, they are subsidizing the IRA without knowing it.

Of course, big changes have come in the form of globalization and deregulation.

This allowed armed groups to cooperate financially with each other.

Above all, they started important businesses in the criminal world.

Together, they began laundering dirty money through the same channels.

This was the birth of the supranational armed organization Al-Qaeda.

This organization can raise funds across borders

And it can also launch attacks in more than one country.

Deregulation has also brought back rogue economics.

What is rogue economics?

It's the force that's always been lurking behind history.

It will emerge in times of great change, and globalization is one of them.

It's also the time when politics really loses control over the economy, and the economy becomes a dangerous force working against us.

It's happened before in history

Such was the case at the time of the fall of the Roman Empire

It was the same during the industrial revolution.

And with the fall of the Berlin Wall, it happened again.

Now, before 9/11, I calculated the size of this global economy of crime, terrorism, and the illegal economy.

That's a staggering $1.5 trillion

trillion not billion

That's twice the GDP of the UK, and it will soon be more than that, given the fate of the country.

(Laughter) Up until 9/11, most of this money went into the U.S. economy, because these funds were denominated in dollars, and the money was laundered in the U.S.

Of course, the entry point for the inflow of money was offshore.

So this was the camphor pill for the American economy.

Now, if you look at the money supply numbers in the United States, it's the amount of dollars that the Federal Reserve prints each year, and that's what fuels the growth in demand for dollars, which in turn supports economic growth.

Looking at these numbers, I noticed that since the late 1960s, more and more dollars have left the United States and never come back.

All this money was taken out in suitcases and containers, in cash, of course.

In other words, criminals and money launderers take

That money is being used to fund terrorism and illegal criminal economic growth.

So what is the relationship?

The United States is the world's reserve currency country

What this means is that we have privileges that other countries don't have.

America can borrow against all the dollars in circulation in the world.

This privilege is called "Currency Issuing Privilege"

It's a privilege that no other country has.

All other countries, such as the UK, can only borrow against the total amount of money in circulation in the country.

So here's where we see the relationship between crime, terrorism, the illegal economy, and our economy.

America in the 1990s borrowed against terrorism and the growth of an illicit criminal economy.

You can see how close we are to this world

Of course, that all changed with 9/11, when George Bush started the war on terrorism.

Part of the fight against terrorism was the introduction of the Patriot Act.

Now, as many of you know, the Patriot Act severely restricted the freedoms of Americans to protect them from terrorism.

But there are parts of the Patriot Act that specifically address economics.

It's the "Anti-Money Laundering Act"

The Patriot Act barred U.S. banks and U.S.-registered foreign banks from doing anything with offshore facilities.

It closed the relationship between dollar money laundering and the US economy.

The law also gave the U.S. monetary authority the right to monitor dollar transactions around the world.

You can imagine the reaction of international financial institutions and banks.

All the bankers told their customers, "Sell your dollar and invest it somewhere else."

Now, the euro is an emerging currency with great potential for business and, of course, investment.

people invested in euros instead

No one wants the U.S. monetary authorities to look into their relationships or monitor their relationships with their customers.

Of course, the same is true in the world of crime and terrorism.

They simply moved their money laundering operations from the United States to Europe.

I wonder why? Because the Patriot Act is a one-sided law.

Introduced in the US only

Introduced only for the dollar

No similar legislation was enacted in Europe.

So, in less than six months, Europe had become the money laundering center of the world.

So this is the amazing relationship between the world of crime, the world of terrorism, and our world.

Why am I telling this story?

I want you to know that there is a reality far beyond the headlines, including the personal relationships you have with your friends and family.

You have to doubt everything you hear, including mine today.

(Laughter) That's the only way you can step into the underworld and take a look.

and that's scary

It's scary, but it also makes you smarter

And it's not boring after all

(Laughter) (Applause)

My name is Ryan Lobo, and I've spent the last 10 years making documentaries around the world.

During the filmmaking process, I found myself taking pictures to the point where the cameraman was fed up.

I thought the pictures I took were even obsessive

At the end of the shoot, I sometimes felt that the photos told the truth more than the sometimes sensational documentary.

No matter the politics or the agenda, I felt like I could grasp the hard truth in the moment I took the picture.

In 2007, I went around three fronts.

I went to Iraq, Afghanistan and Liberia.

There, I felt people's suffering up close, and I felt like I was in a story that appealed to me with strong emotions, and I even felt a great fear that threatened my life.

As usual, we were supposed to go back to Bangalore and have a heated discussion at a friend's house, where we'd talk about all sorts of things, including a poignant irony about the opening hours of the new pub, and complaints about rip-off liquor that cost more than the servants they hired.

When I heard stories like this, I felt a great sense of alienation.

But at the same time, I asked myself what my coherence and purpose of telling the story was.

And I realized that, like my arguing friend, I was compromising, evading and talking irresponsibly.

I won't go into the details of the decisions I made, but I'll just say that alcohol, tobacco and women were involved.

(Laughter) My decision is that the truly valuable tool for storytelling is not the network or the camera or any other tool, but myself.

The more I pursued things like success and fame in my life, the further away they were.

Paradoxically, when I let go of those goals and rely on my passion and determination to focus on doing superior work rather than results, I found myself getting results and satisfaction.

Photography made me transcend culture

And photography, for me, is a language that expresses the invisible, giving voice to people and stories.

I'd like to share with you three recent stories that I think all demonstrate my belief in storytelling passion.

In 2007, I went to Liberia, where a group of my friends made an independent, self-financed film, still ongoing, about a legendary and brutal general named Bat Naked.

My real name is Joshua. We filmed in this cell, where he used to torture and kill people, even children.

Joshua confesses to killing over 10,000 people during the civil war in Liberia.

It got its name from the way it fights wildly naked.

He's probably the most brutal killer alive on earth today.

This woman had her brother killed in front of her eyes

Joshua forced the child soldiers to commit ruthless crimes and strengthened his command with his brutality.

Today, many former child soldiers are addicted to drugs like heroin, and like the young people in the photo, they are in dire poverty.

How can you come to terms with knowing that you have committed a heinous crime?

Today the general was baptized and became an evangelist.

he is on a mission

I chased Joshua, who used to rape and kill, as he walked around the village.

He begged for forgiveness and vowed to work to improve the lives of former child soldiers.

He feared - along with us - that he would be killed during this expedition.

But I witnessed a generous heart that I never expected.

They forgave the man who took everything from them, even though they were in abject poverty.

He asks for forgiveness and receives pardon from the woman whose brother was killed.

This wheelchair-bound Senegalese boy was once a general's child soldier, but the moment he disobeyed orders, the general shot him in the leg.

In this photo he forgives the general

He risked his life to visit the relatives he had murdered.

He is surrounded by hostile slum dwellers

And while they directed their anger at him, he remained silent.

This picture looks like something out of Shakespeare's work: a man surrounded by so many forces, desperate to hold on to some truth about himself in the suffering of his creation.

I was strongly moved

But the question is: can forgiveness and atonement be a substitute for justice?

Joshua says he's willing to go to the court in Monrovia to try his crimes and testify from the dock to an audience that includes his victims.

He's a very bad person for the separation of state and church.

Second, I'm going to talk about a unique special peacekeeping force, a special women's unit.

Liberia is ravaged by one of the most brutal civil wars in African history, which has killed more than 200,000 people and left thousands of women horrified by rape and crime on a horrific scale.

Today, Liberia is home to an all-Indian women UN peacekeeping force.

Many of them hail from villages in India, but are far from their homes and families to support peacekeeping operations.

They prefer bargaining and tolerance rather than relying on force as much as possible.

According to the commander, women are much better at perceiving danger than men.

It was actually capable of avoiding danger in a peaceful way.

This drunk man showed interest in my camera, but the women responded with smiles, flashing their AK-47s.

(Applause) This unit has been fortunate enough to have suffered no casualties, and peacekeepers in Liberia often suffer.

All the people killed so far have been men.

Many of the female volunteers are married and have children, and they say that being away from their children is the hardest thing for them.

I've seen them accompany them on patrol and pass in front of men, many of whom yell at them uncontrollably.

When I asked a woman if she was upset or scared, she said, "It's okay, it's the same in the country.

I know how to deal with it," and ignored the men

In a country where violence against women is rampant, Indian peacekeepers have encouraged many local women to join the police force.

Sometimes the most moving stories emerge after the conflict is over and the film crew has left.

When I got back to India, no one was interested in this story.

One editor said he wasn't interested in "manual labor stories" or something like that.

I did the stories for Delhi Fire Department DFS in 2007 and 2009. DFS is probably the busiest in the world during the summer months.

They receive more than 5,000 dispatch requests in two months.

Furthermore, practical obstacles such as extreme heat and traffic jams are involved.

Something amazing happened during filming

A traffic jam delayed our arrival at the slum, and the giant slum was on fire.

As we approached the slums, a large, angry crowd threw rocks and ran into the fire trucks.

The mob attacked and all the firefighters were terrified.

But undaunted by hostility, the firefighters left the truck and successfully put the fire out.

Pushing through the furious crowd, some donning motorcycle helmets for protection

Some of the locals even tried to extinguish the fire by forcibly stealing the hose from the fire brigade.

Hundreds of houses had burned down at this point.

But a question ran through my mind Why did the mob attack the fire engine on its way to my house?

Where did this fury come from?

Where does responsibility lie?

Forty-five percent of Delhi's 14 million people live in squattered slums, which are chronically overpopulated.

Even the basic necessities of life are missing

and this is common to all big cities

Back to DFS, a chemical depot caught fire and thousands of petrochemical drums were burning and exploding.

The heat was so intense that hoses were used to cool firefighters fighting the blazing heat up close without protective clothing.

In India, people like to criticize government agencies.

But here, fire chiefs R.C. Sherman and A.K. Sherman led their men to put out the fire.

Even in a country where physical labor is despised, there is such a wonderful thing.

(Applause) The last few years have tested my ability to tell stories.

I had great doubts about its effectiveness and my own confidence in people.

But our footage is still airing on National Geographic.

And when it airs, the firefighters who filmed it call me and tell me they've received hundreds of calls congratulating them.

A few firefighters told me that they worked harder when they received compliments instead of insults.

This story seems to have helped change DFS' reputation, at least to TV viewers, magazine readers, and people whose homes aren't on fire.

If you focus on portraying something heroic, beautiful and dignified in every situation, you can tap into the three powers of the story: first, the protagonist, second, the audience, and third, the narrator.

This is the power of telling a story

If you focus on dignity, courage and beauty, you will shine. Thank you.

(applause)

There are many web 2.0 consultants making a lot of money right now

I make a living out of these talks.

I'm going to save you time and money. I'll talk to you in the next three minutes.

I started a website called Reddit.com in 2005 with two friends.

So-called social news sites where the front page becomes the best information on the web in a democratic way, for example.

If you find interesting content like "TEDTalk," you post it on Reddit and we all vote for it if you like it and downvote it if you don't like it.

The top page is determined by that order, so the content will always change

About 500,000 people visit the site every day, but today I would like to talk about

About the phenomenon of new information emerging on the Web

Over the last four years, we've seen all kinds of memes, and all sorts of trends on the front page.

But I'm not talking about Reddit, I'm actually talking about humpback whales.

Or more specifically, Greenpeace, an environmental group that wants the Japanese government to stop whaling.

Humpback whales were being killed, and they were trying to stop it, and one way to do that was

It was to put a tracker on a humpback whale, and we decided to name the whale so that we could relate to it.

We decided to use the web to vote, and there were a lot of academically well-thought-out, sophisticated names.

I believe it means "immortality" in Persian.

I believe it was a Polynesian term for "the divine power of the sea."

Then there was this "Mr. Splashy Pants" (Mr. Standing Out Pants)

(Laughter from the audience) This was special. My friends call me Mr. Pants or Splashy.

very popular on the internet

As one Reddit user said, "Let's all vote for Splashy and push it to the top."

And all the other Reddit users responded.

Voting started, and we supported it too.

We decided to change Reddit's alien logo to splashy for the day.

Other sites like Fark and Boing Boing also started voicing their support: "Splashy pants are the best!"

At first, "Splashy" won just 5 percent of the vote, but by the end of the poll, it had risen to 70 percent.

This is pretty amazing, right? I thought our Splashy was chosen...

Apparently Greenpeace wasn't keen on Splashy and wanted a more sophisticated name to prevail.

So they say, "This is practice, we're going to vote for another week."

This one ticked me off a bit, so I changed the logo to "Fighting Splashy."

(Laughter from the audience) Reddit and other netizens enthusiastically endorsed this.

A group was created on Facebook, and an app was created.

The idea is to give a clean vote to Splashy Pants.

Splashy posters have also appeared in the real world.

When I opened the lid on the final ballot, it was up to 78 percent.

If you say 2nd place is 3%, you can see how big the win is.

There was a clear lesson here: the internet loves splashy pants.

Of course it's a great name

Everyone wanted to hear the newscaster say, "Splashy pants..."

(Laughter from the audience) I think that was what drove it.

Greenpeace responded well

We've put together a marketing campaign around Splashy Pants, selling shirts and badges, and even creating dancing Splashy e-cards to send to your friends.

But the biggest thing is they actually

It accomplished its mission.The Japanese government canceled the whaling dispatch.

The green peas were thrilled and the whales were overjoyed.

On the Internet, Reddit users were happy to participate, but they weren't exactly whale lovers.

Of course, there were some enthusiasts, but most people were just chasing the meme for fun, and Greenpeace people came back to the site.

Thank you for joining Reddit

It wasn't altruism, it was just out of curiosity.

That's how the Internet works, and that's the secret to its success, because it's a fair playing field.

Everyone's Links Are Equal

Go anywhere with a browser

It doesn't matter how big or small your budget is, as long as you maintain net neutrality.

And it doesn't cost anything to put your content on the web

There are so many great publishing tools available, it only takes a few minutes to actually create something, and the cost of iteration is cheap, so it's worth trying.

If you do, do it honestly and honestly

The most important lesson Greenpeace has learned is

It was okay to lose control. Let's take it easy, even if our goals are serious. In the end, we'll get there.

And that's the final message I want to give you. It's possible to be successful online.

Messages are no longer just top-down

Don't worry if you lose control

thank you very much

(applause)

I'm actually from the UK, but I've been living in the Maldives for 26 years now.

this is my hometown

The Maldives, as you know, is an island southwest of India here.

The capital is Male, where I live.

Actually, I'm in Mysore today, which is closer to Male than Delhi.

This is the perfect place for IT workers in India

The Maldives Are Not Bad For Marine Biologists

This is my home these days

As you probably know, you can enjoy wonderful coral reef diving and snorkeling.

I spend my time researching marine life whenever possible.

We also study fish and larger whales and dolphins.

It's a blue whale, and you can see them around the Indian Ocean, near here in the Maldives, and maybe even Kerala.

In fact, this region is very blessed.

It's one of the best blue whale watching spots in the world.

Visiting the southern coast of Sri Lanka during the northeast monsoon season makes it easy to see blue whales.

This is probably the best observation spot in the world.

When I talk about the Northeast Monsoon, I think most of you know what I'm talking about, but some of you may not be familiar with it.

Let's talk a little bit about monsoons

The word "monsoon" comes from the word "season", which means it's a kind of-

It's the seasons. South Asia usually has two seasons.

India gets very hot in the summer

As warm air rises, it attracts ocean air

The wind blows in from the southwest

Coming from this area towards India

It is called the southwest monsoon because it comes from the southwest.

By sucking up water when crossing the ocean

monsoons bring rain

In winter the air cools down

High pressure covers India

the whole system is reversed

So the wind is blowing in from the northeast of India, across the Indian Ocean, and out to Africa.

please remember

Now, I'm a marine biologist, but I'm actually a slightly old-fashioned naturalist.

I'm interested in anything that moves, and dragonflies are one of them.

This is a very beautiful species called Oriental Scarlet

One important thing to know about dragonflies is that they lay their eggs in fresh water.

They need fresh water to spawn.

they lay eggs in freshwater

Larvae hatch in freshwater

They eat other small mosquito larvae etc.

you play a very important role

Controls populations of mosquitoes and other larvae

It grows in stages and leaves the water to become the adult we see.

The process of development varies, but for a typical one-year-old dragonfly, it first lives in freshwater for 10 or 11 months before becoming an adult.

spend the rest of the month or two on the ground

In short, dragonflies are freshwater creatures.

fresh water is essential

The species I'd like to talk about in particular -- this one -- the species we've seen so far have an adult lifespan of a month or two, which is too short to fly very far.

maybe a few kilometers

Good at flying but doesn't go far

but this one is an exception

It is called Globe Skimmer or Wandering Glider

As the name suggests, they live all over the world.

It is also found in the tropics of America, Africa, Asia, Australia and the Pacific.

known to travel over a wide range

but not enough research has been done

Because it looks like an ordinary dragonfly

If you're going to study dragonflies anyway, I'd like something red and beautiful, or something that's endangered and extremely rare.

I feel a little unsatisfactory with this

The colors are subtle and common, aren't they?

They live everywhere, so why study them?

But with this attitude, you're missing out on something great.

Because this dragonfly has an amazing story to tell

I live in the Maldives and am very proud to have met them.

When I first visited the Maldives, I was fascinated by diving and wanted to spend as much time in the water as possible.

I didn't pay attention to the dragonfly Wasn't there?

maybe there was, but i didn't notice

But a few months later, one day, I was walking outside and suddenly I saw a huge number of dragonflies.

All of them were similar to this

I didn't know it at the time, but now I understand that they were all dragonflies.

Sometimes it's there, other times it's not

I didn't think anything of them until I saw them again the next year, the year after that, and the year after that.

A little dull, didn't really care much

But when I ask my friends and colleagues, they say they come every year.

So I asked other people, and they knew that dragonflies came, but they didn't know where they came from.

And I didn't give it much thought at this time either.

But gradually, I began to see something special.

Fresh water is essential for dragonfly spawning.

Some of you may have visited here, but this is my hometown, the Maldives.

Maldives is a beautiful place

(Laughter) This island is made entirely of coral reefs.

A sand bar above the coral reef

The average height of the island is about the same as sea level

So global warming, sea level rise is a serious problem.

I'm not going to talk about this today.

The thing to tell you about this sandbar is that when it rains, the water seeps into the soil and disappears.

that accumulates under the soil

trees can grow their roots there

Humans can dig holes and build wells

A little nasty for dragonflies

There is no freshwater surface here

There are no ponds, streams, rivers, lakes anywhere.

So why do we see millions of dragonflies here every year?

I'm intrigued, so I'm going to pause for a moment and ask you guys now, because there are a lot of people here who spent their childhood in India.

If you're from India or spent your childhood, get your hands on... Not yet! Not yet!

It's fast. Please wait a moment.

Please wait until I say please

If you grew up in India, it's the dragonflies you saw as a child. Do you remember the hordes of dragonflies? Maybe when you were in elementary school, didn't you tie it to a string and play with it?

that's good

But does anyone remember seeing a lot of dragonflies?

how is it? yes thank you

This is a widespread phenomenon across South Asia, including the Maldives.

So I got a little interested

There is water everywhere in India, and of course dragonflies abound.

But there is no fresh water in the Maldives. What is happening?

The first thing I did was record the date they were coming to the Maldives.

The answer was October 21st

Not every year, but around this time

I have held this record for 15 years.

You'd think it's coming from India, it's close.

Remember, October is in the midst of the southwest monsoon in both India and the Maldives.

The wind is heading towards India, not from India

must be blowing from the southwest

How do you get to the Maldives?

Coming over the headwind from India?

It's unlikely

So next I used my mobile phone

The Maldives stretches for about 800km

The archipelago, this is India of course.

Send an email to a friend or call a colleague

I asked when I saw the dragonfly

I immediately saw the big picture

A colleague in Bangalore has been sending me emails for the last three years saying it's usually around the end of September, the 24th.

A little later in Trivandrum a little further south

It seems to be slower than this in the north of the Maldives

Then appeared in Male and moved further south

Sighted in the southernmost Maldives

Apparently they are from India

But how did 650 km in the headwind

Can it fly?

I had no idea

Next, their seasonality and migration cycle

I counted the dragonflies to see if it was their first visit or how long they would stay and if these things could be the key to solving the mystery.

So I decided to use the rigorous scientific method.

is the transect method

I straddled my bicycle and ran around the island of Male

One lap is about 5 km. I counted the number of dragonflies, being careful not to hit trees or people around me.

They seem to stay here for a very short period of time, from October to December.

after that it starts to decrease and that's it

Northeast monsoon from October to December

It's not even the time of the southwest monsoon

It's the middle of the monsoon transition.

In short, the southwest monsoon blows out, and then the northeast monsoon comes in from the other direction.

It gives the impression that it's one air mass going back and forth, but it's not.

In fact, it is a mixture of two air masses.

Air masses have fronts that move.

If India is here and the front is facing us, that means we're in the southwest monsoon.

The front then moves to the northeast monsoon

This central front isn't vertical, it's actually diagonal.

As we approach Marais, I'll be below the front lines.

It can also enter the southwest monsoon

The atmosphere above is that of the northeast monsoon

Actually, they come from India on the northeast monsoon, and they're at an altitude of 1,000 to 2,000 meters.

It's the little two-inch or five-centimeter insects you see everywhere. Millions of them fly 2,000 meters across the ocean -- about 650 kilometers -- it's amazing.

I thought, "Wow, I finally figured out how the dragonfly got here," and it made me happy. Then I scratched my head a little.

What do those millions of dragonflies do each year that crosses the ocean despite the obvious adverse conditions?

It doesn't make sense because there's nothing in the Maldives

What are they doing?

In a nutshell, they're crossing oceans.

they're moving to east africa

I know for sure, because I have friends who work on fisheries research vessels, and they gave me the report.

We've also received reports from the Seychelles, right here, which seems reasonable.

Because when we look at rainfall, we know that this dragonfly breeds in puddles during the rainy season.

It spawns in wet season areas, monsoon rains.

larvae must grow quickly

without waiting 11 months unlike other species

Jumps out of the water at 6 weeks of age

I'm in trouble if I can't see the back, so I'm showing the precipitation in India.

Let's see from June, it's monsoon here

September and October is the dry season

No rainwater for spawning

I have to move in search of the rainy season

They fly south, through Karnataka to Kerala, when the monsoon moves south.

land ends here

But they are very good at flying and can fly thousands of kilometers.

It flies on and on, and the north-easterly winds whistle, pushing it across the ocean and into the rains of Africa.

And they lay their eggs in the rainwater here.

This is southeastern Africa, and there seem to be two spawning seasons here, although it's not that simple.

They spawn in the monsoon rainwater here

And the dragonflies you see outside today are their children.

they hatched in india

They're looking for spawning grounds, and if there's rainwater, they'll be here.

But most of them fly, and their next destination is East Africa, which will be a four- or five-day trip.

ride the wind across the sea

They'll just make sure there's nothing there when they fly through the Maldives, and they'll keep flying.

Here in Kenya, East Africa, we've just come out of a long drought.

It finally started raining last week, and it's still raining in short bursts.

I received a report from acquaintances that the dragonfly was here.

dragonflies are breeding here now

they are laying eggs here

When it hatches in six weeks, the rainy season will be over and it will be heading south.

And here we are flying in. The clever thing is that the wind always hits where it rains.

summer rain

It's the summer monsoon

The sun shines and summer rains pour down southeast Africa

As the sun rises, it warms up, increases evaporation, creates massive clouds, and maximizes rainfall, making for the perfect breeding season.

Not only that, convection also lifts the atmosphere and pulls in warmer air.

Because of convergence, wherever it rains, warm air is drawn in to replace rising air.

In other words, when they hatch there, they can use this wind to automatically go to places where it rains.

After spawning, the next generation emerges and is automatically transported back to rainwater.

If you hatch here, you have to go home

It takes 4 generations 1st generation, 2nd generation, 3rd generation Return to the starting point in the 4th generation.

Completion of the Indian Ocean Circuit

The distance of one lap of the circuit is 16000km

It took 16000km for 4 generations. Can you see? It's a 5cm insect. I can't believe it.

If you're from North America, you probably know monarch butterflies, how far have they traveled so far?

Thought to be the longest in the insect kingdom

This is only half of the antler dragonfly

The dragonfly is the only insect that makes a great migration that involves transoceanic migration.

incredible feat

I stumbled upon this because I've spent enough time in Marais for my brain to interpret that something extraordinary is happening.

Dragonflies aren't the only ones on the move

the story is not over yet

I'm also interested in birds, and this one is my favourite, it's a pretty special species.

It's a peregrine falcon. It's called a red-footed kestrel.

Also called Amur Falcon

The reason is that they breed in Amurland.

This is around here near the Amur River.

This is near the border, mostly on the border between China and Russia, continuing to the east.

reach Siberia and Manchuria

this is the breeding ground

It is a very comfortable place for falcons in the summer.

You can imagine

It's a miserable place to spend the winter

Like all clever birds, he flies southwards, we all move southwards.

But that's where the cleverness ends

Continue southward without resting here

wrong change direction here

After taking a short break in Northeast India

Coming to the latitudes of Mumbai and Goa

And from here we cross the sea to Kenya

spend the winter here

It's amazing, it's the longest extraordinary migratory distance in a raptor's migration.

They're not the only ones to move

This migration is certainly impressive, but there are other birds that migrate from India to Africa.

This is a Jacobin cuckoo

If you are from Northern India, you will be familiar with

come with the monsoon

Every year around this time, I return to Africa.

Roller is a beautiful bird

This is the Western Roller, also known as the Kashmir Roller because it is found in northwestern India.

After collecting all the data, we found that they migrate at the same time as the dragonfly.

they also use the same wind

We ride the same wind across the ocean, and we know we fly at the same altitude.

This western roller came to an unfortunate end

He flew off the coast of Goa 21 years ago in October of 1988.

Indian Navy jets fly over Goa and bang! We hit something in the middle of the night, and luckily, when the jet returned to base, there was wreckage (of the Western Roller).

They fly at an altitude of 2424 meters over the Indian Ocean at night.

Same altitude as the dragonfly flies

So they're using the same wind.

Another important point is that the medium-sized birds, and the next slide, they're all bee-eaters.

I eat bees. Those are beautiful blue cheeks.

It's a Ruriho bee-eater

All the birds that migrate from India to East Africa eat insects as large as dragonflies. Thank you.

(applause)

Metaphors live quietly in our daily lives

We use about 6 metaphors per minute.

Metaphorical thinking is so important to how we understand ourselves and others, how we communicate, how we learn, how we discover, how we invent.

But a metaphor is a way of thinking that precedes words.

Now, to help explain my point of view, I've put together a list of contributions from a man who has contributed so much to the trope study group, and who is himself a metaphor, and who is also the greatest philosopher among us.

I'm definitely talking about Elvis Presley.

(Laughter) Now, "Koi ni Nittare" is a great love song.

And it's also a great example of how we inevitably end up in metaphors when we're dealing with any abstract ideas, emotions, feelings, concepts, thoughts.

Touching is also numbness in "Love and Numbness"

lips are volcanoes

she is a buttercup

Love is described not as love but as a trembling of the whole body

In this song, Elvis follows the classic definition of Aristotle's metaphor of giving a name to an object that belongs to something else.

This is metaphorical mathematics

And luckily it's very simple

X is Y

(Laughter) You can use this formula wherever metaphors appear.

Like Elvis, Shakespeare refers to Juliet as the sun in his famous line from "Romeo and Juliet."

Here Shakespeare gives Juliet another name, the sun.

But when we give things names for other things, we also have similar nets.

In this case, we're crossing and matching the metaphorical source of the sun with its target, Juliet.

And metaphors make our understanding of Juliet much more vivid than Shakespeare's characterization of what Juliet looks like.

So how do we create and understand metaphors?

you may be familiar with

The first stage is pattern recognition

look at this picture what do you see

There are three Pac-Mans ready to attack, and three hooks.

But what we see are two overlapping triangles.

Metaphor isn't just about finding patterns, it's about creating patterns.

The second stage is conceptual synaesthesia

Here, synaesthesia is the experience of stimulating one sensory organ at the same time as stimulating another sensory organ, such as color hearing.

People with color hearing can actually perceive colors by hearing words and letters.

we all have synesthesia

Let's do the boover key key test

I'll have you guess which of these is Buber and which is Kiki.

(Laughter) If you're feeling like the other 98 percent, you're going to call the round, amoeba-like side a boober, and the spiky side a squeaky.

Can you please raise your hand?

Matched?

Good, it seems that 99.9% has gone up.

Why are you doing this?

Because we instinctively find or create a pattern of soft boomers for round shapes and sharp squeaks for spiky shapes.

Many of the metaphors we use every day appeal to synesthesia.

silence is sweet

tie is fancy

Attractive people are hot

I don't get hot with people who lack sexual attraction

Metaphor creates conceptual synesthesia, and we understand one concept in terms of another.

The third stage is cognitive dissonance

here is stroop test

Here's a test to identify, as quickly as possible, the color of ink in which a word appears.

please give it a try

Ordinary people would be momentarily perplexed by the fact that the name of a color is printed in a different color of ink.

This test shows that even though the colors have different meanings than the letters, we can't ignore the meaning.

The Stroop test was also used as a metaphor.

Participants had to discriminate as quickly as possible what the letters represented and what they differed from.

It took more time to rule out the false metaphor than it did to rule out the false one.

Why? Because we can't ignore what the word implies.

One of the examples was "Some jobs are like prison"

Unless you're a prison keeper, the statement "Some jobs are the same as prisons" is actually false.

Sadly metaphorically true

And metaphorical facts undermine our ability to discern that they are literally false.

Metaphors are important because they are all around us all the time.

Metaphors are important because they create expectations.

Be careful next time you read financial news

Metaphors like humans represent price movements like ``the Nasdaq has climbed higher,'' like the conscious actions of living creatures.

If you compare it to things, price fluctuations are represented as inanimate objects, like "the Dow fell like a brick."

The researchers asked a group of people to read a solid market commentary and predict the next day's price movements.

Critics who used human metaphors expressed high hopes for sustained price increases.

They had such expectations because the human analogy implied the purposeful action of a creature toward a goal.

For example, if housing prices are portrayed as rising higher and higher on a daily basis, people may naturally assume that prices will never stop rising.

And maybe the hesitation about taking out a loan that you can't afford to pay will go away.

Of course this is a hypothetical example

But how metaphors can be misleading

Another reason metaphors are important is that they influence decision-making through similarity activity.

A small democratic country in a student group was invaded and asked for help from the United States.

what should they do

I got the answer

Arbitrate, file a case with the United Nations, or do nothing.

Each was given one of three scenarios that correspond to this hypothetical crisis.

Each was designed to invoke a different historical analogy: World War II, the Vietnam War, and the third was global neutrality.

The students who received the World War II scenario showed more mediation-oriented proposals than the others.

Just as we cannot ignore the meaning of words, we cannot ignore the analogical thinking evoked by metaphors.

Metaphors are important because they open doors to new discoveries.

We're always comparing the known to the unknown when it comes to solving problems and making new discoveries.

So the only way to understand the latter is to look at how the former might be.

Einstein described his scientific theory as combinatorial play

He was using thought experiments, which were purely elaborate analogies, and I know he's made some great discoveries.

By combining the known and the unknown through analogy, metaphorical thinking evokes the spark that fuels discovery.

Metaphors are everywhere They just can't be seen

Just listen to the words that surround you and you will see

Ralph Waldo Emerson described language as "the fossil of poetry."

But before it was a fossil of poetry, language was a fossil of metaphor.

And fossils are still breathing

Take, for example, three of the most famous words in Western philosophy: "cogito argo sum."

Repeatedly translated as "I think therefore I am"

But there's a better reason

The Latin word "cogito" comes from the prefix "co" which means "together", and the verb "agitare" means "to vibrate".

In other words, the original meaning of "cogito" is to tremble together.

And the original translation of Cogito Argotham is "I am not shaken, therefore I am."

(Laughter) Metaphor shakes things up. It gives us everything from Shakespeare to scientific discovery.

The heart is a plastic snow globe, the most beautiful, the most intriguing, and, as Elvis put it, the very thing that shakes.

And then the metaphor never stopped shaking and shaking long after Elvis left the building.

thank you

(applause)

Indignation over corruption was a turning point for me, and last year I changed my career to a lawyer.

18 months of experience as a lawyer gave birth to the idea of ​​starting a business. Of course, I am convinced that it deserves to be spread to the world.

So I would like to show everyone here today, although it is still in the planning stage.

I would like to reduce anxiety about society by giving examples of preventing corruption.

I was obsessed with starting a business. It's been since 1993.

I've explored, experienced, and tested the work of business and capitalism to my heart's content.

My two brothers and I founded a major real estate company in my home state of Kerala, where we started working in earnest with two big Indian businessmen, albeit a new business.

In 2003 I decided to step down from the business and work on so-called social issues. But I never had a grand strategy or plan to monetize tackling pressing problems.

But the rapid succession of life-threatening events in my immediate vicinity made me realize that India needs an emergency medical service like 911 in the United States.

To address this, four of my friends and I started an emergency service called Ambulance Access for All.

For people in developing countries, this is nothing new.

However, when we envisioned the establishment, we set three important goals. To operate a world standard ambulance service within the scope of its revenue. Be available to everyone in an emergency. and regardless of ability to pay.

In 2004, 1298 Ambulance started with just one ambulance, but now there are more than 100 ambulances in three states, transporting more than 100,000 sick and injured people.

This service is (applause) going beyond the subsidy model, operating solely on its own revenue without relying on subsidies. We offer premium fares for the rich, discounted fares for the poor, and free for accident victims.

This service worked effectively and efficiently and played a role in the terrorist attacks that took place in Mumbai on November 26th.

As you can see from the video, we rushed to the scene, rescued the injured, and continued rescue operations until just before the police declared it a terrorist attack and closed the scene.

As a result, we were the first ambulance team to arrive at any site, transporting a total of 125 people and saving lives.

(Applause.) On the one year anniversary of the November 26th terrorist attacks, we supported Pakistani NGO Aman Foundation to establish a self-sustaining critical care service in Karachi with the help of the Acumen Foundation.

(Applause) This is a small message from us. Against our modest enemies of mankind, against the enemies of Islam, South Asia, India and Pakistan. Compassion grows more and more and does not succumb to dastardly terrorism.

I co-founded two other social enterprises.

One, Education Access for All, built a school in a small town in India.

The other is Noksha-Yug Accees, which received funding from a microfinance-based self-help organization foundation to integrate logistics in rural areas.

I think at least some businesses are doing well.

Because more than $7.5 million has been invested by enthusiastic investors and venture funds.

The significance of these funds is that they are provided as QT Capital rather than grants or philanthropy.

Now let's get back to the idea of ​​a new social enterprise that I'm trying to do.

Corruption, bribery and lack of transparency are at the heart of the story.

Eight of yesterday's speakers touched on this topic, so you might think again.

Bribery and corruption are both supply and demand. On the supply side, there are greedy corporations doing unethical business and the unfortunate general public.

And on the demand side, there are mostly politicians and bureaucrats who are given a lot of discretion.

The World Bank estimates that $1 trillion is paid in bribes each year, making an already bad situation worse.

But when you look at the general public, you can see, day after day, without a doubt, "Hmm, who am I going to bribe today?"

It says, "Who should I buy today?"

Oppression and pressure are what lead to the passing of bribes here and there.

Today, time is precious and the race for survival is so fierce that the unlucky general public has no choice but to bribe and bribe in order to make the most of each day.

Now, I would like to ask another question here.

Imagine being asked for a bribe for something you need in your daily life.

what do you guys do? Of course, you can also report it to the police.

But what if the police themselves were corrupt?

Most people obviously don't want to give bribes.

But many do not have the time, strategy, or experience to ask for a bribe.

Unfortunately, many of us here are in favor of capitalism and market forces.

But the market forces around the world do not yet have a service that can be reported, paid a fee, and combats demands for bribes.

Anti-bribery services, such as 1-800-Fight-Bribes, www.stopbribes.org and www.preventcorruption.org.

No such service exists.

One thing that never leaves my mind is the image of my grandmother, who was over 70 years old shortly after I started working. I was really embarrassed by the officials of the city planning department.

My grandmother was just trying to get permission to build a staircase about three steps up from the ground to make it easier to get in and out of the house.

But the official in charge refuses to give permission because he wants a bribe.

My conscience hurt, but I couldn't keep up with my grandmother or help her. No, I didn't. I was busy setting up a real estate company.

That kind of thinking is completely gone.

Our group has piloted individual cases where bribes are required to obtain public services or exercise public rights.

In all 42 cases, we obtained everything the customer needed through existing legal means, Freedom of Information Act, video recording, audio recording and peer pressure, without paying a bribe.

And the cost of taking this measure is cheaper than bribery.

We are confident that the effective means in these 42 test cases have been established as a standard method, and can be used by anyone who encounters a demand for bribes on the web, call center, or franchised office under the BPO (Business Process Outsourcing) environment, with only a fee.

A target market is just as attractive as the revenue from it.

The scale is as high as $1 trillion a year that is handed over as bribes. This is comparable to India's GDP.

And it's a market with no competitors.

I will give this idea more consideration, examine the possibility of generating profits, and make it into a fee-based BPO service to stop bribery and eliminate corruption.

We know that fighting corruption, even for justice, is never easy.

Until now, and in the future.

In my 18 months of practice, I have fought corruption big and small. Some of these scams have been committed by large Indian companies.

This company sued me, through a charity, to the police on three counts of trespassing, fraud, and intimidation.

The fight against corruption is just ourselves, our families, our friends and even our children.

But this sacrifice is certainly worth preserving our dignity and bringing about a more just world.

What gives us courage?

A close friend of mine told me, while working on the ambulance project, that the founder was insane to take such an impossible task and turn it into a first-rate company. "Of course we can't fail. At least in our opinion.

We are insane, so we do things we can't do.

And it's insane, so I don't know what I can't do." Thank you.

(Applause) Chris Anderson (CA): Shafi, that's a really exciting idea.

Shafi Mather (SM): We have to get things on track so that we don't end up with plans that fall through the cracks.

(laughter) CA: What are you going to do?

In other words, please tell me the general sense of numbers. of typical amounts for bribes and fees. What do you think?

SM: Oh, yes. Let me give you an example.

Someone made a passport.

The official silently demanded a bribe of 3000 rupees.

I don't want to pay myself.

Then we are exercising the Indian Freedom of Information Act, which is just like the American Freedom of Information Act, and resisting officials with concrete examples.

In 42 cases, there were three responses to continued resistance.

The officials concerned say, "Hand it over quickly and don't get involved anymore."

Some come back and say, "Are you trying to annoy me? I'll show you what's going on."

Some resist.

When that happens, move on to the next stage, or combine it with another method, and the other side will break.

By the third time, all 42 cases were successful.

CA: But if it's a 3000 rupee or $70 bribe, how much is the fee? Will it make a profit?

SM: Yes, the actual cost to us is less than 200 rupees.

That's why it works.

CA: It's a high-margin business. Nice.

(laughter) SM: I can't answer in detail here.

CA: Okay. It's just a guideline, not a fixed price.

If you manage to pull this off,

you are a hero in the world So influential.

Thank you for sharing your ideas at TED.

(applause)

The key question is, "When will fusion occur?"

It's been a long time since nuclear fusion was discovered

We've known about it since 1920, when Sir Arthur Stanley Eddington and the British Association for the Advancement of Science used it to speculate that the sun was burning.

I have always worried about resources

I don't know about you, but when my mother gave me food, I always started eating the things I didn't like.

I ate what I didn't like first and saved what I liked for later.

When we are children, we always worry about resources.

So when I found out how resource-consuming we were, I was just as confused as I was when I found out that the Earth has only about 50 billion years left before it's swallowed by the sun.

It's a big event for me.

(Laughter) Energy is currently a resource.

Countries that make millions of dollars from energy have something underneath.

This century's industrial revolution fueled by coal Oil, gas, rude..

(Laughter) I'm probably one of the few people who enjoys Mr. Putin turning on the gas valve, because it increases the budget.

We are dominated by the things we use all the time and continue to use even faster.

And trying to lift billions of people out of poverty in the Third World, the developing world, is consuming more energy than ever before.

Those resources will eventually disappear

The energy of the future doesn't come from resources, it comes from knowledge.

If you think about the future 50 years from now, the way we're going to use energy is probably one of these three: wind, or something else, and either way, these will be the baseloads of the future.

The same is true for solar power generation, and we must develop it.

But there's still a lot we need to know to get enough energy from the sun to meet the world's needs.

nuclear fission

Our government plans to build six new nuclear power plants.

Six new nuclear power plants, and there will be more after that.

China is building a nuclear power plant, everyone is doing it.

Because we know it's a surefire way to go without fossil fuels.

But if you want to know what the perfect energy source is, it's one that doesn't take up a lot of space, that has an inexhaustible supply of energy that's safe, that doesn't put any carbon into the air, doesn't leave behind any radioactive material, and that's nuclear fusion.

But there are pitfalls, there's always pitfalls with this kind of thing.

nuclear fusion is very difficult

We have been trying for 50 years

OK What is nuclear fusion? Here comes nuclear physics

Excuse me, but this kind of thing excites me

(Laughter) I was a weird kid.

Nuclear energy works in a simple way

The most stable nucleus is iron, which is right in the middle of the periodic table.

is a medium-sized nucleus

And if you want energy, go to iron.

That's why uranium is so big that it wants to split up.

But then smaller atoms join it, and the nuclei join together and grow into something larger towards iron.

this is how you get energy

And of course this is exactly what the stars do

In the center of the star, hydrogen combines to form helium, and from helium to carbon to oxygen, everything that makes you is made inside the star.

But it's a tough process, because the center of a star is almost certainly terribly hot.

And as a result, fusion is probably the easiest thing to do.

We're going to use two isotopes of hydrogen, two types of hydrogen: heavy hydrogen, deuterium, which you can get from seawater, and a very heavy substance called tritium.

These two atoms have a potential when they are apart.

And when you try to stick them together, they repel each other

But when you get them close to a certain point, a big force starts to act, and they're attracted to each other.

We are rebelling against each other in place of alternatives

As they huddled closer and closer together, a powerful force eventually caught them both.

And it becomes a substance called helium-5, because it has five particles in it.

So that's the process, where deuterium and tritium come together to make helium-5.

Helium splits, neutrons come out, and a lot of energy is released.

In an environment of around 150 million degrees Celsius, everything is moving so fast that if you have the right settings, when they collide with each other, nuclear fusion occurs and energy is released.

This energy drives nuclear fusion.

I would like to have a reaction like this

There is one trick in this reaction

The trick is you've got to get 150 million degrees, but the trick is about reaction

it's interesting

The trick with the reaction is that tritium doesn't exist in nature.

must be produced from something else

We make it out of lithium, and the reaction below, lithium-6, you can get helium and tritium with a combination of neutrons.

That's how you get tritium.

But fortunately, if you can do this fusion reaction, you can also get neutrons, and you can actually do it.

Now, why do we do this?

this is the reason

It plots the fuel we have left in terms of current global consumption.

And if you look there, you'll see that oil only lasts a few decades -- the blue line represents the lowest estimate of what's left of the resource.

The yellow line is the most optimistic estimate

If you look around, you'll see that we have fossil fuels that are decades, maybe even 100 years old.

So do we really use up all that? As a result, huge amounts of carbon are released into the air

And here comes uranium

But given the performance of our reactors today, we don't have that much uranium.

Uranium has to be extracted from seawater, and that's the yellow line, but there are actually a lot of difficulties in building a normal nuclear power plant.

This is a bit of a shock, because our government relies on nuclear power plants to meet requirements like the Kyoto Protocol.

You'll need breeder reactor technology to move forward.

A breeder reactor is a fast breeder reactor, which is pretty dangerous.

The big thing on the right is lithium all over the world.

Lithium is present in seawater, the yellow line.

There is 30 million years worth of fuel in seawater for nuclear fusion.

Everyone can have it, and that's why we want to do fusion.

Do you have price competitiveness?

We did an estimate of what it would cost to build a fusion power plant.

The result was not much different from electricity today.

So how do you make it?

something must be kept at 150 million degrees

And the truth is, it's already been done

put something in the field

And inside that, right in the middle of the toroid, the shape of a donut, is 150 million degrees inside.

It keeps boiling at 150 million degrees inside.

and in fact we can create nuclear fusion

And this is JET for the future.

It is the only machine in the world that has performed nuclear fusion.

People say fusion will always be 30 years from now, but I'm like, "Yeah, but we're already doing it."

We can create fusion, and in 1997 we created 16 megawatts of fusion in this machine.

In 2013, we're going to do the same thing again and break all the records.

But this isn't real fusion power, it's just fusion.

I have to take this out and put it in a fusion reactor

Because we want to obtain 30 million years worth of nuclear fusion energy.

This is the machine we are developing

It's very expensive to do this research.

There was some cold fusion nonsense, but it turns out that you can't do fusion on a table.

You can't, you can only do it in a very large apparatus.

More than half the world's population is involved in building this machine in the south of France, and it's a good place to experiment.

Seven nations are involved in this production.

It would cost $10 billion to build, and would probably get half a gigawatt of fusion energy.

But it's still not electricity

you have to get here

I have to reach the power plant.

We have to be able to get electricity from this very complicated technology.

I'd like to do it sooner rather than later.

What we can think of is that it will come true in the 2030s.

I wish it were different. It's what we need right now.

In the next five years, this country will face an energy problem.

2030 seems like an eternity

We can't stop it; we have to go further and achieve fusion.

I wish I had more money, I wish I had more resources

That's where we're headed, sometime in the 2030s, real electricity from nuclear fusion. Thank you very much.

(applause)

Namaste, Salaam,

Shalom, Sat Sri Akar.

Greetings to all of you from Pakistan.

It is often said that we fear what we do not know.

Pakistan is exactly the same when it comes to this particular trend

For Pakistan has evoked, and is still evoking, a visceral concern in many Westerners, especially when viewed through the monochromatic lens of unrest and turmoil.

But Pakistan has many other dimensions.

So, I'm going to show you a series of photographs, taken by some of Pakistan's most active young photographers, that seek to provide an alternative look, a look inside the hearts and minds of ordinary Pakistani people.

And here is the story they want you to share with them.

My name is Abdul Khan. I am from Peshawar

I want you to see not just my Taliban beard, but the richness and color of my outlook, my dreams and my hopes, which are as rich and colorful as these bags I'm selling right now.

My name is Meher and this is my friend Ilim

When I grow up, I want to be a veterinarian so I can take care of the stray cats and dogs that roam the streets of my village in Gilgit, northern Pakistan.

My name is Kailash. I like to enrich life through colored glass.

Madam, how about these orange bracelets with pink polka dots?

my name is zamin

And I'm an internally displaced person from Swat

can you see me on this side of this fence

Am I cared for? Or do I exist for you in the first place?

My name is Iman. i am fashion model i am a budding model from lahore

Does it look like I'm just suffocating under the cloth

Or can you penetrate the veil and find the real me inside

My name is Ahmed. I'm an Afghan refugee from Khyber.

I come from a place shrouded in pitch-black darkness.

That's why I want to give light to the world

my name is papsi

My heart and heartbeat beat as one

If religion is the drug of the masses, music is the only ganja for me.

A rising tide lifts all ships

And India's spectacular rising tide of economic growth has pushed more than 400 million Indians into the comfortable middle class.

Yet more than 650 million Indians, Pakistanis, Sri Lankans, Bangladeshis and Nepalis are still washed up on the shores of poverty.

So whether it's India and Pakistan, or you and me, to celebrate our diversity and appeal to our common humanity, we have a duty to transcend our differences.

Our collective vision at Naya Jivan, which for many of you, as you are aware, means "new life" in both Urdu and Hindi, is to revitalize the lives of millions of low-income households by providing affordable access to devastated health systems.

In fact, it is the developing world's first HMO for the urban working poor.

So why should we as Indians and Pakistanis do this?

That's because we are simply two threads cut from the same cloth.

And if our destinies are intertwined, we can believe that doing it is a good deed and a reward.

And for many of us, our destiny really lies at the base of this pyramid. Thank you for your attention

(Applause.) Chris Anderson: "Great. Stay there for a while.

it was really great

I think it was really poignant

In fact, we went to great lengths to welcome even a small delegation from Pakistan here.

I thought that was really important

They went through a lot to get here.

Pakistani people, can you please stand on the spot?

I just want you to show me

(Applause.) Thank you very much.

I'm going to talk about what's going on in technology. I'm sure you're following us. There's a reason we follow trends.

First of all, WIRED is a technical magazine, so we write articles about technology trends, and we need to be informed.

It's also a monthly magazine, so we have to think about the future, and we have long lead times.

You have to think about articles a few months ahead. You have to anticipate where your interests lie six months in the future. Maybe nine months out.

Also, in terms of making products, we're no different than any other company: we make products in line with technology trends.

Our products are ideas, information, sometimes entertainment, but the concept is exactly the same.

What we need to understand is that it's not just why technology matters and where it's going, it's more about when. Timing is everything.

I think it's interesting to think about predictions made during the 1990s economic boom, like e-commerce internet traffic, broadband adoption, internet advertising, they were all right, but wrong when.

Each technology was realized after a few years.

But the multi-year difference in stock market valuations is obvious to everyone, and it's all about timing.

I'm sure you've seen this before

The Gartner Hype Curve, which has become a classic, is the curve a technology draws over its lifespan.

Let's try and stack some technologies. Were we climbing the initial lofty peaks, or were we on the verge of plummeting to the brink of disappointment, were we on the cusp of recovery with greater understanding, and so on and so on?

It's a way of doing technology forecasting, where we understand the current state of technology and predict what's next.

For any technology that I think is important enough, I do this, usually twice, first of all.

The reason you want to be the first to ride on a technology is because the enthusiasts will appreciate it, and you'll catch the technology when it's born.

In 1997 Linux was on the cover

And it's back again. Linux is big, it's about to go mainstream, and the Linux boom is about to explode.

It's time to pick it up again. That was last year.

We try to understand trends in technology with this approach.

Now let's talk about thinking about trends in technology, which we call the Grand Unified Theory of Future Prediction, or maybe we should actually call it the "Little" Unified Theory of Future Prediction.

It's a theory based on some assumption or observation. It's based on the assumption that all important technologies grow through at least one, or all four, of four stages.

And at each stage, there's a collision -- it's going to collide with something else, like the marginal price line, that changes technology and its impact on the world. That's the inflection point.

This inflection point tells us about the next chapter that technology is headed for, and it might even tell us what course of action you should take.

first marginal price

The first step in technological progress is to go below the marginal price.

If it can get below the marginal price, the technology has the potential to reach critical mass and penetrate the market.

At this point, many technologies replace other technologies, and this is another important point.

And eventually many technologies become commoditized.

Gets closer to free as the end of life approaches

These points are opportunities to do something, opportunities to make a difference in technology.

For the sake of clarity, let's think about the first Wi-Fi boom: Wi-Fi has reached marginal price, it has reached critical mass, but it's not yet a replacement, it's not free, and there's still an opportunity.

Let's think about what I want to say in terms of DVD. DVD technology is a technology that has gone through all stages.

DVDs, as we all know, came out in the mid-1990s. They were very expensive at the time, but by 1998 they were under $400. $400 is a psychological tipping point.

And then it started to go up. Sales started to go up. It started to go up through an invisible inflection point.

And after a year, we reached the critical mass, and 20 percent is the standard mass limit for household items.

Interestingly, there's another product that started to rise at the same time: the home theater.

And when DVD came home, having high-quality digital video was the reason I bought the big screen, and the reason I bought Dolby's 5.1 channel surround.

Maybe that's why we've got a whole set of gear and hooked it up to entertainment equipment.

It's also interesting that Netflix was founded in 1999.

Reed Hastings had seized the moment, and he thought it was an inflection point and something could be done.

The next stage DVD reached was 'alternative'

Around 2001, DVD overtook VTR sales.

Again, I think you can see what happened globally.

Netflix has been able to profit from that business model in a way that the video rental industry has never been able to do.

DVDs have many advantages, including the fact that they're small and can be shipped cheaply in envelopes.

These benefits weren't realized until technology advanced.

And finally DVDs are getting closer to free

There's a little-known Chinese company called Apex that has been the number one seller of DVDs in the United States several times over the past few years, averaging $48 last year.

Perhaps you'll remember the rumored $30 DVD rush at Walmart.

DVDs are cheap, they're getting cheaper, and if you look even closer, it's interesting to see that as DVDs get cheaper, premium brands like Sony are losing market share, and obscure brands like Apexe are taking share.

DVD has become a total commodity, and this is what happens when it approaches zero, and the business environment becomes tough.

(Laughter) I've gone through all four stages that I can divide it into when I think about technology, I've gone through the four stages that technology goes through.

Now let's talk about other technologies that we've seen on our radar. Let's do the same thing, and I'm going to use this four-stage thinking to think about where each technology is in its development stage.

It doesn't have to be a top 10 technology, I'm just talking about it as an example of technology at each stage.

But it's worth thinking about the fact that these technologies are approaching a crossroads or an intersection.

First, gene sequence elucidation technology

As you know, gene sequencing is mostly computer-implemented, and prices are falling, just like Moore's Law.

I think it's possible or possible now, but if Dr. Craig Venter was here today, he would have said, "By the end of the year, for $40 million, we'll be able to sequence human genes."

A few years ago, we needed billions of dollars.

Our capacity to understand the tools of creation is growing.

Another interesting thing is that the number of genes being discovered is also increasing at a very fast rate.

Allows diagnostic testing for any gene

In the future, if you want, you may be able to get tested for hundreds of thousands of genes, very cheaply, and even find out your own mosaicism.

Another technology approaching marginal price

WHO's impressive study shows that generic drugs are effective in combination and cocktail therapy use of antiretroviral drugs.

In January 2000, the price was $10,000, $27 a day.

I think generics came out around Brazil, and the impact on prices was dramatic.

Now it's less than 50 cents a day

Look at this price elasticity, and think about how the two are related. If the price of antiretroviral drugs falls, the number of patients we can treat will increase dramatically. The Clinton Foundation and the WHO say that by 2005, the world will be able to treat three million people, two million of whom will be in sub-Saharan Africa.

This has contributed a lot to the drop in drug prices.

Linux would be a good example too

Linux has exceeded the limit mass

These technologies are going beyond the mass limit

I've shown Linux in red, and it's reached 20 percent.

Interestingly, there's been an intersection before, but not at that intersection.

The intersection to think about is in relation to this blue line.

Look closely at the direction the line is going, and when it hits 20 percent, it's treated differently.

It's no longer just for geeks

I imagined a Redmond resident waking up in the middle of the night thinking.

(Laughter) An example that's becoming more and more common these days is the hybrid car.

Are you driving a Prius 2004? It's a great car.

If you look at this trend, I don't think it's a strange prediction that the Prius will take two percent of car sales by about 2008.

Two percent is not 20 percent, but we're talking about the auto industry, which is slow and mighty, but there's a time.

Even at 2 percent, you'll start seeing Priuses everywhere.

With the boom in the hybrid market, one thing to think about is that the electric motor has been brought into the automotive industry.

It's the first dramatic change in the automotive industry in 100 years.

The use of electric motors allows a lot of things, because you can change the structure of your car at will.

Regenerative braking Electronically controlled driving Interchangeable body shapes It's just a small change that hybrids bring, and it could usher in a whole new century for the automobile.

I'm sure you already know about Voice Over IP.

This technology also came out of nowhere, and it's not very user-friendly so far.

There is a company called Skype created by the founders of Kazaa

Look at this number, I launched my business last August, and we're approaching four million registered users, and that's the critical mass.

Change is about to happen on the career side, too.

Some of the telecom standards that existed in the past have been replaced by IP, which is a tipping point. Sorry to Malcolm, but this is changing the economy, the speed, the players in the industry.

This is likely to happen

And finally about free, free is a very interesting thing.

Free will come with digitization, because the cost of reproducing it will be virtually free. IP is an efficient protocol, and it will bring you free.

Free is a gift from Silicon Valley to the world

It's both economic power and technological power.

Deflationary pressure if not handled correctly

It's plentiful, as opposed to scarcity.

Free is probably the most interesting

Indicates the number of songs that can be stored on the hard disk

It doesn't matter if it's a video. The day may come in 2008 when every song ever made can be stored on a $400 disc.

from these numbers

You can see that the music industry is collapsing, and that's exactly what's happening right now.

We are facing forces that we have never experienced before.

Their reaction is harsh, but that response doesn't necessarily get them out of this situation.

Finally, let me give you just one more example of free, which is probably the most powerful free.

It is a document that shows the call charges per minute in India.

In 1990, we were making more than two dollars a minute.

Like the United States, India also had restrictions on its telephone system.

There was no innovation, everything was moving slowly, but as fiber optic became ubiquitous, you can see the price dropping rapidly.

often seven cents a minute

Calls to India are so cheap or free that the result is angry programmers, outsourcing.

The changes that have taken place in globalization have been dramatic, and I believe they are among the most powerful economic tools that exist in the world today.

Companies in India and China and other countries that can enter our market will be working with companies in the country, because it's free, so we're just getting started.

This is probably the most important technology trend today.

thank you

I learned a lot about ballooning, especially after completing my round-the-world trip with Brian Jones.

When I took this picture, the windows were frozen with dew.

But on the other side of the ice the sun was rising

So it turns out that there are things on the other side of the ice that are unknown, non-obvious, and unseen to those who don't dare to cross the ice.

So many of us choose to suffer in the ice we know, taking risks to cut through it, not trying to find out what's on the other side.

I think it's one of the main problems in our society.

Maybe the TED audience is different, but so many people have been told that the unknown, the questionable, the question marks, things like that are dangerous.

And we have to resist change

have to control everything

But the unknown is part of life

In that sense, ballooning is a wonderful metaphor for life.

Because balloons, like life, are unpredictable where they're going.

I want to go this way, but the wind blows me that way, just like life

And when you're fighting life, fighting the wind, fighting whatever comes your way on the same plane, life becomes a nightmare.

How do you steer the balloon?

It means understanding that the atmosphere is made up of layers of wind blowing in different directions.

So if you want to change your destination, either in life or in a balloon, change altitude.

To change altitude in life is to ascend to another psychological, philosophical, spiritual level.

What should I do?

How do you change altitude in a balloon or in life?

How can parables give us something more practical to help us in our day-to-day lives?

In the case of balloons, it's easy, use a ballast.

Throw away the ballast and it will rise

Things like sand, water, equipment you no longer use.

And I think life should be exactly the same

For example, when we talk about the pioneer spirit, we tend to think of pioneers as new thinkers.

It is different

A pioneer is not someone with new ideas, anyone can do that

If you just close your eyes for a moment, new thoughts will come to you

Instead, a pioneer is someone who can throw away a lot of ballast.

habit certainty conviction exclamation mark paradigm dogma

What would happen if you could throw them away?

Life is no longer just a one-dimensional one-way street, it's not.

Life is made up of possibilities that go in all possible directions in three-dimensional space.

And pioneering spirit is always about exploring this vertical world, of course.

It's not just about the air in the balloon, it's about life.

Exploring the vertical means weighing all the different ways, all the ways of acting, all the ways of thinking before deciding which direction to go.

this is very practical

The same is true in the world of politics.

The same is true in the spiritual world.

It can be environmental problems, it can be economics, it can be children's education.

I believe that if we could close the political divide between right and left, life would be a much greater adventure.

free from political stereotypes

I believe that if we get rid of the fundamentalism that some environmentalists have shown in the past, we can do more for the environment.

And I believe that if we let go of our religious dogma, we can go higher spiritually.

You can change direction by "throwing it away" like ballast.

This is what I believed for a long time

But to be invited to talk about it, I had to fly around the world in a balloon.

(Laughter) (Applause) Knowing which ballast to drop and which altitude to go to is not easy, and sometimes you need help from friends, family, and psychiatrists.

And with balloons, you need meteorologists, and you need them to work out which way the wind is blowing at which altitude, and to help the balloonists.

sometimes very confusing things happen

When I was circumnavigating the world with Brian Jones, one day the meteorologist told me to fly very low and very slowly.

When I did the math, I realized that I could never go around the world at that speed.

So we refused, increased altitude, doubled speed.

And then I spotted the jet stream, and I got pretty proud, and I called the meteorologist and said, 'Look, we're great pilots in the skies, aren't we?

It's flying twice as fast as you say."

He said: "Don't do it, just drop down and slow down."

I started arguing: "I wouldn't do that.

We don't have enough fuel to fly slowly."

He said: "Yes, but because of the low pressure on the left side, if you fly too fast, you'll turn left in two hours and you'll be at the North Pole."

(Laughter) And he said -- I'll remember this for the rest of my life -- and he said, "You're a good pilot.

So what do you want to do?

Or do you want to get to your destination slowly?" (Laughter) (Applause) That's why we need meteorologists.

That's why we need a long-term vision.

And that's what our politics, our governments, are lacking right now.

You know, we consume a lot of energy, and we don't realize that this kind of unsustainable life can't last.

so we descended

It slowed down, and I had a terrifying time because there wasn't enough fuel in the balloon to keep me going for the next 45,000 kilometers.

It's just that the doubts and fears were expected.

This is where the adventure really began

When I was flying through the Sahara Desert and India, it seemed like a perfect holiday.

I could always get out of the balloon and fly home.

In the middle of the Pacific, without enough wind, there's nowhere to land and you can't come back.

Dangerous

That's when we need to move away from preconceived ways of thinking.

That's when you tap into your inner potential and creativity.

It's time to drop all the ballast, drop certainty and deal with the new situation.

In fact, we completely changed our flight plan.

completely changed strategy

And 20 days later, we landed successfully in Egypt.

I'm not showing you this picture to show you how happy I was.

Just to show you how much fuel was left in the last bottle.

we took off with 3.7 tons of liquid propane

landed with 40 kilograms remaining

I saw it and decided

If I ever make another round-the-world flight, I'm out of fuel, I'm not going to rely on fossil fuels, just to be safe, so I don't get freaked out by the fuel gauge.

I had no idea if I could

It was a dream, so I wanted to do it.

And when my balloon boarding capsule was on display at the National Air and Space Museum in Washington next to Charles Lindbergh's plane, Apollo 11, the Wright brothers' flyer and Chuck Yeager's X-1, I thought about them seriously.

I thought: "The twentieth century was a glorious time.

All this has happened.”

I won't be able to do it from now on

too much energy too expensive

It will probably be banned in the next few decades to conserve natural resources.

Going forward, how can we keep the pioneering spirit alive without relying on fossil fuels?

That was the first time the "Solar Impulse Project" came to my mind.

It was a perfect metaphor for the 21st century.

The pioneering spirit continues, but on another level

It's no longer about conquering Earth or space, it's the end, it's about improving the quality of life.

To break through the ice of certainty and make the extraordinary possible

what should i do? The utter impossibility of our time is to get rid of our dependence on fossil energy.

If I say, "We're cutting ties with fossil energy in this world," they'll laugh at you, except here, because the crazy ones come and talk.

(Laughter) So I thought that if we could fly around the world in an airplane that was powered entirely by solar cells and that didn't use any fossil fuels at all, no one would ever say that fossil-free cars, heating and computers would never be possible in the future.

Solar-powered planes aren't new

I've flown in the past, but I didn't have a power storage device, a battery.

So it proved the limits rather than the potential of renewable energy.

To show what's possible, we have to fly day and night.

So you have to charge the battery during the flight, spend the night on that battery, and fly again the next day.

It's already been done in remote-controlled small planes without aviators.

But it was anecdotal because the public didn't think it was real.

It wouldn't be a human adventure if the astronauts on board had to call out to the universities, to the students, to the politicians during the flight.

Unfortunately, a four-meter wingspan wasn't enough for this.

Requires 64 meter wingspan

With a wingspan of 64 meters, you can carry one astronaut and a battery and still fly slowly with aerodynamic efficiency.

Why so much? Because fuel is not easily replaced

That's right

A 200-square-meter solar panel on our plane provides enough energy to power 200 small light bulbs.

A very big Christmas tree

So the question is, how can one astronaut fly around the world with the energy of one big Christmas tree?

Everyone says it's impossible, and that's exactly why we did it.

We started the project six years ago with my buddy André Boeschberg.

70 people are currently working in teams

We've finished the simulation design, we've calculated it, and we're ready to build the first prototype.

in two years they were achieved

cockpit propeller engine

This is the body. It's very light.

It's as beautiful as it was designed by an artist

The total weight of the fuselage is 50 kg

2 kilograms left for the wing skeleton

This is the overall structure of the plane

Published 1 month ago

For a team that has been building this for six years, you can't imagine what it must have been like to show that it wasn't just a dream or a concept, but a real plane.

It's finally a real airplane that people can see

where is the goal

The goal is to take off, first test at the end of this year, but mainly next spring or summer, take off on its own, take off without towing or any other assistance, climb to 9,000 meters.

At the same time, the batteries are charged, the engines are started, and when the maximum altitude is reached, the night begins.

From there, there's only one goal: to see the next sunrise before the battery runs out.

(Laughter) That's exactly what our world represents.

If the plane is too heavy or the aviators waste their energy, you'll never see the sunrise.

In this world, if we continue to pollute, if we continue to waste resources, if we continue to build buildings that use so much energy that most companies go bankrupt, we will never be able to pass this planet on to the next generation without major problems.

So this plane is just a symbol

I don't think this plane will carry 200 people in the next few years.

But when Lindbergh crossed the Atlantic, the load was just one man and enough fuel.

Twenty years later, every plane was carrying 200 people across the Atlantic.

So we have to start, we have to show examples.

It looks a bit like the picture here

This is a painting by Magritte in a Dutch museum and I love it very much.

this is a pipe there

It says "This is not a pipe" This is not an airplane

This is what we achieve when we believe we can do the impossible, when we build teams, when we have a pioneering spirit, and most of all, when we understand that we should throw away certainty.

What I really like is that we first thought that for our message to be understood, we would have to fly around the world without fuel.

Gradually, Andre and I were invited from all over the world to talk about the project, to talk about the symbolism, to be invited by politicians, to be invited to energy conferences, to show that the idea of ​​moving away from fossil energy is no longer so silly.

So the goal is to bring more people into the team through speeches like this today, interviews and conferences.

Just flying around the world in a solar-powered plane isn't a success.

Instead, success is all people thinking about doing exactly the same things in their daily lives, saving energy and becoming renewable.

Of course, with the technology we have today, we can save the energy consumption of European countries by 30 to 50 percent, and make the other half renewable.

The remaining 25 or 30 percent will be oil, gas, coal, nuclear, things like that.

then it is acceptable

So we welcome all those who believe in that spirit to join our team.

Go to SolaraImpulse.com and register to find out what's going on

But more than that, please take advice, comment, and spread the word that if this can be done in the sky, of course it can be done on the ground.

And in the future, whenever we find ice, we should remember that if we have the courage to overcome our fear of ice and overcome obstacles to see what lies beyond, great life and great success await us.

this is what we do on our side

We all have goals, we all have dreams, we all have visions.

The question I want to ask you is, what ballast should you throw away?

What altitude would you like to fly in your life? What altitude would you like to reach in all your might to achieve the success you want and get where you really deserve?

Because the greatest renewable energy is your potential, your passion.

So let's head there To you on the wings of the future

Thank you very much for this wonderful adventure. (Applause)

I want to talk to you today about the human brain. We study the brain at the University of California.

think about the brain for a moment

Here is a lump of meat weighing about 1.5kg that fits in the palm of your hand.

it can conceive the vastness of the universe

It can think of infinite meanings, it can ask questions about the meaning of its own existence and what God is.

The brain is the most amazing object in the world.

It's one of the greatest mysteries of mankind. How did the brain come about?

The brain, as you know, is made up of neurons.

this is a picture of a neuron

The adult brain has 100 billion neurons.

Each neuron has 1,000 to 10,000 connections with other neurons.

From this, it is calculated that the number of permutations and combinations of brain activity exceeds the number of elementary particles in the universe.

So how should we approach brain research?

One way is to study behavioral differences in patients with lesions in different brain regions.

This is something I talked about at TED a while back.

Today I'm going to talk to you about another method, which involves inserting electrodes into different parts of the brain and recording the activity of individual neurons.

It's like eavesdropping on the activity of neurons in the brain.

Now, recently discovered by Giacomo Rizzolatti, a researcher in Parma, Italy, and his colleagues, there is a group of neurons in the frontal lobe called mirror neurons.

For more than 50 years, we've known nerve cells, usually called motor command neurons, in the frontal lobe.

This neuron fires when a person performs a specific action.

So when you reach out and grab the apple, motor command neurons in the frontal lobe fire.

When you reach out and pull something, another neuron fires and tells you to pull the object.

That's what we've known for a long time, the motor command neuron.

But what Rizzolatti found was that some of those neurons -- maybe 20 percent -- fired when they were watching someone else do the same thing.

So there's a neuron that fires when I reach out and grab something, but it also fires when I see someone reach out and grab something.

this is just amazing

Because it's almost as if these neurons are taking in other people's perspectives.

It's like doing a virtual reality simulation of someone else's behavior.

What is the importance of mirror neurons?

Part of it must be involved in imitation and imitation.

Because to imitate complex behavior, your brain needs to adopt the perspective of another person.

This is important for imitation and imitation

why is this important

Let's take a look at the following slide

How do we imitate Why is imitation important?

(Big Leap) Mirror Neuron Imitation Imitation

Now let's look at what happened to human culture.

Let's go back about 75,000 to 100,000 years and look at human evolution, and around 75,000 years ago something very important happened.

It's the sudden emergence and rapid spread of several skills that are unique to humankind, such as tool use, fire, shelter and, of course, the use of language, as well as the ability to read other people's minds and interpret their actions.

all of this happened relatively quickly

The human brain reached its current size about 300,000 or 400,000 years ago, but 100,000 years ago, all of this happened very quickly.

So what happened, I think, was the sudden emergence of a sophisticated mirror neuron system that allowed us to imitate and imitate the actions of others.

For example, if one member of a group accidentally discovered the use of fire or the use of a particular tool one day, it didn't just go away, it spread rapidly, horizontally, among people, or vertically, to later generations.

This is what made evolution suddenly go from Darwinian to Lamarckian.

Darwinian evolution is slow, it takes hundreds of thousands of years.

It may take polar bears thousands of generations -- maybe 100,000 years -- to evolve their fur.

If you're a human child, you watch a parent kill a polar bear, skin it, and put its fur on you, and you learn it in one step.

And once it's learned, it spreads exponentially through the population.

And that's the basics: imitation of complex skills is what we call culture, and it's the foundation of civilization.

Now, there's another kind of mirror neuron that's involved in something completely different.

Just as there are mirror neurons for behavior, there are also mirror neurons for touch.

If someone touches my hand, neurons in the somatosensory cortex of my brain fire.

But this very same neuron in me sometimes fires, even just seeing another person being touched.

So this is empathizing with the other being touched.

Different neurons fire when different parts are touched.

That subset also fires when you see someone being touched in the same place.

That's why we have neurons here that are involved in empathy.

Now here comes the problem: when I see someone else being touched, why don't I get mixed up and feel the touch as it is?

Even if I empathize with the person, I don't feel the touch directly.

And that's because the skin has receptors -- touch and pain receptors -- that tell your brain, "Don't worry, you're not being touched."

So even if you're fully empathetic with another person, you don't actually experience that sense of touch, or else you get mixed up and confused.

So there's a feedback signal that denies the mirror neuron's signal, preventing that tactile sensation from being consciously experienced.

But if you take the arm out of your arm with local anesthesia, and you put an injection into the arm, you numb the arm by anesthetizing the brachial plexus, and there's no sensory input, and when I see you being touched, I really feel that touch in my hand.

In other words, the barrier between me and other humans has disappeared.

I call this a Gandhi neuron or an empathic neuron.

(Laughter) I'm not saying this as an abstract metaphor.

Your skin is the only thing that separates you from others.

Without skin, you experience other people's tactile sensations in your own head.

Barriers between others disappear.

This is the basis of much of Eastern philosophy, where there is no independent self that transcends and sees the world and other people.

In fact, you're not just connected by Facebook and the Internet, you're connected through neurons.

And in this room, there's a set of neurons that talk to each other.

There is no distinction between someone else's consciousness and yours.

This is not a bogus philosophy

Based on Fundamental Neuroscience Findings

So let's say you have a patient with a phantom limb. If you don't have an arm and you have phantom limb symptoms, and you see someone's arm being touched, you feel that sensation in the phantom limb.

And what's amazing is that when you feel pain in your phantom limb, when you hold or rub another person's hand, the pain in your own phantom hand is relieved.

this is my last slide

For a long time, people thought of the natural sciences and the humanities as separate things.

C.P. Snow said of these two cultures: On the one hand the natural sciences On the other the humanities The two never meet

However, I believe that the mirror neuron system underlies a rethinking of questions such as consciousness, self-expression, what separates us, what makes us empathetic, and the origins of our unique cultures and civilizations.

(applause)

120 years ago, Dr. Roentgen X-rayed his wife's hand.

I'm not sure why you had to broach your finger to the floor, but it's overkill.

X-ray technology started with this photo

That's basically the same technique that I use.

It's a little bit modernized

The first thing I shot was a can of soda to promote a brand you all know, and I'm not going to do that today.

The second thing I took was the sneakers I was wearing that day

It's my favorite photo, because it shows all the organic matter that's stuck to the soles of your shoes.

It's a fluke for beginners.

Let me show you something a little bigger: an x-ray of a bus.

the bus is full

It's the same person on board, the same skeleton.

In the '60s, budding radiographers were learning how to take x-rays, but luckily the subjects were dead people, not live people.

I also have a skeleton, and my name is Frida, and it's so old and fragile that it's starting to fall apart.

Anyway, everyone on the bus is Frida.

We photographed the bus with a cargo X-ray machine, the sort of machine you see at borders that checks for smuggling, drugs, bombs, things like that.

this needs no explanation

Using large scale objects creates a certain drama, because you don't get to see X-rays of large objects.

Technology is advancing, and because these large-scale X-ray cargo inspection machines are digital, they're getting better and better.

But the way to make it interesting is to add a human element.

This picture is interesting because Frida is driving a bulldozer.

(Laughter) Believe it or not, men's underwear looks great.

It's the process inherent in itself that makes underwear beautiful.

I'm not a fan of fashion because I try to look inside, not outside.

That's why hipsters hate me because I look the same whether Kate Moss wears it or I wear it.

(Laughter) We all look the same on the inside, it's true.

The wrinkles and nuances of the material,

The essence of things What are they really made of?

peel off the skin to expose the inside

Some are good and some are bad

When it comes to design, Ross can pick it up.

Design comes from within

It's not just about the outside. When I'm looking for shooting materials, I get a funny look.

When I was shopping for women's underwear in a department store, I was almost kicked out.

I live near a farm, and the little pig there was dead.

The interesting thing is, if you look at the leg, you'll notice that the bones aren't joined together.

Even if this poor pig had grown up, it was doomed to die, because we used a lot of X-rays to take it.

(Laughter) But if my bones had stuck together, I'd be fine.

It's a parka jacket with no people in it.

nice pose

Nature inspires me the most

Let's go back to the original story and talk about the relationship between nature and architecture.

The roofs of the Eden Project and the British Library are all honeycomb structures.

Architects, like me, were inspired by the nature that surrounds us.

It is the leaf of the Amazon water lily floating on the pond.

A three-dimensional amaryllis flower

Seaweed swept away by the ebb tide

So let's talk about how it was filmed, where it was filmed, things like that.

This is an X-ray hut that was newly built for radiography.

The door to the x-ray room, made of lead and iron.

I have 1250 kilos and the only time I move is when I open and close the door.

(Laughter) The walls are 700mm thick high-density concrete.

use a lot of radiation

We use much more than hospitals and veterinarians.

It's me. It's a very high power X-ray machine.

The interesting thing about X-rays is that this technology is used to screen for cancer, to look for drugs, contraband, and so on.

In my case, I use this technology to create very beautiful things.

still using film

When it comes to life-size processing, X-ray technology isn't advanced enough to get good enough image quality, apart from these big cargo X-ray machines, and I can't get the resolution I need.

That's why we're using drum scanners from the 1980s, when cameras were film.

Scan each x-ray separately

You can see how the full-scale X-ray photograph is taken

daughter's dress

The tag is still attached when I bought it, so if my daughter doesn't like it, I can return it.

there are four x-ray plates

overlapping

From something as small as this dress to something as big as this, we work in exactly the same way, and you can see that it's a lot of work.

this took 3 months

Over 500 parts exist

777 shipped in container from Boeing

I sent back the x-ray instead

(laughs) It's true.

I said earlier that Frida is a skeleton.

this is made up of two pictures

On the far right is a photo of an American football player

X-ray picture on the left

For this shoot, I had to use my real body.

Because without skin cells, you wouldn't look like a real athlete.

I had to use cadavers, not skeletons.

It was very difficult and troublesome to obtain

But there are people willing to donate their bodies for the arts and sciences.

I'm one of those waiting in line

So don't be afraid to use a body donation.

(Laughter) Coloring makes the x-ray look different.

feels organic and natural

i take pictures of what i like

Not a faithful reproduction of actual colors

This flower won't turn bright orange

But I thought bright orange was beautiful.

Equipment like DJ decks can also look different.

2D images look like 3D

The hardest thing about X-ray technology, the technical challenge, is photographing light objects, fragile objects.

If you know anything about X-rays, you know how difficult it is to get detailed pictures of feathers.

Watch the short film

Video: (music) What's inside is dangerous

If you touch it, you might lose your life, and you'll be exposed to radiation

I've been exposed to radiation twice so far.Even just two times will be an indelible scar in my life.

it is accumulated

(music) It's human

I know it's a toy, but it looks like a robot, kind of like something out of science fiction.

Human, yet artificial, reminiscent of the future and aliens

spooky

(MUSIC) We used a cargo X-ray machine to film the bus, a machine that checks for smuggled goods and stowaways at the border.

The car body was placed in front of the X-ray machine and sliced ​​cross-sections were taken.

That's how you shoot Slice Slice

Slices no different from hospital CT scanners

Look closely and you'll notice the details

A person wearing headphones, a person reading a newspaper, a person with a hat or glasses, a bag

These details give it a realistic look.

(MUSIC) The problem with photographing a living human being is exposure during filming.

Something had to be done to avoid that, so we ended up using dead people.

There's everything from the corpses of recently deceased people to the skeletons used by budding radiographers to practice taking X-rays of the human body in varying densities.

(music) Rubber gloves, scissors and a bucket, my high-tech goods

(music) Understanding how capillaries work How nutrients are transported Capturing cells in stems

transports nutrients from roots to leaves

it's a monster

(music) The basics This is natural

That's why I love it, it's not bought somewhere, it's not genetically engineered

born by chance

X-rays reveal how beautiful nature is

When I see it with my eyes, I don't think it's that beautiful. The shape of the leaf is curled.

You can see that they overlap at the corners

As the thickness increases, the amount of radiation increases and the irradiation time also increases.

Lighter objects emit less radiation

Details become clearer over time

The longer you expose it to the radiation, the more detailed it becomes.

(Music) It's just a tube, but it's very bright

When it gets a little darker, other parts disappear

The tips of the leaves are disappearing

I like the tip to be crisp and clear

yes this is fine

(Music) Exploring what lies beneath the surface, revealing its value What it's made of and how it works

But it turns out that you can also get something by stripping off the surface, which is what people are used to seeing.

this is what i do

So here's what we're planning to do in the future.

It's a recent piece that was used in a commercial.

And what's great about this piece is that it looks like it's been captured in a moment in time.

Unfortunately, I don't have X-ray vision.

I dream of X-rays I dream of projects

So we know what it looks like on X-rays, it's a little bit closer.

now what to do next

This year is the 50th anniversary of the Issigonis Mini, my favorite car.

I took this car apart, and it took me months and months.

An x-ray of this car will be exhibited at the Victoria and Albert Museum, and a light box will be attached to the car to illuminate the photograph.

I cut the car in two lengthwise down the middle, and that alone is a daunting task.

You go in and sit on the driver's side, and then there's a wall.

You can get out of the car and go around the outside, and there's a full-size light box that's attached to the car so you can see how it works.

I decided to apply this idea to the monuments of my life.

For example, when I got my first computer, it was a shock.

It's a Mac Classic. It was a small box.

I think it would be cool if you took an x-ray.

Other than that, I'd like to shift the focus from two-dimensional work to three-dimensional work.

i think this is a very good way

I'm also working on X-ray video.

Imagine if you could take an x-ray of these flowers growing up, it would be amazing.

That's all for today Thank you

(applause)

A study called the Danish Twin Study found that within biological limits, only 10% of the average human lifespan is genetically determined.

The remaining 90% depends on your lifestyle

The premise of the Blue Zone is this: If we can discover the optimal lifestyle for longevity, we have found a prescription for longevity.

But if you ask the average American what the secret to longevity is, they probably won't be able to tell you.

You've probably heard of the South Beach Diet or the Atkins Diet.

There is also a USDA food pyramid.

Oprah Winfrey says something

Doctor Oz says something too

In short, we are all wondering what is really good for longevity.

Should I run a marathon or do yoga?

Should I eat organic meat or tofu?

Should I take supplements?

What about hormones and antioxidants?

Is it fit for purpose?

what about the spiritual world? How are you socializing?

Our approach to discovering longevity was to team up with National Geographic and the National Institute on Aging to conduct a survey of four geographically restricted, demographically validated regions.

And then we sent a team of experts to systematically study the behavior of the people there and extract the cross-cultural factors.

I'll tell you what the result was at the end.

But first, let's debunk some common myths about longevity.

The first is, "If you work hard, can you live to be 100?"

That's wrong

Only 1 in 5,000 Americans will live to be 100.

very few chances

Even the fastest growing segment of the American population will not reach the age of 100.

The problem is we weren't designed for longevity.

We are designed for “next generation production”

reminds me of my college days

is my favorite word

What biologists call "next generation productive" is the age at which you will have children, and the next generation, the age at which your children will have children.

After that, the effect of evolution disappears altogether.

If it's a mammal, whether it's a mouse, an elephant, a human, or anything in between, it's the same story.

If you're going to live to be 100, you'll need good habits and luck enough to hit the genetic lottery.

The second myth is that there are treatments that can slow, reverse, or stop aging.

That's wrong

Come to think of it, there are many ways to age.

If you deprive your brain of oxygen for a few minutes, brain cells die and they never come back.

If you play too much tennis, the cartilage in your knee will be damaged and will never heal.

Your arteries get clogged, your brain builds up, and you get Alzheimer's

there are many reasons to go bad

There are 35 trillion cells in the human body, which is 1 trillion T, the unit that comes out of the government bond.

(Laughter) These cells are replaced every eight years.

And each time you switch, you take some damage. Damage accumulates.

will increase exponentially

It's like if we had a Beatles album or an Eagles album that we had back in the day and copied it onto a cassette tape and had a friend copy the tape, and as soon as the tape passed down generations, it would sound terrible.

the same thing happens in cells

That's why a 65-year-old is aging 125 times faster than a 12-year-old.

So if we can't slow or stop aging, what am I doing here?

As a matter of fact, scientifically speaking, the lifespan of the human body, mine and yours, is about 90 years, and women are a little longer.

But life expectancy in this country is only 78 years.

So somewhere we've left 12 years behind.

This is the year and month that should be,

Studies show that many of them are in the absence of chronic conditions such as heart disease, cancer, and diabetes.

To make up for those lost years, I think we should look at the places in the world that actually enjoy longevity, where 10 times more people than us live to be 100 or older, where life expectancy is 12 years longer, where the middle-age mortality rate is much lower than in this country.

The first Blue Zone was on the island of Sardinia, about 200 kilometers off the coast of Italy.

It's not the whole island, there are 1.4 million people on the island, but only in the highlands of the department of Nuoro.

Men live longer in this region, and there are 10 times more people over the age of 100 than in the United States.

And here, they're not just over 100 years old, they're very active.

A 102-year-old goes to work on a motorcycle, chops wood, and beats a 60-year-old.

(Laughter) It goes back to the time of Christ.

Bronze Age culture preserved

The land is so barren that most of them are shepherds, doing regular, low-intensity physical activity.

The diet is mostly plant-based, and food that can be taken to the mountains stands out.

That is, notamusica, an unfermented whole wheat bread made from durum wheat, cheese that is high in omega-3 fatty acids from grass-fed animals rather than omega-6 fatty acids from corn-fed animals, and wine with three times more polyphenols than any other wine known in the world.

called Cannonau

But I think the real secret is more in the way they organize their society.

And the most striking element of Sardinian society is its treatment of the elderly.

Here in America, social values ​​peak at 24, right?

see the ad

In Sardinia, the older you get, the more you value and the more you admire your wisdom.

In Sardinia, when you go to a bar, instead of a Sports Illustrated swimwear calendar, there's a "Centenarian of the Month" calendar.

Having aging parents close to the family increases life expectancy by four to six years, which has also been found to benefit the children of those families, who have lower mortality and morbidity rates.

called the grandmother effect

The second Blue Zone is on the other side of the world, 1,200 kilometers south of Tokyo, in the Okinawa archipelago.

Okinawa consists of 161 small islands

The northern part of the main island has the longest life expectancy in the world.

See the oldest female population in the world

The world's longest living people live without disease

exactly what we want

Live for a long time and die in your sleep, often after sex.

lived seven years longer than the average American

The number of people over 100 years old is five times that of the United States

That's one-fifth the incidence of colorectal and breast cancer, which are major killers in the United States.

Cardiovascular disease incidence is 1 in 6

The fact that there are so many long-lived people in a culture strongly suggests that there is something to be learned there.

what kind of life do you live

Again, a plant-based diet with lots of different colored vegetables.

And they eat eight times as much tofu as Americans do.

How you eat is more important than what you eat

They've got a little bit of an anti-overeating method, and that's a big problem in America.

Some of the observed ways are: Eating on smaller plates reduces calorie intake at each meal.

At the family-style dining table, instead of eating mindlessly while talking, you pick up your meal at the counter and bring it to the table.

They have an old saying that goes back 3,000 years, and I think it's the best food suggestion ever.

Confucius' words

It is said to be a "full stomach" diet method

Simply recite it before eating: Stop eating when you're 20% full.

It takes 30 minutes for satiety to travel from the abdomen to the brain.

And by remembering to stop at 80%, you're preventing yourself from feeling full.

But like Sardinia, Okinawa also has some social structures associated with longevity.

loneliness is the fast way to death

Fifteen years ago, the average American had three best friends

We are now 1.5

If you're lucky enough to be born in Okinawa, that means you were born into a society where you can have six friends that you'll keep with you for the rest of your life.

There's something called a "moai," and when you enter the moai, you take turns receiving a certain amount of money, so that there's always someone there to help you out when things go bad, when your child is sick, or when a parent dies.

In this case, these five women have been together for 97 years.

Average age is 102

In America, adult life is typically divided into two stages.

I have a period of work, and I'm productive during that time.

And one day, Bon, I will retire

And typically, either sit in an easy chair or go to Arizona to play golf.

The Okinawan language doesn't even have the word "retirement."

Instead, there's a word that encompasses all of life: ikigai.

Roughly translated, it means "a reason to wake up the next day."

For this 102-year-old karate master, his raison d'être is to develop karate.

For this 100-year-old fisherman, his raison d'être is to catch fish for his family three times a week.

So here's a question. The National Institute on Aging gave us a questionnaire for 100-year-olds.

One of the questions is -- are the people who created the survey culturally insightful --

"What is your reason for living?"

Longevity people soon figured out why they woke up the next morning

In the case of this 102-year-old woman, she said her reason for living was her great-great-great-grandchildren.

The girl and I are 101 and a half years apart

I asked her how it feels to have great-great-great-grandchildren.

She replied, "It looks like it's going to go to heaven."

i thought it was a great idea

The editors of National Geographic wanted us to find the blue zone in America.

So I searched the Minnesota prairie for a while and found a place with a very high percentage of people over the age of 100.

But it was because young people were gone

(Laughter) So we looked at the data.

America's longest-lived population found a lot of Seventh-day Adventists clustered around Loma Linda in California.

Adventists are conservative Methodists

They set the Sabbath from sundown on Friday to sundown on Saturday.

"24 Hour Sanctuary" They Call It

They follow five little habits that give them exceptional longevity when compared to others.

Here in America, the average female life expectancy is 80.

But Adventist women have a life expectancy of 89 years.

And the difference is even more pronounced for men, who live about 11 years longer than the average American man.

Now, this is a study that followed 70,000 people over 30 years.

It's a credible study, and it does a great job of demonstrating the rationale for the Blue Zone program.

This is a multiethnic society

There are also whites, blacks, Hispanics, and Asians.

What they have in common is that they all follow some kind of detailed lifestyle ritual throughout their lives.

They follow the exact biblical diet

Genesis 1:26 The Lord talks about beans and seeds, and some verses about green plants explicitly omit meat.

They strictly observe this sacred time

For 24 hours each week, no matter how busy they are, no matter how stressful their work is, no matter how much their children want to play, they stop everything and face God, engage in social life, and then go for outdoor walks that are directly connected to their faith.

The great thing about this is that it's not just happening once in a while, it's happening every week for the rest of your life.

None of this is difficult and costs nothing

Adventists also associate with other Adventists

So when I go to Adventist parties, I don't drink bourbon or go to shady places

They talk about their next outdoor walk, exchange recipes, and pray.

But they influence each other in deep and measurable ways.

This is the culture that gave birth to Erswaswaram

he is 97 years old

He's a millionaire, but when a contractor says he has $6,000 to build a fence, he says, "I'll take care of that expense myself."

And for the next three days, he kneads cement and builds pillars.

And as you can imagine, on the fourth day, he was in the operating room.

But he's not on the operating table, he's performing heart surgery himself.

At 97, he still performs 20 heart surgeries each month.

Ed Rollings, now 103, is a working cowboy who starts his morning with a swim.

On the weekends, we make a splash with water skis.

and Marge Deaton

I am 104 years old

Her grandchildren actually live here in the Twin Cities.

she starts her day with weightlifting

I also ride a bicycle

And then I'm driving my root beer-coloured 1994 Cadillac Seville down the San Bernardino Road to volunteer for some organization.

I've done 19 tough adventures

I'm probably the only person to ever bike across the Sahara desert without sunscreen.

But still, nothing's tougher than blasting with Marge Deaton

"I've never met a stranger," she says

So what do these three cultures have in common?

What are they all doing?

we aggregated it into 9

We actually did two more blue zone studies after that, and the common denominators were there as well.

First of all, I would like to argue against this, but no one is doing movement, or movement as we think it is.

Instead, their lives demand constant physical activity.

Those 100-year-old Okinawan women go to different places and sit and stand 30 or 40 times a day.

Sardinians live in upper and lower houses and climb up and down stairs

Going to the store, going to church, going to a friend's house, everything becomes a walk.

there is no convenient tool

No push buttons to do yard work or housework

If you want to make a cake batter, mix it yourself

This is also physical activity.

It burns just as many calories as going on a treadmill.

They enjoy conscious exercise, they walk a lot, it's the only proven activity that can prevent senility, and they do a lot of gardening.

i know the right way to do it to look good

All of these cultures have time to unwind

Sardinians pray Seventh-day Adventists pray too

Okinawans worship their ancestors

But rushing or stress triggers something called the inflammatory response, which is associated with everything from Alzheimer's to cardiovascular disease.

Taking a 15-minute break each day can turn an inflammatory state into a much less inflammatory state.

They all have a word for a sense of purpose, a term like Okinawan ikigai.

The most dangerous times in life are infancy with infant mortality and the years of retirement.

People in longevity regions know the meaning of life and live an active life, which adds seven years of longevity.

no longevity diet

Instead, I drink a little bit every day. It's not American hard liquor.

(Laughter) It's a plant-based diet.

It's not that I don't eat meat, I eat a lot of beans and nuts

They have a way of avoiding overeating, and they encourage them to leave the table at just the right time.

And the basis of all this is their relationships

We put family first and take care of children and the elderly.

There's a trust-based community where just four practices a month can add four to 14 years of longevity.

And the biggest advantage is that they belong to the right race.

From the moment I was born, I was surrounded by decent people.

A Framingham study found that if three of your best friends were obese, you were 50% more likely to be overweight.

What this means is that being surrounded by unhealthy people has measurable long-term effects.

Instead, if your friends' leisure time is physical activity like bowling, hockey, bicycling, or gardening, and if they drink a little but not too much, and if they eat right, socialize, and trust each other, then in the long run it will have the greatest impact.

Dieting doesn't help, nothing in the history of the world has worked for more than 2% of the population.

The exercise program usually starts in January and ends in October.

When it comes to longevity, there are no pills or other short-term solutions.

But when you think about it, your friends are the long-term adventures, and that's why it's probably the best way to add more age to your life, and more meaning to those years. Thank you very much.

(applause)

Throw away your preconceived notions, reptiles aren't scary at all.

Preconceptions hinder comprehension

By the way, if you think I'm a bit of a radical hippie conservationist, that's just a figment of your imagination.

(Laughter) Now, humans are the first species on Earth to multiply to the point of threatening their own survival.

You've seen and heard mind-boggling amounts of human misdeeds on Earth.

Doesn't that sound like a greedy child?

today i want to talk about water

It's not because we like water or any other fancy derivative, beer, wine, etc.

Of course, it rains out of the sky and flows into rivers, but there are other reasons.

As a child growing up in New York, I was obsessed with snakes, just as other children are obsessed with tops, marbles, cars, trains, and cricket balls.

My mother was a brave woman, and she was to blame, too. She took me to the New York Museum of Natural History and bought me a book about snakes, and that's how my career began.

It was just a series of excitement

Two iconic reptiles fascinated me from the beginning.

First is this lovely gavial

This crocodile, which lives in northern rivers, can grow up to six meters in length.This charismatic snake is a king cobra.

The real purpose of my story is to imprint these charismatic, majestic creatures in your mind.

I hope this will help people regain their interest in nature.

There are several reasons why the king cobra should be noted

What you're seeing here is a recent shot of a female king cobra nesting in a nearby forest.

This limbless animal rakes up leaves to create a mound in which it lays its eggs, which must be protected from 5-10 meters of rain for about 90 days before the tiny king cobras hatch.

She protects the egg, and in three months the egg finally hatches.

Of course, the majority will die.

My first encounter with a king cobra was in 1972, here in Karnataka, in a magical place called Agumbe.

Here you will find magnificent tropical rainforests

In a way, this first meeting was like a Maasai boy killing a lion to become a warrior.

my life changed 360 degrees

This is where my battle to protect nature began.

I finally settled on my current research and educational institution in Agumbe, where, of course, everyone is welcome.

Well, it's a place where people come together to learn about the biodiversity of this amazingly complex forest, to work to protect what's left of nature, and to protect water resources at the same time.

From the campsite where we are, we can also hear the sound of drums.

We had to get to know the locals first.

Children are the key here

Children are glued to snakes. Unlike adults, they aren't obsessed with reptilian fear -- contempt, loathing.

I'm just curious

Children are perfect

You can see the size of the snake by looking at this

This is an average king cobra and is about 3.6 m

I've actually spent two or three days invading someone's bathroom.

People in this part of India worship the king cobra.

We were also asked to "catch without killing"

Over the last three years, we've captured over 100 king cobras and released them near the forest.

But to discover the true secrets of this creature, it was necessary to put a tiny radio transmitter inside the snake's body.

That's how we can locate them and unlock their secrets, as well as where their hatchlings go and the amazing sights we're about to see.

This video was taken in Agumbe a few days ago

It was great to see this large king cobra eating a venomous viper.

I'm good at catching myself so I don't get bitten

Also, the king cobra only eats snakes.

This viper doesn't seem to be enough, right? It's like a snack.

(Laughter) I usually eat the bigger ones.

During the last breeding season, I had a rather strange and inexplicable incident: a large male king cobra bit a female, but instead of mating, she ate it.

We're still trying to figure out the evolutionary benefits of this behavior.

do other amazing things

Thanks to the communicator, I was able to see this male.

It is about 3.6 m, but when you encounter another male

They performed a wonderful ritual-like battle dance.

It's like mammals in heat, including humans, trying to find out the difference, but more gently, without biting.

It's just a wrestling match, but it's a great business.

How do we use this information?

What is the activity for?

The king cobra is indeed the root race of this forest.

We want the authorities to recognize and understand the need to protect this forest.

This work is part of that, by researching these wonderful animals that are the emblems of the rainforest, to conserve trees, animals and water resources.

You've probably heard of Project Tiger, which started in the early '70s, during the turbulent times of conservation.

It was kind of like being led by a very autocratic female politician, but she also had a passion for environmental conservation.

This is the era when Project Tiger began

And just like Project Tiger, we're focused on the king cobra, and we're working to conserve its habitat and everything else.

The tiger is a symbolic animal

The king cobra is the new symbol these days

All the great rivers of southern India flow from the Western Ghats along the western coast of India.

It releases millions of gallons of water every hour, provides drinking water for at least 300 million people, many babies are washed with this water, it also provides food for many animals, both domestic and wild, and produces thousands of tons of rice.

what are we doing with this water?

Well, if we stop this, we'll administer pesticides, herbicides, and fungicides to contaminate it.

Drinking this will put your life at risk

So to tell you the truth, it's because of big industries,

It's not just the river engineers' fault, it's our own.

I feel like I've found the best way to dispose of waste in water resources.

From now on, it's a story further north in India.

The Chambal River in northern India is where our camp is located.

This is the home of this majestic crocodile gharial

About 100 million years have passed since Galial was born on Earth.

They survived even when the dinosaurs went extinct

Garial has amazing features

It can grow up to 6 meters in length, but since it feeds on fish, it poses no threat to humans.

But because of their huge teeth, it can be a little difficult to convince people of the harmlessness of these creatures.

But our research in the early '70s showed that they were endangered.

In fact, as you can see from this map, they originally lived from the Indus River in Pakistan all the way to the Irrawaddy River in Burma.

Now it's just a few places in Nepal and India.

Today, there are only 200 gararians left breeding in the wild.

So, in the mid-'70s, the early days of conservation, we launched a government-sponsored project that allowed us to release 5,000 gharials into the wild by recovering eggs from the few remaining nests in the wild.

Immediately, I saw this scene

I can't believe I'll see a flock of gararians basking in the sun again on the river.

But complacency often breeds contempt

And, of course, there are other threats looming over the river, such as sand mining, tilling the land so close to the river bank that animals can't reproduce, and for Garial, the good news is in vain, and problems are piling up.

Hundreds of baby crocodiles can be seen in the Gharial rookery along the river, which is an amazing sight.

This photo is actually from last year.

But unfortunately, when the monsoon comes, there are dams and weirs downstream that wash it away.

Luckily trying to save Garial

There are other organizations, including the International Union for Conservation of Nature's Crocodile Task Force, the Madras Crocodile Bank, a non-governmental organization, the World Wildlife Fund, the Indian Wildlife Institute, the State Forest Department, and the Department of Environment.

But even this is not enough at all

For example, in the winter of 2007 and 2008, we found incredible mass deaths in the Chambal River.

Suddenly the river was flooded with corpses.

Why are you doing this?

This river is relatively clean

The water of the Chambal River looks crystal clear

In northern India, people generally don't drink river water, but locals do.

So to find out what happened, we brought together veterinarians from all over the world and worked with veterinarians in India to find out what happened.

I attended many of the autopsies on site.

We looked at every internal organ and tried to figure out why.

It turned out to be gout, which was caused by kidney failure, where uric acid crystals were forming all over the body, especially in the joints, making the garial incapable of swimming.

It's a painful way to die

South of the Chambal River is the polluted Yamuna River, the Sacred Yamuna River.

I don't like to be ironic, but it's true, this is one of the most polluted rivers.

This river flows through Mathura, Agra, Delhi, where most of the urban sewage drains into it.

So it's natural to think that toxins in the fish through the food chain killed the garial.

And even humans can be affected by toxins entering the food chain.

The river is the source of life for the local residents.

To answer these questions, we again turned to telemetry in technology, and in this case biology, and tracked 10 garials with transmitters, and we monitored them around the clock to figure out the toxins.

Chambal river is really an amazing place

It's a well-known place for those who know about bandits and militias, and there must be quite a few of them still.

In fact, Shekhar Kapoor is filming an amazing movie here called "The Bandit Princess."

You can see the magnificent nature of Chambal

The next problem is fishing

It's a rare habitat for thousands of migratory birds, including white-sided dolphins and several species of turtles, but the fishing industry is causing these problems.

And if river creatures like garial get caught in their nets and don't drown, some immoral fishermen cut their mouths.

White-fronted dolphins are becoming scarce and endangered.

Who will be the next victim? we?

We live on water resources, don't we?

Everyone knows about the Narmada River.The tragedy caused by the dam concept and grand plan forced the residents to move out and destroyed the water resources.It is no longer habitable.

Development goes crazy when you try to push the growth index into the double digits.

I don't know where this story will end Will it have a happy ending?

Climate change is going to upend theories and predictions.

I'm still working hard on this

We are also blessed with human resources in this field.

The truth is that powerful decision makers live in urban areas like Delhi in mansions and don't run out of water, and that's a good thing.

But there are millions of people in poverty in the areas around the river.

their future is bleak

So we launched a cleaning project for the Ganges and Yamuna rivers.

We've poured hundreds of millions of dollars into this project, but we can't show you the results.

Political will also comes up

It has awakened many people in the mass death of Garial.

The government saved us a lot of hassle, so we were able to bring in veterinarians from abroad.

It means you can change

But if you look at the Yamuna River, the Gomachi River in Lucknow, the Adira River in Chennai, and the Muramta River in Pune, you can see what we can do to the rivers, it's sad.

But ultimately, we have the power to make a difference.

Businesses, artists, conservationists, working with good neighbors, we can restore our old rivers.

And the last thing I want to say is that King Cobra is watching over us.

Garial is also watching over us from the river.

It's a mighty river totem

Will follow you in your dreams until you do the right thing

Namaskar (thank you)

(Applause) Chris: Thank you.

Most people have a fear of snakes

I think there are quite a few people here who would be happy even if the world's last king cobra died.

Are you going to talk like this too?

How do you get empathy?

Romulus: Well, I'm taking a conservative approach. I wouldn't say, "Let's hug a snake."

It's not a teddy bear

But they also have an innocent side

When a king cobra says "whoosh", most people will say "Hey hey he's mad"

From my point of view, the snake is threatened by a dangerous human animal.

I hope you understand because this is true

(Applause) Chris: That snake eating scene was amazing.

That kind of video is the first in the world, isn't it?

Romulus: Yes, we also met for the first time this time.

Like I said earlier, it's like a snack, right?

They usually eat ratsnakes, big ones, and sometimes cobras.

But the guy I'm tracking right now lives deep in the woods.

King cobras are often spotted out looking for ratsnakes in farms around town.

This guy seems to specialize in vipers

One of us is from Maharashtra, and he says, "I'm looking for 'nasha'."

(laughs) 'Nasha' means 'intoxicated state'

This guy gets a rash every time he eats a viper

(laughs) Chris: Thank you Rom.

(applause)

(Play) (Applause) (Play) (Play) (Applause) (Play) (Applause) (Applause) Herbie Hancock: Thank you.

Marcus Miller and (Applause) Harvey Mason. (Applause) Thank you, thank you. (Applause)

There's one thing I've learned over the last year, and it's very ironic, that when you publish a book about "slow," you get "busy" with publicity.

Recently, I've been interviewed by various city broadcasters to summarize the contents of the book.

Because everyone wants to learn how to slow down quickly.

On CNN, makeup took more time than appearance time.

because this is reality

Of course it's bound by speed

Like an obsession, there is a tendency to cram in a limited amount of time.

Everything in life is a race against time

And I've written about it in my book, Carrie Fisher says that even instant fun takes too long. (Laughter) When we try to improve something.

take the method of speeding up

call fast read fast walk fast

Even dating has a trend of fast dating

Even concepts that are slow by nature tend to be fast.

When I walked past a sports club in New York, they advertised a new course.

it's speed yoga

Perfect for busy people who want to do yoga but only need 20 minutes.

These extreme examples are laughable as jokes.

What we have to watch out for is hidden in our fast-paced everyday life.

So immersed in a culture of speed that we don't realize the costs of redemption - costs in every aspect of our lives, in health, in food, in work, in relationships, in the environment and in society.

It sometimes appears as a warning to those of us who are rushing to live without living an abundant life.

This often manifests itself as a disease

burnout, body rejection, or

Even when you're with someone, you're pressed for time, you lose patience, you lose your composure, and your relationship may suffer.

My warning came when it was time to put my child to bed, and I was reading "Cat in a Hat," and I couldn't resist reading it slowly.

I skip places, sometimes entire pages, and my son remembers the whole book, so we argue.

The most relaxing and important part of the day, the act of putting my son to bed as a father, turns into a fight, caused by a mismatch between my speed and my son's slowness.

This problem has been going on for a while, and I was looking at a newspaper article about time-saving tips.

There was a book called "Bedtime Stories in One Minute"

It's a title I don't really agree with now, but my reaction at the time was

Wrong "What a great idea"

"This will help me get to bed early."

But, thankfully, it struck me as odd, and when I stepped back and thought about it, was it really necessary?

Should I cut down on time with my son and focus on speed?

I was on a plane at the time, but I put down the newspaper and didn't do anything for the first time in a long time.

I thought about it

I had a decision before I got off

Investigate the speed biased society and how it affects us

Two points came to mind

First, how did speed become overemphasized?

Second, is slowing down possible and acceptable?

The first reason that comes to mind when you think about how it came to be speed bias is

Urbanization, mass consumption, working conditions, technological innovation.

But if we don't let these things fool us and think about the more root cause, we get to the core of the problem: the concept of time.

In some cultures time is

thought to circulate circulate slowly

The concept of being constantly updated and renewed

Time is linear in the West

Time is finite and constantly lost

If you don't use it, it will be lost

The concept of "time is money"

Psychologically we are creating an equation

time is finite and precious

speed up

try to do more in less time

We replace all of our everyday life with a race, and that race has no finish line.

Is it possible to move away from this way of thinking?

Thankfully, it's possible. There's a global backlash against the idea that faster is better and busier is better.

It's something that was unthinkable before. Societal conventions say that slowing down is bad, but sometimes that's not the case.

Eating, dating, exercising, working, and living

The phenomenon of encouraging people to slow down in various situations can be called the global slow movement.

So let me quickly tell you what the slow movement is all about. First of all, food.

It started in Italy and spread all over the world, and now has 100,000 members in 50 countries.

It's based on the message that you can get more joy and health by growing, cooking and eating food at a slower pace.

The popularity of organic farming and the resurgence of the agricultural market also show that people want to move away from eating and cooking during busy time slots.

I want my slow rhythm back

An outgrowth of the Slow Food movement is the Slow Cities movement, which started in Italy and spread across Europe.

It's a movement to redesign the urban landscape to make it easier for residents to slow down, rest and connect more.

Reduce traffic, add benches, increase greenery, etc.

Activism for Slow City ends up being a philosophical manifesto.

It's a declaration to the townspeople and to the world that slow is important in the 21st century.

Even in medicine, many people are disillusioned with stopgap treatments.

And we're starting to look at slow, holistic forms of therapy that complement or replace them.

So many of these treatments are inconclusive, and I personally don't think coffee enema is going to be popular.

But other methods, like acupuncture, massage and relaxation, have some effect.

Many famous medical schools are trying to learn how these things work.

Sex is also busy and there are many sex

Even when I cum recently... no, not that

In Oxford, I saw a magazine in the store, and the cover of the men's magazine said, "How to make it work in 30 seconds."

Even sex is a race against time

I'm not saying fast sex is bad, but I think there's a lot to be gained from slow sex.

Emotionally and mentally, we feel more comfortable by having a deeper contact with you.

can get

Slowhand is important, as the Pointer Sisters sing.

Sting was ridiculed when he mentioned tantric sex a few years ago, but now more and more couples are going to workshops and wanting slower sex.

Italians are good at finding pleasure, but the slow sex movement has officially begun

also about labor

Working hours are getting shorter in many countries, with the exception of North America.

Europe has found that working shorter hours not only improves quality of life, but also improves work efficiency.

The 35-hour workweek in France was certainly inflexible and premature.

Nordics are proving that it's possible to have a good economy without being a workaholic.

Norway, Sweden, Denmark, and Finland are now ranked among the top six countries in the world, working hours that make Americans cry with envy.

If you look at the micro level, not the country level, many companies are encouraging their employees to work less hours or take more breaks, turn off their phones and computers, and refresh themselves between work and on weekends to encourage creative thinking.

Not just adults, even children are overworked.

I'm 37 now, and my childhood ended in the mid-'80s, but today's kids are incomparably busy with lots of homework, tutoring, and extracurricular activities.

I received heartbreaking emails on my site from young people who said they were exhausted, asking me to convince their parents to get them out of a life of full speed.

But now, several towns in the United States are cooperating on blackout days to encourage families to spend more time with their families.

The same is true for homework. In the developed world, we've been addicted to homework for years, but homework bans are on the rise.

In Scotland, a prestigious private preparatory school recently banned homework for under-13s.

The principal persuaded them, and as a result, math and science scores were up 20 percent from last year's average.

Also, a prestigious university that has become synonymous with gifted education has begun to notice a decline in the competence of its students, who are doing incredibly well and doing more extracurricular activities.

But no inspiration, no imagination, no dreams, and the big names like the Ivy League, Oxford, and Cambridge are telling parents and students to slow down a bit.

Harvard sends letters to freshmen telling them that they can get more out of it by slowing down and learning and savoring every single thing.

even if you don't do anything

He also says he can learn, and the letter is entitled "Slow Down!"

When I see messages like this, it reminds me that by reducing, we learn more, and by slowing down, we get better, but it's not easy to slow down.

While doing research on the effectiveness of slow, I was caught speeding at a Slow Food restaurant.

I was on my way to dinner, which was in Italy.

If you've ever driven on the Italian highways

I hope you can see how fast I was going.

(Laughter) Why is it so hard to slow down?

there are many reasons

speed is fun sometimes

Adrenaline is released and it becomes addictive

Metaphysically, speed is a way to protect yourself from big, deep questions.

Don't think too much about health, happiness, children's growth, national politics, etc.

is doing

Another big reason involves cultural taboos, and in our culture, slowing down.

I thought it was a bad thing

slow is synonymous with laziness and laziness

"He's slow" is synonymous with "idiot"

The purpose of the slow movement is to challenge taboos.

I was stuck in traffic for three and a half hours on London's 25, which is a bad slow.

But the new way of thinking is looking at something revolutionary: good throws.

A good slow is turning off the TV and eating slowly with the family.

Also, in my job, I spend a lot of time looking at the problem from different angles.

Also, simply slow down and enjoy your life.

The thing that pleases me the most after I publish my book is the response.

I knew that a book about slow would resonate with a new generation, but it got picked up by the trade press, and big companies and organizations were interested.

The top people of the organization are aware of the problem of overemphasis on speed and feel the need to slow down.

And not only in developed countries, but also in emerging countries that are trying to join the ranks of developed countries, such as China, Brazil, Thailand and Poland, the idea of ​​the slow movement has resonated with many people and is being discussed in the media and among the public.

They feel that the Western world is something they can emulate, but also something they don't.

After all, the question that stands before us is

Is it really possible to slow down? The answer is clearly yes.

As evidence of that, I myself have recovered from my speed addiction.

I still love speed.I live in London and I'm a journalist, so I like the adrenaline that comes from being busy.

I like sports that emphasize speed, such as squash and ice hockey.

But for the last few years, I've also coexisted with the turtle in my heart.

(Laughter) I try not to blindly carry on like I used to.

No more speed bias

I can no longer feel the feeling that time is approaching moment by moment.

I can see that the rest of the day is approaching

As a result of these, I am happier, healthier and more productive.

Life can feel alive instead of racing

And above all, I think the success is that human relationships have become deeper, richer and stronger.

You'll always know if things are going well when you put your child to bed, which is where the return to slow began, when you walk into your child's room at the end of the day.

I don't wear a watch, I turn off my computer, I read books at my child's pace

Children have their own pace 10 minute bedtime stories

Read at a child's pace

All of a sudden, he starts saying, "I had a bad day at school today," and

the two of us talk about it

I used to hate reading books because it was on my to-do list and it took a long time.

Now it's a very important time as a reward at the end of the day

It's like a happy ending in a Hollywood movie, but a few months ago, I packed my bags for a book tour.

When I was waiting for a taxi on the first floor, my son came down from the second floor with a handmade card.

Two cards are fastened together and your favorite character is pasted on the front.

When I received it and read it, it said, "With love to my father."

It says "Thank you

I wonder if it's a good luck charm for a book tour."

"No, because your father is the best book reader in the world."

It's important to slow down

thank you very much

Hi, those of you who have never seen a dancing bear before - this is the dancing bear.

In 1995 we launched a two-year research program to explore the situation on the ground.

The reason is that this practice was depleting sloth bears in the wild.

The Kalandar are a Muslim minority who have lived throughout India since the 13th century.

We set out to find out

This is footage from a hidden camera in a button

Pretending to be buyers, we infiltrated

Witness this scene in Karnataka

Sloth bear cubs were being captured and traded across India.

These bears are sold for about $2,000 each, and they're used to make bear's paw soup, and they're later trained to work as the dancing bears we saw earlier.

Sadly, the people of Kalandar made their living from this bear.

This couple is only about 18 years old

I can see that you already have four children.

And their economic situation and livelihood depended on this bear.

So there was a need for a realistic and sustained response.

Upon further investigation, it became clear that this practice was illegal.

They could face up to seven years in prison if caught by police authorities.

And what they did to the bear was amazing.

that shouldn't be allowed

mother bears are usually killed

Children are taken away

Bear cubs had their teeth pierced with iron bars

A hot iron needle is pierced through the nose and a hole is made.

So we needed something else to change their habits and make them live without relying on bears.

He's Bitukarandar, our first collaborator.

I had no confidence in this experiment.

But I managed to convince him

We said, "I'll give you this money.

Let's see if we can do something else." We had the bear handed over to one of four protected areas.

He now makes a living selling drinks along the highway.

i have a phone

Since then, I have never looked back on my life with bears.

This is the sadua boy who handed over the bear

Now he runs a cattle feed and grain shop near Agra.

I don't look back on the past anymore

We provided a three-wheeled rickshaw

We install carpet weaving machines and provide vocational training opportunities for women.

Women were barred from leaving the community to work in the mainstream of society, so we fixed that as well.

Speaking of education, no child went to school

Education was limited to Islamic education

They didn't let me go to school because it was considered an extra income.

So we support 600 child education programs

made their future more fruitful

Bears, of course, were also rescued.

this is when the bear was rescued

This is after receiving care

The first aid center also has veterinary facilities.

In 2002, there were an estimated 1,200 dancing bears.

we have rescued over 550

We could promise a better future for both man and bear.

I have some big news to announce today that we will finally be accepting the last dancing bear in India into our facility next month.

(Applause) India will end this cruel practice that has existed for centuries.

People can live with pride

The people of Kalandar will also rise from this ruthless and barbaric past.

Of course, these beautiful bears can also be released back into the wild.

No more bear poaching

And both human cubs and bear cubs can live in peace Thank you

(applause)

There is a good word for contagion

It's my favorite word, even in the age of H1N1.

Laughter is contagious, passion is contagious too

Inspiration is contagious

Hearing great stories from great speakers

The important thing I've noticed is that the speakers are infected with the "I Can" bug.

So the question arises, why only these people?

In a country of over a billion people, how many people have

Was it just luck or chance?

Can't we systematically and intentionally infect all of us?

I'm going to share my experience for the next eight minutes.

I got infected at the age of 17, when an adult, then a design student at the time, believed in my ideas and argued over many cups of chai.

It was a wonderful feeling, and I was amazed at how contagious the feeling was.

I also realized that it would have been better if I had been infected when I was 7 years old.

When we started Riverside 10 years ago, it was a laboratory, experimenting with ways to infect the spirit of "I Can."

What we found is that by learning in the context of the real world and not making a distinction between school and society, children can learn the following: awareness, knowing the difference, being able to change themselves, confidence, leading to change.

This gives students a sense of fulfillment

Students will grow further and be freed from feelings of helplessness.

Speaking of course, it's just like that

So let me show you some of the usual Riverside ways.

A little bit of background. When the fifth graders learned about children's rights, the first thing they did was make incense, and eight hours of hands-on child labor changed the children.

See how children change and develop a firm belief in going out into the world and making a difference.

(music) It's the work of rolling incense

My back hurts in two hours, and the kids have changed.

And then I went out into the streets and told everyone that we had to end child labor.

Look at Mr. Raghav, as soon as he realizes that he has changed the way adults think, his expression changes.

Something you can't experience in a classroom

Through this experience, Raghav is awakened to "I Can" by reaching what he is doing from what his teacher taught him.

You can encourage and nurture it

But some parents say, It's all good to be a good person, but what about math, science, and English?

I want to see the scorecard

Let me show you the definitive data.

When children feel confident, they don't just behave better, they actually do better in school. According to tests taken at 2,000 schools across the country, Riverside students outperformed the top 10 schools in India in math, English and science.

Well done, the time is ripe to expand this practice outside of Riverside.

On Independence Day 2007, August 15th, the Riverside children went out to spread the word across the streets of Ahmedabad.

It's not just Riverside anymore

It's every child's problem, so I took the plunge.

I visited city halls, police stations, newspapers, and offices, and appealed to them, "When will children wake up and realize their hidden potential?

When do children become citizens?

Please pay attention to your children.”

what was the response from the city

Since 2007, every other month the city closes a main street to make it a playground for toddlers and children.

The city tells children “You can”

It seems to have spread to Ahmedabad

Video: (Hindi) High Street closed to traffic

Traffic cops and city hall helped

full of children

Skating and performing in the open air

play, free for all children

(Music) "Approach" is an organization that has been active for children for a long time.

We are planning to expand the activities to each area in the city.

(music) City officials give free time

Ahmedabad now has the world's first pedestrian crossing for children

If the city gives to the children, the children will repay the city in the future.

(music) So Ahmedabad became the first child-friendly city in India.

You see the pattern, first 200 people in Riverside.

Then expanded to 30,000 people in Ahmedabad

Now it's time to expand to India

Again, on August 15th, 2009 -- again this time on Independence Day -- we used the same process to empower 100,000 children to say, "I can."

The procedure? We designed a simple kit, translated it into eight languages, and delivered it to 32,000 schools.

The task given to the children is a simple one

Pick any idea that interests you, spend a week working on it, and change the lives of a billion people.

They did, reports of change flooded in from all over India, from Nagaland in the east to Junjunu in the west, from Sikkim in the north to Krishnagiri in the south.

Various solutions have been devised

From loneliness issues to patching potholes to alcohol poisoning... 32 children in Rajasthan have caused 16 child marriages to be called off.

it was really unbelievable

Again, when adults trust children and say, "You can," children will do it.

Infects and spreads across India

Rajasthan's countryside

I want my parents to be able to read too.

This is the first attempt to appeal to parents about the importance of literacy through an assembly held at a local school and an open-air play.

the voice of the parents

this program is great

It's great to be able to teach children to read and write

I'm glad the children did this campaign

From now on, I will continue to believe in the power of children

the kids did it

school in hyderabad city

This is number 581

You start at number 555

Male and female students in Hyderabad have stepped out of school to take on this challenge and do it.

Children are still young and they are good

Both the region and the city will become cleaner.

It blew me away. I didn't expect children to think so much.

Thank you, everyone

The items we have prepared are wonderful paintings, and the proceeds from the sale will be used to purchase hearing aids.

Are you ready?

is it ok

is it ok

The declaration of empathy started here

Aozora Theater Auction Petition

This is how you make a difference in your life

it's unbelievable

Can you stay sane?

Can you not feel this passion, energy and excitement?

It's a cliche, but finally, I'd like to touch on Gandhi, a mighty great man who is a symbol of change.

70 years ago, the power of "We can" spread from one man across the country.

Who's job is it to pass it from these 100,000 children today to 200 million Indian children?

The preamble to the Constitution of India still states, "We the people of India"

yes there is no one but us

there is no other time than now

As I said, there is a good word, contagion.

thank you

(applause)

2008 Cyclone Nargis hit Myanmar

millions of people were in dire need of help

The United Nations wanted to dispatch personnel and supplies to the disaster area,

There were no maps, no roads, no hospitals, no way to reach the victims.

When you look at a map of Los Angeles or London, it's hard to believe that in 2005, only 15% of the world was mapped with detailed geographic symbols.

The United Nations has run into this problem head-on, lacking detailed maps for the majority of densely populated areas.

but help was coming

At Google, 40 volunteers used new software to map 120,000 kilometers of roads, 3,000 hospitals and evacuation sites.

It took 4 days to create the map

What software was used to create the map? that's google map maker

Google Map Maker is a technology that helps us map what we personally know about local conditions.

This software has been used to map everything from roads, rivers and schools to local shops, video stores and small corner shops.

maps are very important

Nobel laureate Hernando de Soto also recognized that the key to economic growth in many developing countries was the development of vast tracts of untapped land.

For example, in India alone, $1 trillion in real estate is left untouched.

In the last year alone, thousands of people in 170 countries have pieced together immeasurably small pieces of information to create maps that cover details never before thought possible to visualize.

And this was made possible thanks to the driving force of our users around the world.

So let's take a look at some of the maps that are still being produced by users right now.

As we speak, maps are being made in 170 countries.

This is Bridget of Africa who registered one road on the map in Senegal

A little closer to home is Charua for registering N.G. Road in Bangalore.

This is the result of computational geometry, gesture recognition and machine learning.

This is a triumph of thousands of users in hundreds of cities and small edits by each individual.

This is an invitation to the unmapped 70% of our planet.

welcome to the new world

(applause)

I'll tell you a secret

The best way to reveal a secret is to tell no one else.

(Laughter) Secret: This year, I'm going to use PowerPoint.

(Laughter) With this, you don't have to do this.

just press the button

[Are you sure you want to continue the hidden command request?] (Laughter) No... Yes

[Are you really sure? ] (laughs) Yes, just change it!

[Are you sure? It's a big decision, why don't you reconsider? ] Is Bill Gates here?

Change! Come on! What did you say? [If you don't change your attitude, I'll destroy this guy in an instant]

(Laughter) Oh ok

It's not my slide, but that's okay.

(Laughter) As you can see, these are all maps.

Maps are important tools for communicating information, all the more so because of their human cognitive abilities.

every formula is a map

Now, humans make maps of places, and that seems like a bit of a waste of time to places they seldom go.

This is of course a map of the moon

there are some nice names

Tranquilacaritis My favorite is Frigolis

what are you thinking Is it frigoris?

What is frigolis? name is important

frigoris? This is the moon. Humans might live there someday.

See you in frigoris no

(Laughter) That's Mars, and it has many different names.

By the way, this is all called the International Astronomical Union.

It's named by a real group.

This is an excerpt from their actual book

Ladies and gentlemen, here's an example of the name they chose.

Let's take a look at some Bolotnitsa

This is, of course, the name of the Slavic swamp mermaid.

(Laughter) I don't think the very concept of a mermaid fits in with the idea of ​​a swamp.

(Laughs) "Hey! A mermaid came out of the swamp! It's amazing!

It's Borotnitsa time! ”

(laughs) Dojabran Lava Flow

If this is difficult to pronounce, what is it that is easy to pronounce?

(Laughter) These are the things kids are studying. There's a word called fructus.

(Laughter) Having a dyslexic kid would ruin his life.

(Laughs) "Mama, it's Fructus!"

Hikuleo Lava Flow

It's a little easier to say, Hikleo, I think he looks like Leonardo DiCaprio, he's got 17 syllables.

This is Tongan underworld goddess

One of my favorites is the Itoki lava flow, the Nicaraguan goddess of insects, stars and planets.

If you were the goddess of the stars and planets, why not leave the insects to someone else?

(Laughter) "No, the stars are very busy.

Can I have some insects, please? thank you for being so kind

Spiders too, please. They're not insects, but I don't mind.

Leave monkeys and chimpanzees with fur."

(Laughter) Maybe one day humans will go to Mars, and that would be unfair to the people who live there, living in a place with such a weird name.

Because if you go to Mars, you might live on Hellespontica Depressio, which must be a cool place.

(Laughter) I want to go from Depressio to Amazonis.

go to Chrysoceras

(laughs) Turn left on Taimiamata.

Then go to Niliakaslax, not a bad name.

niliakaslax yes practice surikka tikka bakas

Let's just say it's a cool name

So much for ranting about weird astronomical terms

And of course Arnon and Toth

there should be ads

This is from the rules of the International Astronomical Union, but the international organization is

It's obvious, because there's also French.

Le Union Astronomique International For Non-French Speakers

translated the rule book

"Nomenclature is a means

The first thing to keep in mind is clarity, conciseness and unambiguousness.”

And the Dojabran lava flow fits perfectly into that idea.

(Laughter) Concise, Goat Goddess, very concise.

Dojavran Lava Flow

"Frank, do you know 'Doja Blan'?"

"Oh goat goddess, right? In Abkhaz

(laughs) I see."

"I'm going back to the 'Swamp Goddess' now, so could you call me back later?"

(Laughter) I also highlighted interesting passages from real documents.

Anyone can suggest a name change

Thank you dear people of the earth

I have to change this as soon as possible

Here are the actual names of the people who work here

I investigated further

This is also the name of someone who works in this group.

As you can see, they don't use their first names.

(Laughter) People naming celestial bodies aren't using their first names.

Something is wrong

(Laughter) Is it because his name is really Jupiter Brunk?

(laughs) Ganymede Andromeda Baba?

(Laughter) Mars Ya Marov?

I don't know, but it's a document worth investigating, definitely.

Some cartographers use their own names

I summon a witness, Eugene Shoemaker, a hard worker who decided as a boy that he wanted to make a celestial map.

It must have been an interesting day for the Shoemakers family.

"Mom, I want to make a map."

"That's great, Eugene. Just make a map of Toronto."

"No, I want to make a map of the celestial bodies."

"Oh, go back to your room."

(laughs) Martian, Venusian, Jupiterian

Where there are no people, there are names

i think it's silly

no Jupiterian

Let's get back to that.

(Laughter) (Applause) Einstein, Niels Bohr, Fermat's Last Theorem, and I'm not sure if that's James Coburn or Richard Harris.

(Laughter) It's definitely one, but I don't remember which.

The point is that numbers are maps.

Are the secrets of the universe hidden in numbers?

that is the subject of this presentation

By the way, this is a raw picture of Saturn, unedited, just beautiful.

It's so beautiful that it makes me want to stop laughing and talk about my love for this planet, and Saturday is also based on Saturn.

Formulas relate shapes to numbers

This is Euler, and his formula is one of the ideas that led to the beginning of string theory.

(Laughter) He was also famous for having no body.

(laughs) How did you come up with that? you would think

I had no body and my head was floating in the air.

Euler is coming Boone

(Laughter) That's the icosahedron, one of the five sacred solids, an important shape.

Look again at the icosahedron

There are two regular dodecahedrons

Yesterday, I worked on a regular dodecahedron in my room.

What I'm showing you are five sacred solids, three-dimensional figures.

Not 5 divine salads

(laughs) Blue cheese lunch oil &amp; vinegar

Thousand Island and My Recommended House

let's say what's really important

Importantly, these shapes are duals of each other.

In this way, the icosahedron is pulled into the dodecahedron, and they fuse together.

In brane cosmology, if the universe is a regular dodecahedron, this might be a good map.

This is what I am going to talk about

what a coincidence

On October 9th, according to Jean-Pierre Luminet of France, information obtained from space probes suggests that the universe may be a regular dodecahedron.

This is a normal wave pattern

And what they saw in the distant microwave background was these strange waves.

I suspected that it wouldn't apply to a flat universe.

And when you extrapolate from that and put it into the big picture, you get a picture of what the primordial universe might have looked like.

Judging by that, it looks like a cheeseburger.

(Laughter) I think the universe is either a dodecahedron or a cheeseburger.

It's a win-win for me

I'm happy if you are good

(Laughs) It seems better to hurry

I put this picture in because just as intellectual ability is important, without heart and love, it's all meaningless.

I think that this is truly beautiful

(Laughter) Except for the creepy guy in the background.

(Laughter) Let's go back to that presentation. Kepler, one of my great heroes, I realized that the five cubes I mentioned earlier were related to celestial bodies, but I couldn't prove it, and I was driving myself crazy.

However, it led to Newton's discovery of gravity.

So maps of things lead to a systematic understanding of the universe in which mankind emerged.

Now this is Isaac on a Vietnam stamp.

(Laughter) I'm not trying to tell Vietnamese people that they should get an art education, but...

(Laughter) I wouldn't say it's a good picture.

(Laughter) The Nevis people are a little bit better. Look at Isaac Newton.

I'm cool

(Laughter) How handsome

But I'm disappointed in Nicaragua

(Laughter) Copernicus is like Johnny Carson, which is really weird.

(Laughter) I don't understand it at all.

Again, they look good, don't they?

Isaac looks like a rock star

this is terrifying

the republic of sierra leone

A little baby is floating here

(Laughter) Well, you don't need to comment.

Newton was a member of the Moody Blues...

(Laughter) When did that happen?

(Laughter) This is, of course, a little bit different. You have five apples.

They're doing research in areas that aren't necessarily relevant.

But 5 is a good number, of course.

Ecuador, my friend Kepler, as you can see, they call them fans.

(laughs) Fan? no it's johannes i'm not a fan

I wouldn't say Carlos Chaplin, you're wrong.

(Laughter) Rene Descartes Again, the people of Grenada are far more disgusting than you can imagine.

It's so gloomy, there's a child leaning at your feet, and there's a little ghost flying around.

(Laughter) Of course, this is a Cartesian coordinate system.

Again, this is Sierra Leone

Again, it shows how numbers relate to space, to shapes, to maps of the universe.

That's why we exist to understand and love each other.

Descartes (Laughter) Put the cart before the horse (Laughter) Now Monaco turned Descartes upside down.

Monaco is a problem for me, let me explain why.

Here's a map, all there's is a casino

(Laughter) I can't even think about why Franklin Roosevelt is drawn.

You must have been in Hellespontica de Pressio recently.

(Laughter) This is the flag of Monaco. Ladies and gentlemen, this is the flag of Indonesia.

(Laughter) (Applause) I don't know how this happened, but it's not right.

Monaco will say "what are you saying"

"Aren't the two completely different?

ours is redder and longer

They stole it! They stole it! ”

(Laughter) Bode's law was not for him, but for a man named Titius.

The reason I bring this up is because the law doesn't work

This is Jude Law, and his recent movies haven't gone well.

(Laughter) It just shows that things can be misunderstood.

I wonder if the photographer said, "Mr. Jude, can you touch my teeth? Yes, that's how it is."

Just a little tip, don't touch your teeth when you're taking a promotional photo or anything like that.

(Laughter) Prime Gaussian is one of my favorites.

Golden Section, I've been fascinated by this since before I was born.

I know a lot of people get scared when I say that, but that's what I'm trying to do.

Fibonacci numbers are involved in the golden section, because Fibonacci numbers and the golden section, if you ask me, reveal facts about measurement.

If Fibonacci had taken Paxil, (Laughter) that would have been the Fibonacci sequence.

"10 milligrams 20 milligrams"

"Leonardo, dinner is ready. Put down the book and take your medicine."

"Yes mother"

(Laughter) Where is this story going? That's a good question.

This is a theory I started 27 years ago.

If we could quantify the laws that govern the wonders of the universe we live in, we should be able to use reverse engineering to deduce from the numbers the fundamental structural elements of the universe.

That's what I did 27 years ago, and I started thinking.

tried to build a particle accelerator

(Laughter) It didn't go very well.

So I thought the calculator would be a metaphor.

Like shattering atoms, numbers can be split.

That's what I did, and I found Molyd.

Mollid, I believe, is the proof of string theory.

The molyds are the nodes on the strings, the patterns and the relationships 27 37.

Here is the first diagram I thought of

Even if you don't like numbers, you can see the beauty of symmetry.

The numbers from 1 to 36 are divided into 6 groups

Symmetry and pair

All the top sums will be 37

All bottoms are 74

I won't explain the more esoteric relationships here, because they'll say, "Go back to the lava flow story."

(Laughter) Circle of fifths and acoustic harmony, geometric symmetry.

there should be a relevance here

Again a fusion of Cartesian forms

If you circle it, what pattern will it make? Yes, it's a red system.

Ladies and gentlemen, this is not a made-up story.

(Laughter) It doesn't work like this: "If you put some triangles inside a circle, you get symmetry, and everything should end up like this.

this is beyond anything anyone can make up

This is the orange system (laughter).

(Laughter) Here are the multiples of 27.

The numbers summarize the shape, even if it's a circle of 9's or a circle of 36. That's ridiculous.

(Laughter) That's the green system. It's halfway between 18 and 19.

Blue system Violet system All available

(Laughter) Look, you can't make it up.

(Laughter) It's not falling from the tree, ladies and gentlemen.

27 years of my life

(Laughter) I'm presenting it at TED because

Because if aliens come, I want them to come here.

(Laughter) "I'm going to destroy the earth....

(Laughter) Last year, I found a system that follows this one, which finds the mathematical possibilities of Calabi-Yau manifolds, without the need for these tiny hidden dimensions.

It makes sense mathematically, but I don't think it's God's work.

It doesn't look sexy or elegant, it's hidden.

I don't like it being hidden. I want to see it.

(Laughter) I found the other pair to be symmetrical, even though unlike the top one, the symmetry is split.

i can't believe it's funny

am i the only one watching this

(Laughter) Look, I didn't draw it in just one day.

Draw a table like this at home

It has to be precise, with measurements and increments.

By the way, these are maps, not stamps.

maybe someday

(Laughter) Okay, this is the important part. The golden ratio is ridiculous.

Look at this, it has the golden ratio built in.

I looked and reviewed

It's starting to look like a planet

Go to Jet Propulsion Laboratory

saw the orbits of the planets

We found 18 examples in our solar system.

I haven't told anyone yet. This is the first time, and it may be historic.

(Laughter) Kepler was right.

(Laughter) Midway between 18 and 19 Molyd, 0.618 is the golden section.

Multiplying 18.618 and 19.618 gives 365.247

That's only 0.005 of the number of days in a year.

I can't make up this

(laughs) Thank you.

(Applause) Thank you.

(Applause) Thank you.

(applause)

i love fashion

I fall asleep every night thinking about what I'm going to wear tomorrow.

Clothing transforms, contours, and inspires confidence.

No matter how you think about fashion, I'm sure that just wearing your favorite T-shirt or jeans will make you feel reborn, feel better, feel more confident, feel more like yourself.

When I was young, I admired Betsey Johnson.

I thought you had the same crazy, fun spirit as me.

I wanted to be a fashion designer, and I've worked in the fashion industry for many years, and I'm very happy with it.

I am married and have three children

But sometimes life can be heartbreakingly ironic.

Our second child, Oliver, was born with muscular dystrophy, a rare disease.

In addition to affecting muscle strength and lung function, muscular dystrophy causes physical deformities that make daily activities more difficult than others.

Since Oliver can barely walk at the age of two and a half, he needs an ankle brace for stability.

My son was developing so slowly that he had to have a feeding tube in his face.

My son and I endured being stared at.

My husband, Greg, and I told our son, "No matter what, you're just like everyone else."

But the everyday activities that we take for granted were very difficult for Oliver.

Even the act of just dressing myself, which I love, was a nightmare for my son.

My son's muscular dystrophy doesn't affect intelligence.

He's a very smart kid, so he knows very well what he can't do.

This became very clear to me when I started elementary school, because the act of getting dressed by myself every day constantly confronted me with what I could and could not do.

So I decided to make Oliver wear sweatpants every day, to school, to parties, to vacation trips, just like his school uniform.

I wear decent trousers on special occasions

A lot of the time, I have to take him to the men's restroom because he can't handle the buttons and zippers very well, which is very embarrassing for both my son and the man by the side.

I say, "Oh, I'm used to it."

(Laughter) I've survived that way for years.

But when Oliver was in third grade, I realized that he looked a lot more like me than I could have imagined.

Oliver also likes fashion.

One day, when he came home from school, he said in a firm tone, "I wear jeans to school like everyone else."

Of course, I can't follow you to class and go to the bathroom, but I couldn't tell my eight-year-old son that he shouldn't wear whatever he wanted.

That night, I radically altered my son's jeans.

When I was pregnant, even though my stomach grew so big that I couldn't fit it in my favorite pants, I wanted to keep wearing it no matter what, so I learned the art of elastic cords.

Do you know women with children?

Thread a rubber string through the button hole and fasten the button.

The expansion and contraction function is completed immediately

So I unzipped it so I could pull it up and down by myself.

I cut a notch in the side seam of the hem so that the brace could go in and I put Velcro on it.

When I showed Oliver the trousers I made, his face lit up.

I went to school with great pride

Jeans changed my son

Jeans gave him confidence that he could dress on his own and go to the bathroom on his own.

I didn't realize it at the time, but this was my first step into the world of adaptive clothing.

Adaptable clothing is clothing made for people with disabilities, the elderly, people who have difficulty getting on and off.

Clothing already existed to meet our needs, but it lacked the elements of mainstream fashion.

It was very hygienic, very functional, but not stylish.

This is a big question because what you wear matters.

Your clothes can affect your mood, your health, your self-esteem.

As a fashion lover, it's a no-brainer, but in the scientific world, there's a term for this.

It's called "clothing cognition," and it's got two things intertwined: the symbolic meaning of clothes and the physical experience of wearing them.

British professor Karen J. Pine has written the following:

“Mind What You Wear: The Psychology of Fashion”

In this book, the author says that when we wear clothes, we adapt to the characteristics of what we're wearing, whether we're conscious of it or not.

That's why wearing tight-fitting jeans can make you feel like a rock star.

Wearing a power suit makes me feel invincible, and wearing a stylish black dress makes me feel beautiful.

But that's why Oliver felt isolated because he couldn't wear the clothes he liked.

I was once told, "Mom, when I wear sweatshirts every day, I feel like I'm dressed like a disabled person."

One billion people on this planet have some form of disability.

1 billion people

If 10% of a billion people have difficulty getting dressed, too many people are unsure of themselves, unsuccessful and unhappy.

The morning after Oliver wore those jeans to school, I thought maybe I could handle the situation.

I ran it there

In 2013, I launched an organization called Runway of Dreams.

Its mission was to teach the fashion industry that it can make alterations for people who have never been able to wear mainstream clothing.

I spent the first year researching

Visited schools, facilities and hospitals

I literally chased people in wheelchairs as they passed me on the street, even people with walkers and people with a bit of a limp.

(Laughter) I know it must have seemed crazy, but I knew that if I really wanted to make a difference, I had to really understand the clothing challenges of as many different people as possible.

I met an 18-year-old boy with cerebral palsy.

He was admitted to Harvard University

He said to me, "Can you imagine?

Even if I get into Harvard, my dream is to be on campus and wear jeans with the other freshmen."

I also met a girl named Gianna, who has no left forearm.

Her mother can't stand having her daughter stand out as different from others by letting her sleeves hang down, so she has all her long-sleeved shirts professionally repaired.

How much time and money was spent on it?

I had the privilege of spending time with Eric Legrand, a former Rutgers University football player who was paralyzed during a tackle in 2010.

I'd seen a lot of unfathomable things along the way, but this was heart-stopping astonishment.

As you can see, he's so big that Eric needs two helpers and a machine to get dressed.

I sat and watched a process that took over two hours.

When I told Eric about my shock, he looked at me and said, "Mindy, this is the way things are.

I can't help it

I want to make a firm decision.”

Research completed

I knew that if I was going to make a difference in the industry, I needed to use my background and really figure out how to make clothes.

So, based on the information I've gathered over the course of a year, I've identified three broad categories of impacts.

The first is the closing part.

Nearly everyone had difficulty with buttons, hooks, zippers and clasps.

So I decided to substitute a more accessible technology: magnets.

A Harvard freshman who was able to dress himself thanks to magnets and went to college in jeans.

Second, it's adjustable.

Trouser length, sleeve length, waist circumference, etc. are difficult for various body types.

So I added an internal edging system using rubber.

Now Gianna can adjust one sleeve and wear a ready-made outfit.

And the third is changing the way we put on and take off our clothes.

I designed a way to wear it on my arm.

Now, for someone like Eric, it's taken about five steps away from the dressing process, giving us the gift of time.

So I went to the store, bought the clothes ready-made, and sat at the kitchen table, took them apart, and prototyped them over and over again until I got the hang of it.

And we're ready to fight on the big stage, the fashion industry.

If you really wanted to make a difference, you had to go mainstream instead of designing your own collection.

I believed that all we had to do was tell the industry that there were a lot of these people, and that these consumers weren't considered at all.

I'm happy that my voice has reached the industry.

Runway of Dreams brought me a collaboration with one of the most incredible and visionary brands (Applause) who turned my ideas into products and changed fashion history by launching the first mainstream collection of adaptable clothing.

there will be more

(Applause) So -- (Applause) Fashion is a big part of life.

clothes change who wears them

clothes give me confidence

So when you're thinking about what to wear to start your day tomorrow, enjoy the process and think about how the clothes you choose will make you feel.

Oliver is now 13 years old.

I wear khaki pants that fit my body perfectly, and I wear a front-opening shirt that opens and closes with a magnet, and I live in a cool mood.

I'm full of confidence

(Laughter) As I said earlier, Oliver's disease is progressive, and over time his muscles begin to deteriorate.

this is the most painful thing for me

All I can do is watch my son decline.

it can't be helped

So I look up and see what I can do, not what I can't do, because I have no choice.

I will walk forward

I want the fashion industry to move forward and move forward.

And I want everyone here to look forward and walk forward.

thank you

(applause)

Uvira, a city in eastern Congo, 1996.

his name is bukeni

An armed militia commander comes to his village, knocks on neighbors' doors, and kidnaps children to training camps.

Bukeni borrows a camcorder from a local bridal photographer, pretends to be a journalist, goes to camp, and bargains for the release of the children.

He filmed children being trained to be soldiers.

"Warriors, calm down!" "We have uniforms!" "You can get a free car!"

"It's free!" But you don't have to go to the eastern Congo to violate human rights.

In a rapidly aging America, experts predict that one in ten people over the age of 60 will experience abuse.

It's a hidden plague, and most of the abuse comes from immediate caregivers and family members.

this is vicky

Vicki put an iron door on her bedroom door and became a prisoner herself in her room out of fear of her nephew, who had turned her house into a drug store.

this is mary

At age 65, Mary got a video camera for the first time in her life, and asked 100 persecuted elderly people, including Vicky, to tell their stories on camera.

I'm Dutch, and in Holland, truth is very important.

Childhood is a beautiful thing 'Cause everything you do is overlooked 'Yeah mom I smoked a cigar'

(Laughter) But I think that's why I've dedicated my life to promoting citizen videos that speak out against human rights violations, because I believe in the power of video to tell the undeniable truth.

My organization, WITNESS, used videos shot in Congo to help prosecute a notorious war criminal named Thomas Lubanga.

In the video that Mary filmed, we trained elder human rights activists like Mary to bring stories of elder abuse to lawmakers, and those stories resonated with them and helped them pass landmark legislation to protect older Americans.

I think, billions of people have this powerful tool.

it's a camera

Could we all be a powerful group of citizen witnesses like Mary and Bukeni?

With so many videos out there, why aren't they connected to justice and human rights?

I think it's because being a witness is tough.

Your story will be denied, your video will be swallowed by a sea of ​​other images, your story won't be believed, and you will become a target.

So how can we help witnesses?

In the state of Oaxaca, Mexico, teachers' unions staged a demonstration after the president pushed through very undemocratic reforms.

State police pulled up on a bus and started shooting demonstrators.

At least seven people were killed and many injured.

As pictures of the shooting began to circulate online, the Mexican government, as usual,

They made a public statement, accusing the independent media of spreading fake news.

"It wasn't the government that was there. It wasn't the government that shot them. That didn't happen."

We educated activists in Mexico to use their images and metadata effectively.

Metadata is a type of information captured by the camera, including information such as date, location, temperature, and weather.

It can even tell you how you hold your camera when you're photographing something.

The video started going viral again, this time adding supporting information to the video.

As a result, the government was forced to withdraw its statements.

Justice has not yet been achieved for the people of Oaxaca, but the truth about their story is now out in the open.

So we started thinking what if there was a "Proof Mode"?

Wouldn't it be nice if everyone had a camera in their hand and all of them had that kind of proof?

So we worked with an Android app developer called the Guardian Project to develop a technology called "Proof Mode," which combines that metadata with the video to prove the video's authenticity.

Imagine images coming from smartphones all over the world.

If there's just a little bit more truth to those images, they could be used by journalists, human rights investigators, and human rights lawyers.

Distributed "Proof Mode" to partners of a media organization called Coletivo Papo Reto in Brazil.

Brazil is a place of human rights problems

Brazilian police kill thousands every year.

There's only one time when an investigative knife comes in— when do you think it is?

It's time to have video evidence

17-year-old Eduardo was killed in broad daylight by Rio police.See what happened next.

I put the gun in the corpse's hand and fired twice (gunshot) to disguise self-defense.

The woman who showed this video was a very brave witness, and after posting this video, she had to go into hiding for fear of being targeted for her life.

But people keep filming without flinching. We're working with media organizations to use WhatsApp to send residents guidance and tips on how to film safely, put their videos safely online, and how to film evidence.

An example of this is a Brazilian group called "Mídia Ninja"

The man on the left is a heavily armed military police officer.

You approach demonstrators.Demonstrating in Brazil can result in arrest and even worse treatment.The police say, "Turn over and I'm going to search you."

The demonstrators are live-streaming this, they're wearing little cameras, and to the military police, he says, "There are 5,000 people watching you, they're watching you with me."

Now the roles have been reversed

The power of the absent witness, the viewer, is enormous.

So I started thinking, what if we could harness that power, the power of distant witnesses?

What if we could harness their expertise, their influence, their solidarity, their technical strengths in frontline communities when they need it most?

So I started a project called "Mobilize Us," because many of us want to help, we want to contribute our skills and expertise, but in many cases, we're not there when the rights of our communities and individuals are violated.

With a little app, you can project your oppressor on the other side of your phone and see how many people are watching it.

But what if you could distribute it over the internet?

Imagine your community being cracked down on illegal immigration and being able to livestream the moment for hundreds of lawyers to see.

How do you think it will affect you?

We decided to try this out with our Brazilian partner community

This is Camilla, and she's a shantytown leader called Favela Skor, who brought in distant witnesses, translators, broadcasters, and storytellers via livestreams as her community was forcibly evicted for last year's glitzy Olympics.

We're talking good sightings, but what if your persecutors filmed them?

What if the bystanders filmed but did nothing?

This is Chrissy's story

Chrissy is transgender when she walks into McDonald's in Maryland to use the restroom.

Two teenagers took the blame and beat her so badly that a McDonald's employee filmed it on her cell phone.

When he posted the video, it received thousands of racist and sexist comments.

So we launched a project called "Capturing Hate"

And I picked up a limited sample of videos that captured the abuse of transgender and transgender people.

I searched using two words: "cross-dresser's fight" and "'otokoyaku' fight"

329 videos are still being watched right now, a staggering 90 million times, and hundreds of thousands of comments on these videos, fueling more violence and hate.

So we turned unclassified video evidence into data, turned video into data, and with that tool, now many LGBT organizations are using that data to claim and fight for their rights.

So I took that data back to Silicon Valley and said, "Why is there a video like this? It's spreading hate, it's creating hate, it's promoting violence, and your policy says you won't tolerate this kind of content?"

i have hope

I think we can turn more videos into more rights and more justice.

Snapchat has over 10 billion video views per day.

So what if we trained the Snapchat generation to be effective and safe citizen witnesses?

What if they were the Bukeni for this new generation?

In India, women use Snapchat filters to hide personal information and report domestic violence.

[I'm being persecuted at home and not allowed to leave the house.] The real truth that the TED talk doesn't say is that it's very hard to fight against human rights abuses.

Resolving human rights violations is not easy

And no single technology can stop human rights abusers.

But the stories of survivors, victims, communities of persecution, their truths matter.

and justice begins there

thank you

(applause)

When I give a talk, I usually go into detail about sustainability, because a lot of people don't know about it.

I know you all well today, so I'm going to give you a one-minute speech, okay?

Please note that the story develops quickly.

read between the lines

Sustainability, small planet. . .

small earth revolving around the sun

Millions of years ago, a monkey came down from a tree, got a little smarter and could handle fire, invented the printing press, and made a box on wheels.

created the society we live in today

This society is undoubtedly very prosperous and dynamic, but unfortunately it is seriously flawed.

Every society has an ecological footprint.

This is what we call the impact that society has on the planet.

The amount of things you consume in your life The amount of waste you produce

And now, in this society, the amount of these things greatly exceeds the sustainable level.

We've reached the point where we need 5 Earths

If all of humanity were to reach the standard of living of the developed world, we would need five, six, seven earths, some say 10 earths.

Of course, there are not even 10 Earths.

Visualize 10 Earths and 1 Earth and compare them. What do you think?

There aren't even 10 Earths, that's the first problem

The second problem is that the earth's resources are not being used fairly.

North Americans like me are like voracious pigs, we eat a lot.

On the other hand, some people, like people in Asia and Africa, don't eat that much.

There is not enough food to satisfy everyone

This is a source of a lot of tension and a source of many problems.

And the world's population is expected to grow

This figure shows the situation of the earth in 20 years

It's a crowded state with at least 8 billion people.

The fact that much of the population is young makes the problem even more difficult.

1/3 of the world's population are children

Today's children are raised in a very different way than their parents' generation.

Because they know the prosperity of society now

We want to live differently than we did when we were children.

I want to be American, British, German, South African, I want to live a richer, more dynamic life, a happier life, a new way of living.

All of these things combine to create a huge strain on the earth's resources.

If we don't figure out how to handle this load, we'll quickly find ourselves in a serious situation -- the unthinkable.

The people in this room know the worst case scenario, right?

I don't even need to talk about it

I have one question, is there an alternative?

Right now, we can say that the alternative is "unimaginable."

In other words, on one side there is an "unthinkable" situation, and on the other the alternative is "unimaginable".

We don't yet know a sustainable society from an environmental point of view, a society in which everyone on the planet can share, a stable, democratic society where human rights are protected, a society in which we can solve the problems we face within the necessary time and within the limited time.

how to make

So what is Worldchanging?

Think of Worldchanging as a service that provides news about the 'unimaginable' society.

What we're doing is looking for examples of tools, models, ideas that can change this situation if society accepts it.

When I tell stories like this, a lot of the time, I don't think the people in this room are different, but I tell stories that not many people know.

Today I'm going to talk a little bit differently than usual. Instead of trying to describe examples that already exist, what we're looking for.

talk about what we're going to look into

It's kind of like showing a little bit of our editorial meeting.

I only have 13 minutes left, so I'm going to speak a little faster.

Please follow me, okay?

The first thing I'm looking for is a bright, green city.