孤独的阅读者

学术英文

听力·文段逻辑

答案

Table of Contents

Level I

(逐句听记训练)

答案说明

由于每个人使用的听记符号系统各有差异，因此 Level I 部分的听记训练不设标准答案。自行比照 TED 演讲原文即可。演讲文字稿原文详见本册 Appendix （附注）部分。

Level II

(辨析指代性名词)

I. Why We Have Too Few Women Leaders

参考答案

1. 世界上各种职业中，达到行业巅峰的女性数量越来越少。
2. 女性在工作场合中找不到女卫生间的尴尬。
3. 因为工作离开儿女而感到内疚。
4. 会议中，女性需要被鼓励落座，而她们最终选择坐在边缘地带；大学时三人一起上课，投入最低的弟弟对自己的考试成绩最自信，但是投入偏多的女生却会低估自己的表现，希望自己能够做得更好。
5. 相信你们自己，为自身利益讨价还价。把握住你的成功。”
6. 成功和人缘亲近性对于男性来说是积极影响，而对于女性来说是负面影响。
7. 女性职员考虑生育。

II. The Power of Introverts

参考答案

1. 关于内向不好，被告知自己应该更加外向的类似经历。
2. 内向有内向的好处，不是每个人都必须变的外向。
3. 内向的人强迫自己做一些外向的人常做的事情。
4. 内向不如外向好，内向就是羞涩，应该被改变。
5. 机构（学校）的激励机制设置只适合外向的人；老师认为理想学生应该是外向的，哪怕内向性格的学生成绩更好。
6. 介于内向和外向之间的中向性格者。
7. 内向和外向的平衡。
8. 孤独的力量。
9. 现在的西方社会更偏爱行动者而非深度思考者。
10. 一个十分内向谦虚的人如何用自己的成就和影响力获得他人的敬仰。
11. 从独立工作变成在许多人面前演讲。
12. 停止对团队协作的疯狂迷恋；去野外（独处和深度思考）；展示你的箱子（内向者偶尔可展示自己）。

III. A Healthy Economy Should Be Designed To Thrive, Not Grow

参考答案

1. 像婴儿蹒跚学步时，向前向上的简单动作或进步方向。
2. 我们需要的，尤其在发达国家，是那些可以让我们繁荣的经济，不论它是否增长。
3. 对于经济一定要成长的迷思和执念。
4. 作者在书中指出经济增长五个阶段的时候还只在 1960 年。
5. 将经济增长隐喻为飞机起飞。
6. 在不加税的情况下，增加政府的税收收入。
7. 经济和消费水平不断增长的过程中。
8. 我们人类目前同时存在着短缺和过量：地球上有数百万，上亿的人们仍然在最基本需求方面存在短缺，然而地球边界中的至少四个方面已经出现了过量，导致了不可逆转的影响，包括气候失调和生态系统崩溃。
9. 这种箭头指的是我们拿走地球上的原材料，把它变成我们想要的东西。我们使用一段时间，常常只用一次，然后扔掉。
10. 在生存环境内有效且不出界的经济，让资源永远不会耗尽，而是一次又一次地被反复使用。用阳光做动力运行的经济中，一个过程的肥料，就是下一个过程的原料。
11. 20 世纪的中心化技术和制度把财富、知识和权力集中在了少数人手中。而在本世纪，我们可以设计我们的技术和制度，将财富、知识和权力分配给许多人。不需要化石燃料能源和大规模制造等等。
12. 可再生且可分配的设计，为 21 世纪经济创造了的非凡机会。
13. 经济不断成长的趋势。

Level III

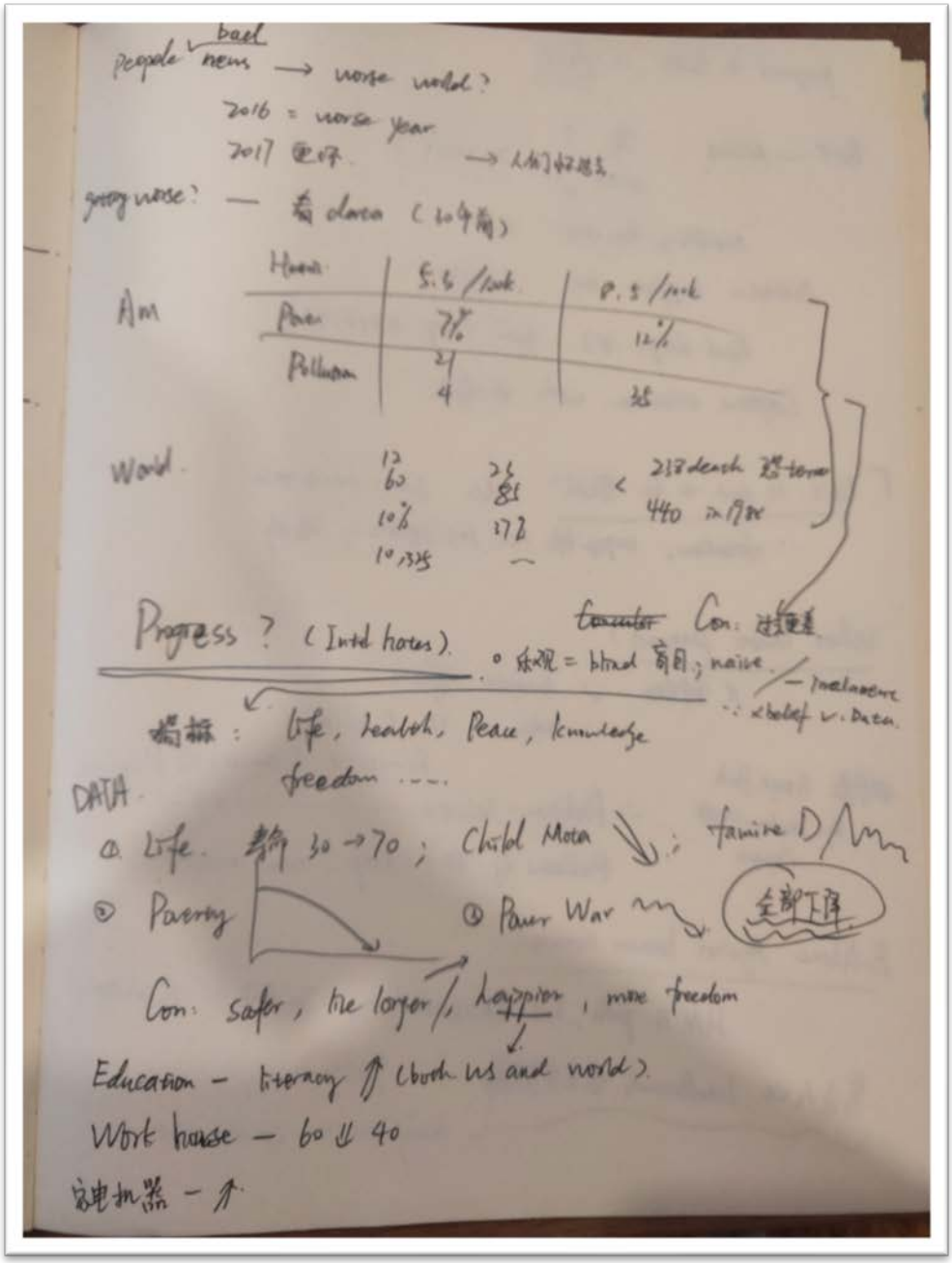
(听力速记训练)

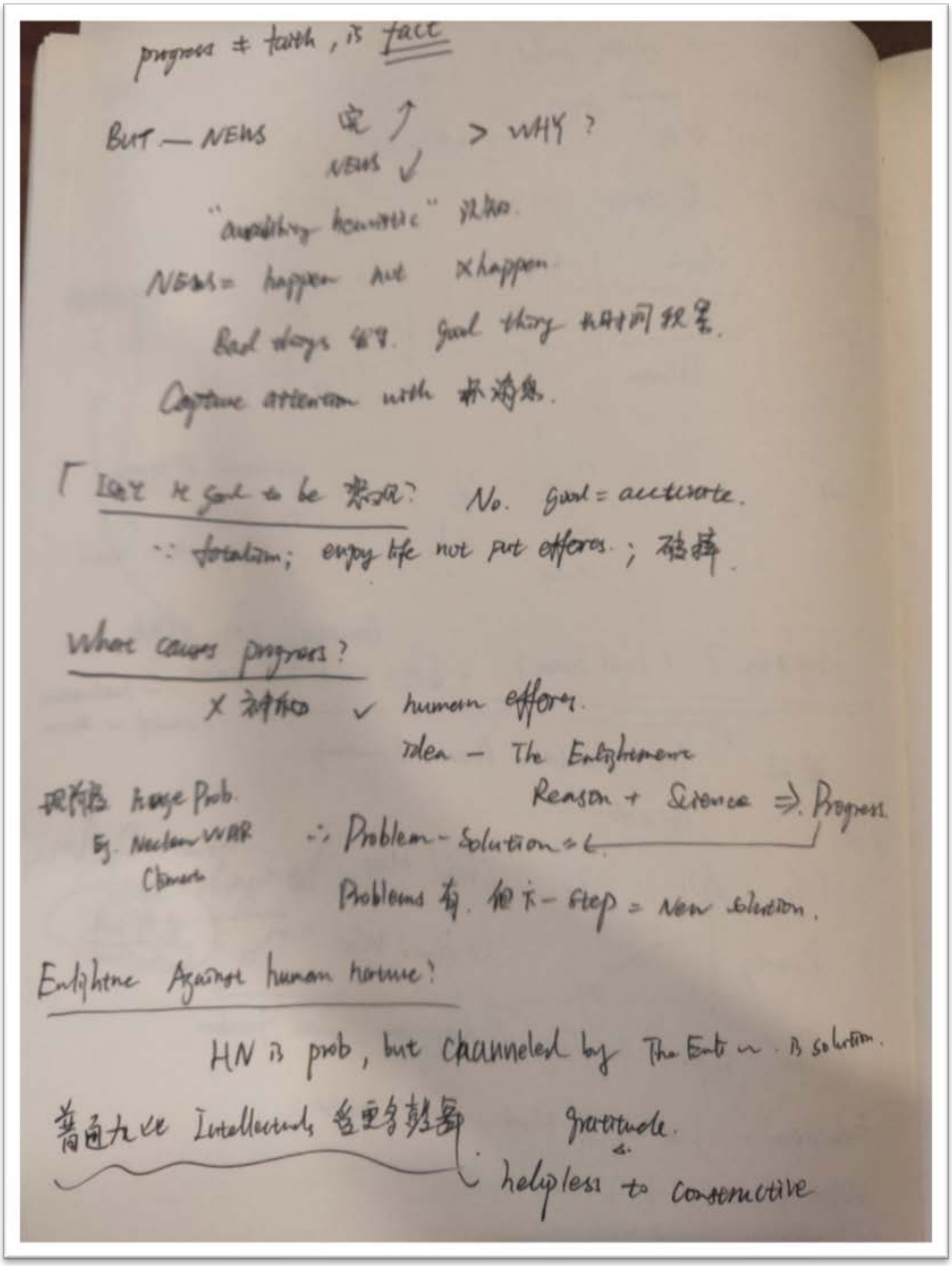
答案说明

此部分参考答案并非是标准答案，仅仅是一份优秀的听力速记笔记，仅供大家参考学习。目的还是建立自己的符号速记系统。

I. Is The World Getting Better Or Worse? A Look At Numbers

STEP ONE




progress ≠ faith, is fact

But — NEWS 坏↑ > WHY?
NEWS ↓

"availability heuristic" 认知

NEWS = happen not × happen

Bad things 突然. good thing 长时间积累.

Capture attention with 坏消息.

「Isn't the goal to be 乐观? No. goal = accurate.

∵ fatalism; enjoy life not put efforts; [illegible]

What causes progress?

× 神秘 ✓ human effort.

Idea — The Enlightenment

Reason + Science ⇒ Progress

[illegible] huge Prob.
Eg. Nuclear WAR
Climate

∴ Problem - Solution ≠ [illegible]

Problems 有. 但下一step = New solution.

Enlightenment Against human nature?

HN is prob, but channeled by The Enlightenment is solution.

[illegible] Intellectuals [illegible]

gratitude

helpless to constructive

(优秀笔记参考)

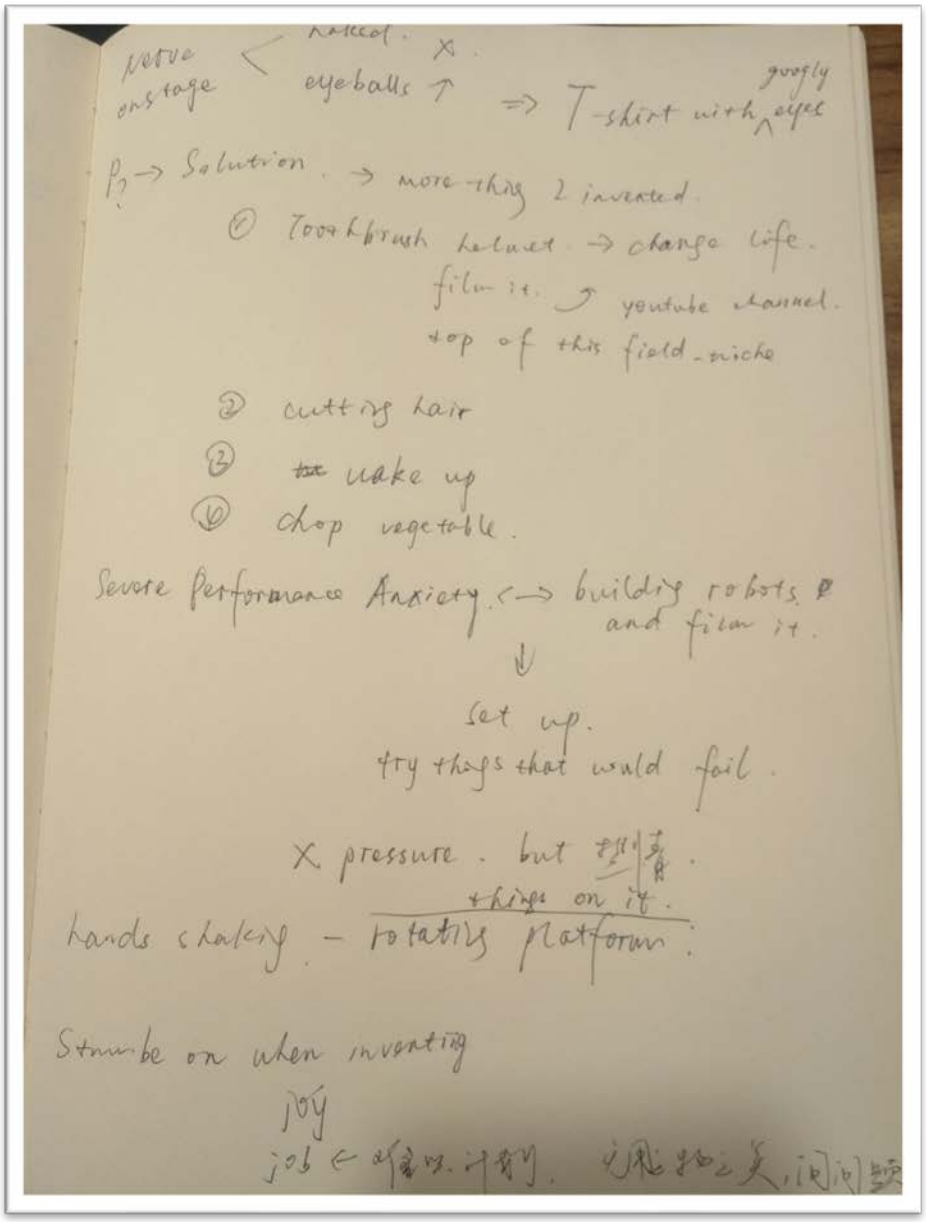
STEP TWO

Points	Details
HOOK - we feel that world is getting worse	People read bad news everyday; 2016 was called the worst year, but 2017 broke the record.
bad thing = decline	compare the recent data with the same measures 30 years ago - homicide, poverty, pollution
faith is irrelevant	intellectuals hate progress (the idea) 各种啦啦队辉格党等描述 believe progress = bline faith; naive
whether progress has taken is not a faith but a fact that can be measured progress = fact	各种 DATA indicates: 1. live longer 2. safter 3. more people get education 4. less work and easier life, so happier
Why don't people appreciate progress? 1. "availability heuristic" 2. News	The Onion CNN Morning Meeting news = something happen, not nothing happen; progress is a longtime changing but bad things can happen quickly
Be pessimistic is not good We should be accurate	Because 1. fatalism 2. just enjoy life while you can 3. radicalism 破罐子破摔
What causes progress? Human efforts governed by an idea of The Enlightenment -- reason + science = enhance human well-being	x mystical force progress is not a miracle but problem-solution problems are ievitable and our solutions

	always created new problems We are facing unsloved problems, eg. climate changes, nuclear weapon...
Enlightenment against human nature? Human nature is a problem, but human nature channeled by Enlightenment norms is also the solution.	acute question for me but....书出版，世界观改变 helpless --> constuctive
We will never have a perfect world, but we can get betterments if we continue to apply knowledge to enhance flourishing.	our instict; sympathy - maginify power rational faculties, intellectual curiosity, open debate.... a lot of acchievements and victories agains the darker parts 各种激情演讲排比句

II. Why You Should Make Useless Things?

STEP ONE



(优秀笔记参考)

STEP TWO

Points	Details
HOOK - how to stop nervous when onstage	others: picture audience naked I: have way more eyeballs - a T with googly eyes
The reason for making the T	1. be able to look at you as u r looking at me 2. see a problem & invent solution to it
The Toothbrush Helmet	没牙医推荐但 change my life：使用短片风靡全网，开创自己的油管频道，成为无用机器的发明者-成为行业精英
a super ambitious student growing up	中学 A 成绩，年级领先，severe performance anxiety(PA), an email to bro only B on math
something obviously happened that let me change: one is puberty	interest in build robot 自学 hardware
come up with a setup that guarantee100% success	不可能失败，因此开始尝试做一些可能会失败的东西=don't have to deal with PA, 压力被热情取代
think as an inventor: identify the problem	talk 的潜在问题 - 紧张 - hand shaking so dare not to drink the water provided
the "head orbit device"	rotate the platform around--put anything like water, no one notice hand-shaking personal solar system
somthing bigger than engineering slapstick	joy&humility to learn about hardware X PA build myself this job

	sth could never planned for
share enthusiasm with people	beauty of making useless things: dont always know the best answer turn off the voice u know how the world exactly works sth may not the answer, at least you ask a ?(问题)

III. Connected, But Alone?

HOOK（演讲中用于切入主题的语句）

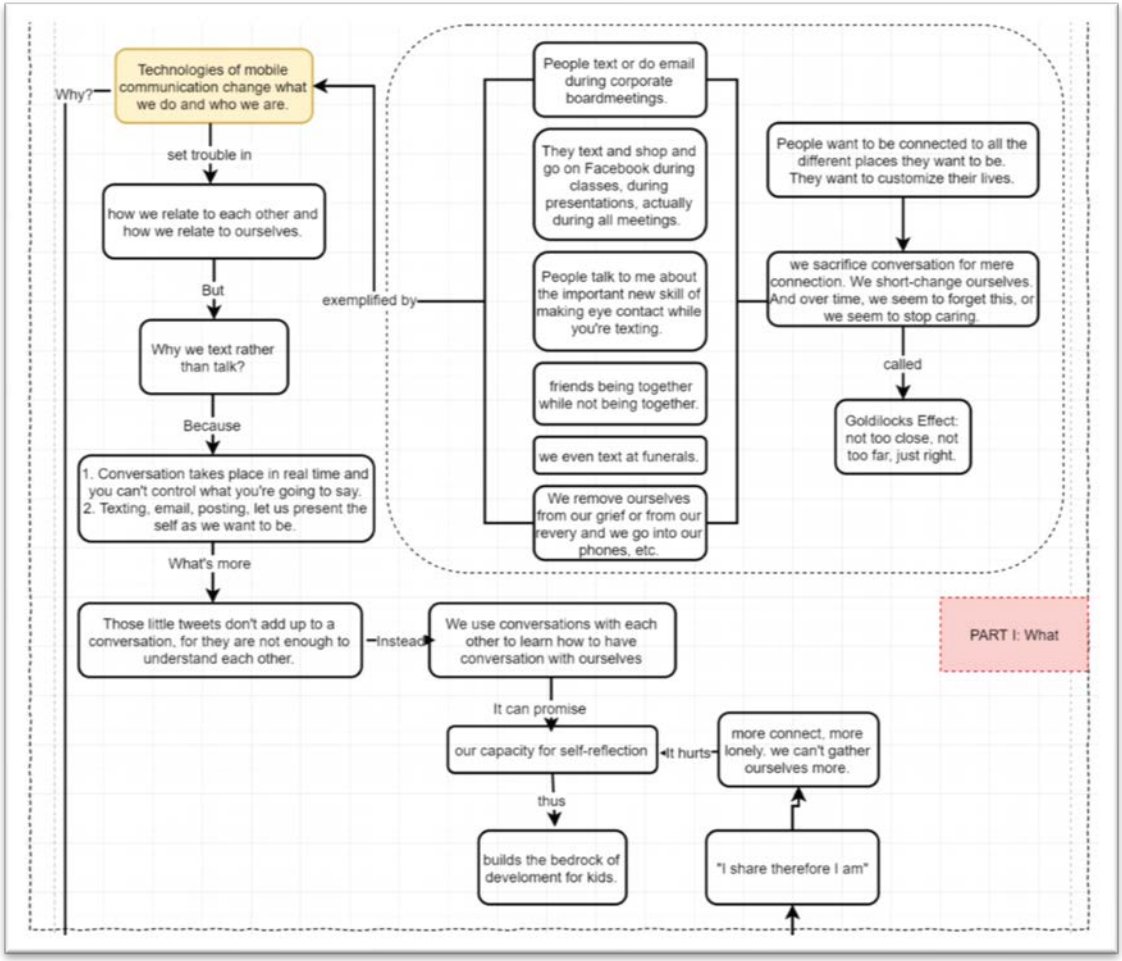
I'm a woman who loves getting texts who's going to tell you that too many of them can be a problem.

Part One: Technologies of mobile communication: they don't only change what we do, they change who we are.

[Note]

1. . e.g.
    a. People text or do email during meetings
    b. They text and shop and go on FB during classes, pres
    c. Parents text & email at breakfast/dinner - children not having their parents' full attention
    d. Being together while not being together…
    e. People connected to all the different places they want to be=customize lives.
2. Why matter?
3. Trouble in how we relate to each other and in how we relate to ourselves and our capacity for self-reflection
4. Goldilocks effect: not too close, not too far, just right.
5. Texting, email, posting, all of these things let us present the self as we want to be
6. sacrifice conversation for mere connection
7. We short-change ourselves. And over time, we seem to stop caring
8. conversations with each other = learn how to have conversations with ourselves/compromise our capacity for self-reflection= bedrock of development for kids
9. feeling: no one is listening to me results in our relationships with technology & make us want to spend time with machines that seem to care about us.
10. . e.g. woman took comfort in her robot companion.

[Mind Map]

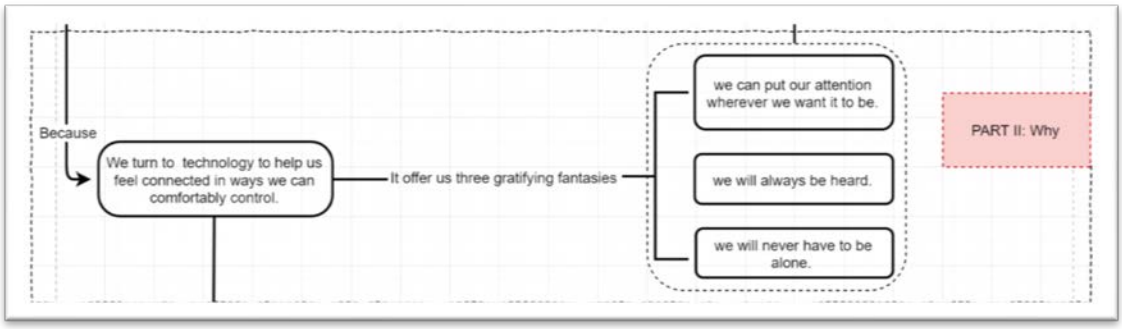

Technologies of mobile communication change what we do and who we are.
Why?
set trouble in
how we relate to each other and how we relate to ourselves.
But
Why we text rather than talk?
Because
1. Conversation takes place in real time and you can't control what you're going to say.
2. Texting, email, posting, let us present the self as we want to be.
What's more
Those little tweets don't add up to a conversation, for they are not enough to understand each other.
Instead
We use conversations with each other to learn how to have conversation with ourselves
It can promise
our capacity for self-reflection
It hurts
more connect, more lonely. we can't gather ourselves more.
thus
builds the bedrock of develoment for kids.
"I share therefore I am"
exemplified by
People text or do email during corporate boardmeetings.
They text and shop and go on Facebook during classes, during presentations, actually during all meetings.
People talk to me about the important new skill of making eye contact while you're texting.
friends being together while not being together.
we even text at funerals.
We remove ourselves from our grief or from our revery and we go into our phones, etc.
People want to be connected to all the different places they want to be. They want to customize their lives.
we sacrifice conversation for mere connection. We short-change ourselves. And over time, we seem to forget this, or we seem to stop caring.
called
Goldilocks Effect: not too close, not too far, just right.
PART I: What

Part Two: We turn to technology to help us feel connected in ways we can comfortably control.

[Note]

1. They offer 3 gratifying fantasies:
    a. put our attention wherever we want it to be;
    b. always be heard;
    c. never have to be alone. (alone anxious-- connection more a symptom than a cure) -- I share therefore I am. don't connect, don't feel like ourselves.
2. more connect, more isolated.
3. you don't cultivate the capacity for solitude, to be separate, to gather yourself= be more lonely
4. if we don't teach our children to be alone, they're only going to know how to be lonely.

[Mind Map]

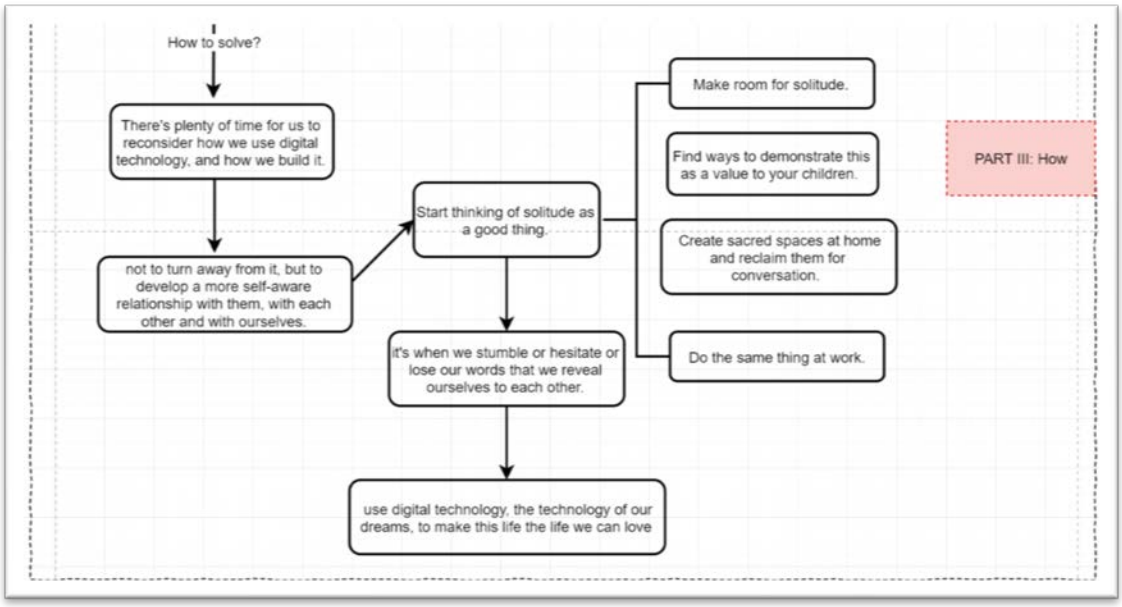


Part Three: We need to reconsider how we use it, how we build it.

[Note]

1. X we turn away from our devices but to develop a more self-aware relationship with them, with each other & with ourselves.
2. some first steps:
3. Start thinking of solitude as a good thing.
4. .e.g: Make room for it. Work, home.
5. Listen to each other, with the boring bits.
6. Because it's when we stumble or hesitate or lose our words that we reveal ourselves to each other.
7. Technology: 1.a bid to redefine human connection — how we care for each other, how we care for ourselves — 2. give us the opportunity to affirm our values and our direction
8. our fantasies of substitution have cost us
9. we need to focus on the ways technology can lead us back to our real lives/bodies/ communities/politics/planet
10. let see how we can use digital technology to make this life the life we can love

[Mind Map]


How to solve?
There's plenty of time for us to reconsider how we use digital technology, and how we build it.
not to turn away from it, but to develop a more self-aware relationship with them, with each other and with ourselves.
Start thinking of solitude as a good thing.
it's when we stumble or hesitate or lose our words that we reveal ourselves to each other.
use digital technology, the technology of our dreams, to make this life the life we can love
Make room for solitude.
Find ways to demonstrate this as a value to your children.
Create sacred spaces at home and reclaim them for conversation.
Do the same thing at work.
PART III: How

IV. Is Our Universe The Only Universe?

HOOK（演讲中用于切入主题的语句）

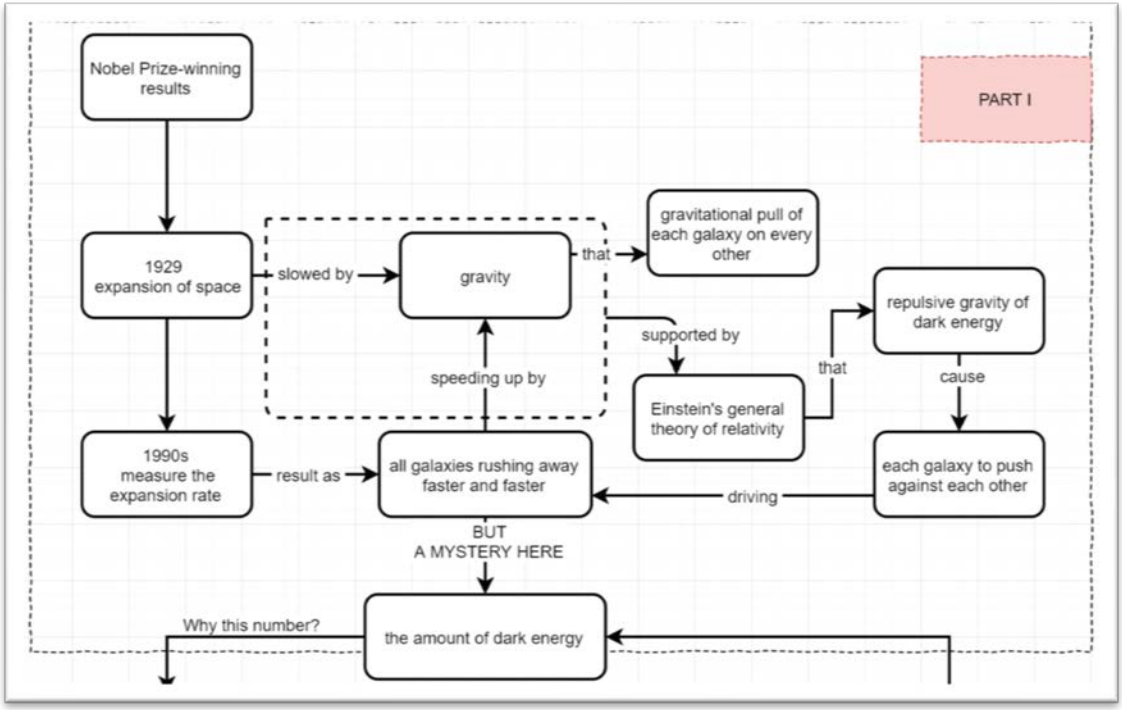
Although most of us were raised to believe that outr universe is the only universe, the new discovery explained that our universe is part of a vast complex of universes that we call the multiverse.

Part One: I'm going to describe those Nobel Prize-winning results and to highlight a profound mystery which those results revealed.

[Note]

1. Edwin Hubble - Universe was not static but expanding
2. Expansion slowing down? No! Speeding Up! (Two teams measured the rate of expansion by observing numerous galaxies and chat the result)
3. Why? - Einstien's theory: gravity can also push things apart
4. How? - invisible energy generated repulsive gravity to drive expansion to speed up; invisible energy = dark energy
5. Mystery
6. Explain the small peculiar number (how much dark energy...account for the speed up)
7. Only approach - String Theory

[Mind Map]

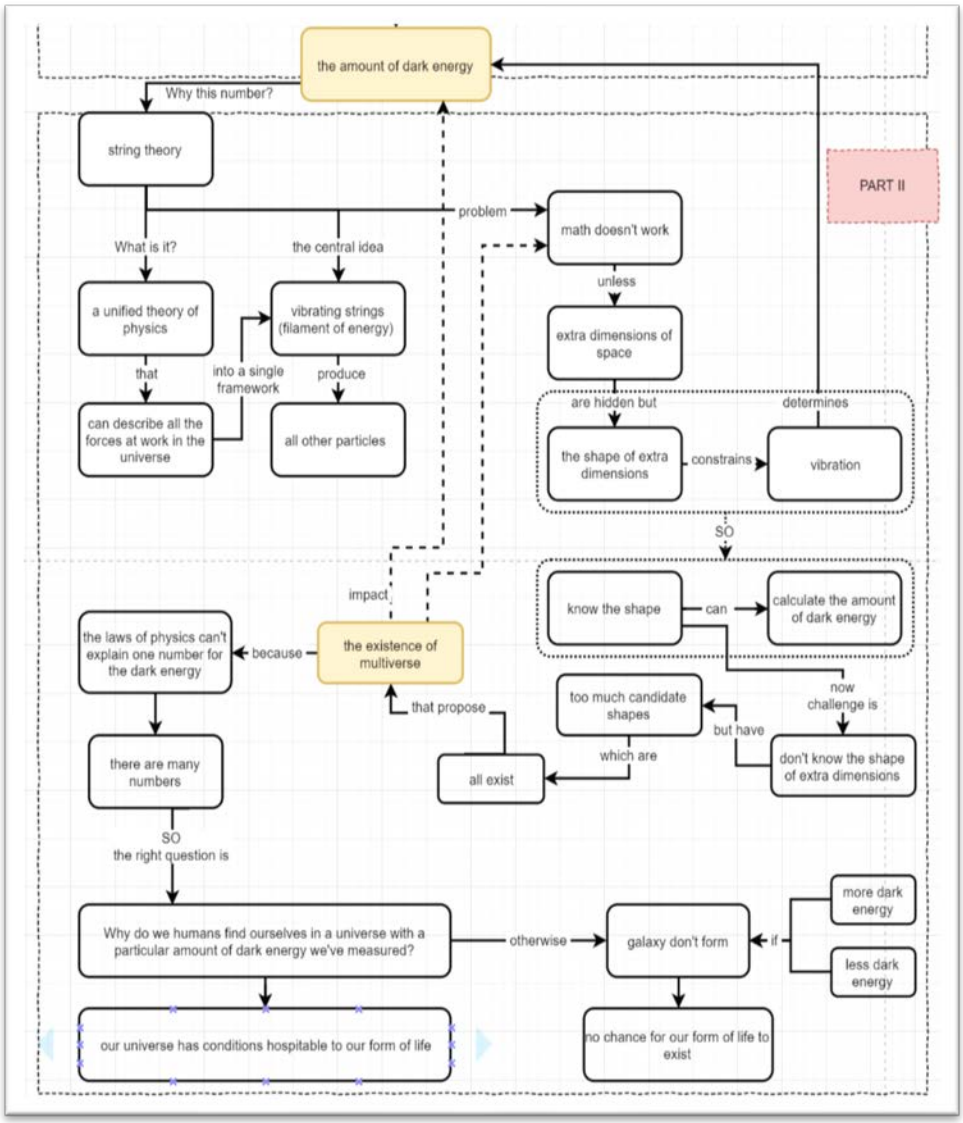

Nobel Prize-winning results
PART I
1929 expansion of space
slowed by
gravity
that
gravitational pull of each galaxy on every other
supported by
repulsive gravity of dark energy
that
cause
Einstein's general theory of relativity
speeding up by
1990s measure the expansion rate
result as
all galaxies rushing away faster and faster
driving
each galaxy to push against each other
BUT
A MYSTERY HERE
Why this number?
the amount of dark energy

Part Two: I'll offer a solution to that mystery. It's based on an approach called string theory.

[Note]

1. If you could probe any piece of matter much smaller than we can with existing technology, you'd find a little tiny vibrating string inside particles.
2. The math of string theory doesn't work because of its internal inconsistencies unless we accept extra dimensions of space.
    1) shape of extra dimensions constrains the vibration
    2) vibration determines everything
        i. --> dark energy determined by the shape of extra dimensions
        问题：don't know shape of extra dimensions；so many candidate shape
        ii. --> possibility of a multiverse，each with a different shape of extra dimensions --> each has different amount of dark energy
3. The particular amount of dark energy in our universe makes conditions hospitable to our form of life.

[Mind Map]

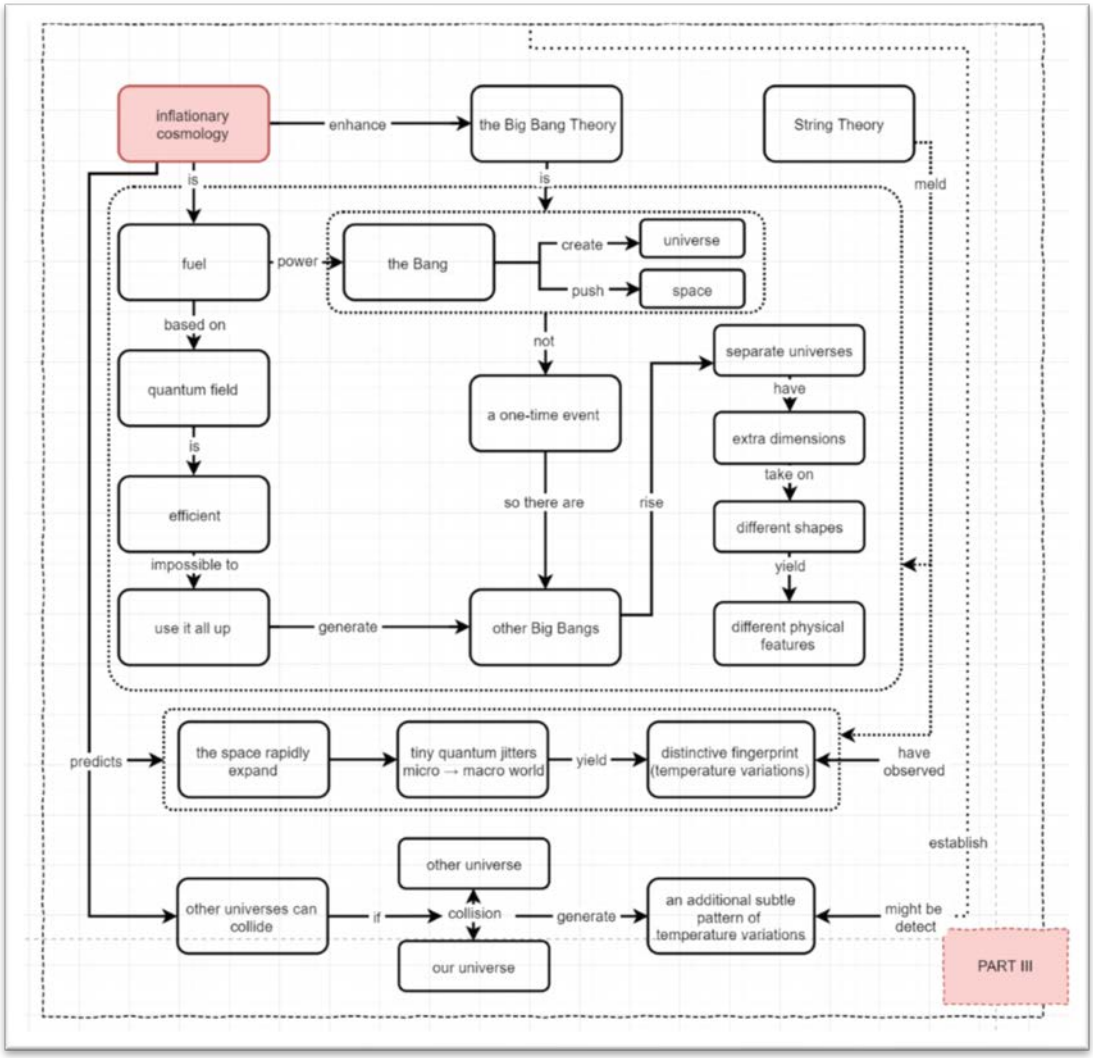

the amount of dark energy
Why this number?
string theory
PART II
problem
math doesn't work
What is it?
the central idea
unless
a unified theory of physics
vibrating strings (filament of energy)
extra dimensions of space
that
into a single framework
produce
are hidden but
determines
can describe all the forces at work in the universe
all other particles
the shape of extra dimensions
constrains
vibration
SO
impact
know the shape
can
calculate the amount of dark energy
the laws of physics can't explain one number for the dark energy
because
the existence of multiverse
now challenge is
too much candidate shapes
but have
that propose
there are many numbers
which are
don't know the shape of extra dimensions
all exist
SO
the right question is
more dark energy
Why do we humans find ourselves in a universe with a particular amount of dark energy we've measured?
otherwise
galaxy don't form
if
less dark energy
our universe has conditions hospitable to our form of life
no chance for our form of life to exist

Part Three: I'm going to describe a cosmological theory called inflation, which will pull all the pieces of the story together.

[Note]

1. enhanced version of the Big Bang theory - inflationary cosmology - identified a particular kind of fuel to generate the Bang = quantum field
2. Quantum field is so efficient and generated countless Big Bangs - bubble bath of universes
3. 结合弦理论解释为什么 Multiverse
4. Remaining question is to confirm the existence; how - collisions would generate an additional subtle pattern of temperature variations that we might detect
5. Because the expansion is speeding up, people in the future may believe that the universe is static

[Mind Map]


inflationary cosmology
enhance
the Big Bang Theory
String Theory
is
is
meld
fuel
power
the Bang
create
universe
push
space
based on
not
separate universes
quantum field
a one-time event
have
extra dimensions
is
take on
efficient
so there are
rise
different shapes
impossible to
yield
use it all up
generate
other Big Bangs
different physical features
predicts
the space rapidly expand
tiny quantum jitters micro → macro world
yield
distinctive fingerprint (temperature variations)
have observed
establish
other universe
other universes can collide
if
collision
generate
an additional subtle pattern of temperature variations
might be detect
our universe
PART III

Appendix

(附注)

How to gain control of your free time

视频地址

https://www.ted.com/talks/laura_vanderkam_how_to_gain_control_of_your_free_time/transcrip

演讲文稿

When people find out I write about time management, they assume two things. One is that I'm always on time, and I'm not. I have four small children, and I would like to blame them for my occasional tardiness, but sometimes it's just not their fault. I was once late to my own speech on time management.

We all had to just take a moment together and savor that irony.

The second thing they assume is that I have lots of tips and tricks for saving bits of time here and there. Sometimes I'll hear from magazines that are doing a story along these lines, generally on how to help their readers find an extra hour in the day. And the idea is that we'll shave bits of time off everyday activities, add it up, and we'll have time for the good stuff. I question the entire premise of this piece, but I'm always interested in hearing what they've come up with before they call me. Some of my favorites: doing errands where you only have to make right-hand turns --

Being extremely judicious in microwave usage: it says three to three-and-a-half minutes on the package, we're totally getting in on the bottom side of that. And my personal favorite, which makes sense on some level, is to DVR your favorite shows so you can fast-forward through the commercials. That way, you save eight minutes every half hour, so in the course of two hours of watching TV, you find 32 minutes to exercise.

Which is true. You know another way to find 32 minutes to exercise? Don't watch two hours of TV a day, right?

Anyway, the idea is we'll save bits of time here and there, add it up, we will finally get to everything we want to do. But after studying how successful people spend their time and looking at their schedules hour by hour, I think this idea has it completely backward. We don't build the lives we want by saving time. We build the lives we want, and then time saves itself.

Here's what I mean. I recently did a time diary project looking at 1,001 days in the lives of extremely busy women. They had demanding jobs, sometimes their own businesses, kids to care for, maybe parents to care for, community commitments -- busy, busy people. I had them keep track of their time for a week so I could add up how much they worked and slept, and I interviewed them about their strategies, for my book.

One of the women whose time log I studied goes out on a Wednesday night for something.She comes home to find that her water heater has broken, and there is now water all over her basement. If you've ever had anything like this happen to you, you know it is a hugely damaging, frightening, sopping mess. So she's dealing with the immediate aftermath that night, next day she's got plumbers coming in, day after that, professional cleaning crew dealing with the ruined carpet. All this is being recorded on her time log. Winds up taking seven hours of her week. Seven hours. That's like finding an extra hour in the day.

But I'm sure if you had asked her at the start of the week, "Could you find seven hours to train for a triathlon?" "Could you find seven hours to mentor seven worthy people?" I'm sure she would've said what most of us would've said, which is, "No -- can't you see how busy I am?"Yet when she had to find seven hours because there is water all over her basement, she found seven hours. And what this shows us is that time is highly elastic. We cannot make more time, but time will stretch to accommodate what we choose to put into it.

And so the key to time management is treating our priorities as the equivalent of that broken water heater. To get at this, I like to use language from one of the busiest people I ever interviewed. By busy, I mean she was running a small business with 12 people on the payroll,she had six children in her spare time. I was getting in touch with her to set up an interview on how she "had it all" -- that phrase. I remember it

was a Thursday morning, and she was not available to speak with me. Of course, right?

But the reason she was unavailable to speak with me is that she was out for a hike, because it was a beautiful spring morning, and she wanted to go for a hike. So of course this makes me even more intrigued, and when I finally do catch up with her, she explains it like this. She says, "Listen Laura, everything I do, every minute I spend, is my choice." And rather than say,"I don't have time to do x, y or z," she'd say, "I don't do x, y or z because it's not a priority." "I don't have time," often means "It's not a priority." If you think about it, that's really more accurate language. I could tell you I don't have time to dust my blinds, but that's not true. If you offered to pay me $100,000 to dust my blinds, I would get to it pretty quickly.

Since that is not going to happen, I can acknowledge this is not a matter of lacking time; it's that I don't want to do it. Using this language reminds us that time is a choice. And granted,there may be horrible consequences for making different choices, I will give you that. But we are smart people, and certainly over the long run, we have the power to fill our lives with the things that deserve to be there.

So how do we do that? How do we treat our priorities as the equivalent of that broken water heater?

Well, first we need to figure out what they are. I want to give you two strategies for thinking about this. The first, on the professional side: I'm sure many people coming up to the end of the year are giving or getting annual performance reviews. You look back over your successes over the year, your "opportunities for growth." And this serves its purpose, but I find it's more effective to do this looking forward. So I want you to pretend it's the end of next year. You're giving yourself a performance review, and it has been an absolutely amazing year for you professionally. What three to five things did you do that made it so amazing? So you can write next year's performance review now.

And you can do this for your personal life, too. I'm sure many of you, like me, come December, get cards that contain these folded up sheets of colored paper, on which is written what is known as the family holiday letter.

Bit of a wretched genre of literature, really, going on about how amazing everyone in the household is, or even more scintillating, how busy everyone in the household is. But these letters serve a purpose, which is that they tell your friends and family what you did in your personal life that mattered to you over the year. So this year's kind of done, but I want you to pretend it's the end of next year, and it has been an absolutely amazing year for you and the people you care about. What three to five things did you do that made it so amazing? So you can write next year's family holiday letter now. Don't send it.

Please, don't send it. But you can write it. And now, between the performance review and the family holiday letter, we have a list of six to ten goals we can work on in the next year.

And now we need to break these down into doable steps. So maybe you want to write a family history. First, you can read some other family histories, get a sense for the style. Then maybe think about the questions you want to ask your relatives, set up appointments to interview them. Or maybe you want to run a 5K. So you need to find a race and sign up, figure out a training plan, and dig those shoes out of the back of the closet. And then -- this is key --we treat our priorities as the equivalent of that broken water heater, by putting them into our schedules first. We do this by thinking through our weeks before we are in them.

I find a really good time to do this is Friday afternoons. Friday afternoon is what an economist might call a "low opportunity cost" time. Most of us are not sitting there on Friday afternoons saying, "I am excited to make progress toward my personal and professional priorities right now."

But we are willing to think about what those should be. So take a little bit of time Friday afternoon, make yourself a three-category priority list: career, relationships, self. Making a three-category list reminds us that there should be something in all three categories. Career, we think about; relationships, self -- not so much. But anyway, just a short list, two to three items in each. Then look out over the whole of the next week, and see where you can plan them in.

Where you plan them in is up to you. I know this is going to be more complicated for some people than others. I mean, some people's lives are just harder than others. It is not going to be easy to find time to take that poetry class if you are caring for multiple children on your own. I get that. And I don't want to minimize anyone's struggle. But I do think that the numbers I am about to tell you are empowering.

There are 168 hours in a week. Twenty-four times seven is 168 hours. That is a lot of time. If you are working a full-time job, so 40 hours a week, sleeping eight hours a night, so 56 hours a week -- that leaves 72 hours for other things. That is a lot of time. You say you're working 50 hours a week, maybe a main job and a side hustle. Well, that leaves 62 hours for other things.You say you're working 60 hours. Well, that leaves 52 hours for other things. You say you're working more than 60 hours. Well, are you sure?

There was once a study comparing people's estimated work weeks with time diaries. They found that people claiming 75-plus-hour work weeks were off by about 25 hours.

You can guess in which direction, right? Anyway, in 168 hours a week, I think we can find time for what matters to you. If you want to spend more time with your kids, you want to study more for a test you're taking, you want to exercise for three hours and volunteer for two, you can. And that's even if you're working way more than full-time hours.

So we have plenty of time, which is great, because guess what? We don't even need that much time to do amazing things. But when most of us have bits of time, what do we do? Pull out the phone, right? Start deleting emails. Otherwise, we're puttering around the house or watching TV.

But small moments can have great power. You can use your bits of time for bits of joy. Maybe it's choosing to read something wonderful on the bus on the way to work. I know when I had a job that required two bus rides and a subway ride every morning, I used to go to the library on weekends to get stuff to read. It made the whole experience almost, almost, enjoyable.Breaks at work can be used for

meditating or praying. If family dinner is out because of your crazy work schedule, maybe family breakfast could be a good substitute.

It's about looking at the whole of one's time and seeing where the good stuff can go. I truly believe this. There is time. Even if we are busy, we have time for what matters. And when we focus on what matters, we can build the lives we want in the time we've got.

Thank you.

What makes a good life? Lessons from the longest study on happiness

视频地址：

https://www.ted.com/talks/robert_waldinger_what_makes_a_good_life_lessons_from_the_longest_study_on_happiness?referrer=playlist-the_most_popular_talks_of_all

演讲文稿

What keeps us healthy and happy as we go through life? If you were going to invest now in your future best self, where would you put your time and your energy? There was a recent survey of millennials asking them what their most important life goals were, and over 80 percent said that a major life goal for them was to get rich. And another 50 percent of those same young adults said that another major life goal was to become famous.

And we're constantly told to lean in to work, to push harder and achieve more. We're given the impression that these are the things that we need to go after in order to have a good life. Pictures of entire lives, of the choices that people make and how those choices work out for them, those pictures are almost impossible to get. Most of what we know about human life we know from asking people to remember the past, and as we know, hindsight is anything but 20/20. We forget vast amounts of what happens to us in life, and sometimes memory is downright creative.

But what if we could watch entire lives as they unfold through time? What if we could study people from the time that they were teenagers all the way into old age to see what really keeps people happy and healthy?

We did that. The Harvard Study of Adult Development may be the longest study of adult life that's ever been done. For 75 years, we've tracked the lives of 724 men, year after year, asking about their work, their home lives, their health, and of course asking all along the way without knowing how their life stories were going to turn out.

Studies like this are exceedingly rare. Almost all projects of this kind fall apart within a decade because too many people drop out of the study, or funding for the research dries up, or the researchers get distracted, or they die, and nobody moves the ball further down the field. But through a combination of luck and the persistence of several generations of researchers, this study has survived. About 60 of our original 724 men are still alive, still participating in the study, most of them in their 90s. And we are now beginning to study the more than 2,000 children of these men. And I'm the fourth director of the study.

Since 1938, we've tracked the lives of two groups of men. The first group started in the study when they were sophomores at Harvard College. They all finished college during World War II, and then most went off to serve in the war. And the second group that we've followed was a group of boys from Boston's poorest neighborhoods, boys who were chosen for the study specifically because they were from some of the most troubled and disadvantaged families in the Boston of the 1930s. Most lived in tenements, many without hot and cold running water.

When they entered the study, all of these teenagers were interviewed. They were given medical exams. We went to their homes and we interviewed their parents. And then these teenagers grew up into adults who entered all walks of life. They became factory workers and lawyers and bricklayers and doctors, one President of the United States. Some developed alcoholism. A few developed schizophrenia. Some climbed the social ladder from the bottom all the way to the very top, and some made that journey in the opposite direction.

The founders of this study would never in their wildest dreams have imagined that I would be standing here today, 75 years later, telling you that the study still continues. Every two years, our patient and dedicated research staff calls up our men and asks them if we can send them yet one more set of questions about their lives.

Many of the inner city Boston men ask us, "Why do you keep wanting to study me? My life just isn't that interesting." The Harvard men never ask that question.

To get the clearest picture of these lives, we don't just send them questionnaires. We interview them in their living rooms. We get their medical records from their doctors. We draw their blood, we scan their brains, we talk to their children. We videotape them talking with their wives about their deepest concerns. And when, about a decade ago, we finally asked the wives if they would join us as members of the study, many of the women said, "You know, it's about time."

So what have we learned? What are the lessons that come from the tens of thousands of pages of information that we've generated on these lives? Well, the lessons aren't about wealth or fame or working harder and harder. The clearest message that we get from this 75-year study is this: Good relationships keep us happier and healthier. Period.

We've learned three big lessons about relationships. The first is that social connections are really good for us, and that loneliness kills. It turns out that people who are more socially connected to family, to friends, to community, are happier, they're physically healthier, and they live longer than people who are less well connected. And the experience of loneliness turns out to be toxic. People who are more isolated than they want to be from others find that they are less happy, their health declines earlier in midlife, their brain functioning declines sooner and they live shorter lives than people who are not lonely. And the sad fact is that at any given time, more than one in five Americans will report that they're lonely.

And we know that you can be lonely in a crowd and you can be lonely in a marriage, so the second big lesson that we learned is that it's not just the number of friends you have, and it's not whether or not you're in a committed relationship, but it's the quality of your close relationships that matters. It turns out that living in the midst of conflict is really bad for our health. High-conflict marriages, for example, without much affection, turn out to be very bad for our health, perhaps worse than getting divorced. And living in the midst of good, warm relationships is protective.

Once we had followed our men all the way into their 80s, we wanted to look back at them at midlife and to see if we could predict who was going to grow into a happy, healthy octogenarian and who wasn't. And when we gathered together everything we knew about them at age 50, it wasn't their middle age cholesterol levels that predicted how they were going to grow old. It was how satisfied they were in their

relationships. The people who were the most satisfied in their relationships at age 50 were the healthiest at age 80. And good, close relationships seem to buffer us from some of the slings and arrows of getting old. Our most happily partnered men and women reported, in their 80s, that on the days when they had more physical pain, their mood stayed just as happy. But the people who were in unhappy relationships, on the days when they reported more physical pain, it was magnified by more emotional pain.

And the third big lesson that we learned about relationships and our health is that good relationships don't just protect our bodies, they protect our brains. It turns out that being in a securely attached relationship to another person in your 80s is protective, that the people who are in relationships where they really feel they can count on the other person in times of need, those people's memories stay sharper longer. And the people in relationships where they feel they really can't count on the other one, those are the people who experience earlier memory decline. And those good relationships, they don't have to be smooth all the time. Some of our octogenarian couples could bicker with each other day in and day out, but as long as they felt that they could really count on the other when the going got tough, those arguments didn't take a toll on their memories.

So this message, that good, close relationships are good for our health and well-being, this is wisdom that's as old as the hills. Why is this so hard to get and so easy to ignore? Well, we're human. What we'd really like is a quick fix, something we can get that'll make our lives good and keep them that way. Relationships are messy and they're complicated and the hard work of tending to family and friends, it's not sexy or glamorous. It's also lifelong. It never ends.The people in our 75-year study who were the happiest in retirement were the people who had actively worked to replace workmates with new playmates. Just like the millennials in that recent survey, many of our men when they were starting out as young adults really believed that fame and wealth and high achievement were what they needed to go after to have a good life. But over and over, over these 75 years, our study has shown that the people who fared the best were the people who leaned in to relationships, with family, with friends, with community.

So what about you? Let's say you're 25, or you're 40, or you're 60. What might leaning in to relationships even look like?

Well, the possibilities are practically endless. It might be something as simple as replacing screen time with people time or livening up a stale relationship by doing something new together, long walks or date nights, or reaching out to that family member who you haven't spoken to in years, because those all-too-common family feuds take a terrible toll on the people who hold the grudges.

I'd like to close with a quote from Mark Twain. More than a century ago, he was looking back on his life, and he wrote this: "There isn't time, so brief is life, for bickerings, apologies, heartburnings, callings to account. There is only time for loving, and but an instant, so to speak, for that."

The good life is built with good relationships.

Thank you.

How language shapes the way we think

视频地址

https://www.ted.com/talks/lera_boroditsky_how_language_shapes_the_way_we_think

演讲文稿

So, I'll be speaking to you using language ... because I can. This is one these magical abilities that we humans have. We can transmit really complicated thoughts to one another. So what I'm doing right now is, I'm making sounds with my mouth as I'm exhaling. I'm making tones and hisses and puffs, and those are creating air vibrations in the air. Those air vibrations are traveling to you, they're hitting your eardrums, and then your brain takes those vibrations from your eardrums and transforms them into thoughts. I hope.

I hope that's happening. So because of this ability, we humans are able to transmit our ideas across vast reaches of space and time. We're able to transmit knowledge across minds. I can put a bizarre new idea in your mind right now. I could say, "Imagine a jellyfish waltzing in a library while thinking about quantum mechanics."

Now, if everything has gone relatively well in your life so far, you probably haven't had that thought before.

But now I've just made you think it, through language.

Now of course, there isn't just one language in the world, there are about 7,000 languages spoken around the world. And all the languages differ from one another in all kinds of ways. Some languages have different sounds, they have different vocabularies, and they also have different structures -- very importantly, different structures. That begs the question: Does the language we speak shape the way we think? Now, this is an ancient question. People have been speculating about this question forever. Charlemagne, Holy Roman emperor, said, "To have a second

language is to have a second soul" --strong statement that language crafts reality. But on the other hand, Shakespeare has Juliet say, "What's in a name? A rose by any other name would smell as sweet." Well, that suggests that maybe language doesn't craft reality.

These arguments have gone back and forth for thousands of years. But until recently, there hasn't been any data to help us decide either way. Recently, in my lab and other labs around the world, we've started doing research, and now we have actual scientific data to weigh in on this question.

So let me tell you about some of my favorite examples. I'll start with an example from an Aboriginal community in Australia that I had the chance to work with. These are the Kuuk Thaayorre people. They live in Pormpuraaw at the very west edge of Cape York. What's cool about Kuuk Thaayorre is, in Kuuk Thaayorre, they don't use words like "left" and "right," and instead, everything is in cardinal directions: north, south, east and west. And when I say everything, I really mean everything. You would say something like, "Oh, there's an ant on your southwest leg." Or, "Move your cup to the north-northeast a little bit." In fact, the way that you say "hello" in Kuuk Thaayorre is you say, "Which way are you going?" And the answer should be, "North-northeast in the far distance. How about you?"

So imagine as you're walking around your day, every person you greet, you have to report your heading direction.

But that would actually get you oriented pretty fast, right? Because you literally couldn't get past "hello," if you didn't know which way you were going. In fact, people who speak languages like this stay oriented really well. They stay oriented better than we used to think humans could. We used to think that humans were worse than other creatures because of some biological excuse: "Oh, we don't have magnets in our beaks or in our scales." No; if your language and your culture trains you to do it, actually, you can do it. There are humans around the world who stay oriented really well.

And just to get us in agreement about how different this is from the way we do it, I want you all to close your eyes for a second and point southeast.

Keep your eyes closed. Point. OK, so you can open your eyes. I see you guys pointing there, there, there, there, there ... I don't know which way it is myself --

You have not been a lot of help.

So let's just say the accuracy in this room was not very high. This is a big difference in cognitive ability across languages, right? Where one group -- very distinguished group like you guys -- doesn't know which way is which, but in another group, I could ask a five-year-old and they would know.

There are also really big differences in how people think about time. So here I have pictures of my grandfather at different ages. And if I ask an English speaker to organize time, they might lay it out this way, from left to right. This has to do with writing direction. If you were a speaker of Hebrew or Arabic, you might do it going in the opposite direction, from right to left.

But how would the Kuuk Thaayorre, this Aboriginal group I just told you about, do it? They don't use words like "left" and "right." Let me give you hint. When we sat people facing south, they organized time from left to right. When we sat them facing north, they organized time from right to left. When we sat them facing east, time came towards the body. What's the pattern? East to west, right? So for them, time doesn't actually get locked on the body at all, it gets locked on the landscape. So for me, if I'm facing this way, then time goes this way, and if I'm facing this way, then time goes this way. I'm facing this way, time goes this way -- very egocentric of me to have the direction of time chase me around every time I turn my body. For the Kuuk Thaayorre, time is locked on the landscape. It's a dramatically different way of thinking about time.

Here's another really smart human trick. Suppose I ask you how many penguins are there. Well, I bet I know how you'd solve that problem if you solved it. You went, "One, two, three, four, five, six, seven, eight." You counted them. You named each one with a number, and the last number you said was the number of penguins. This is a little trick that you're taught to use as kids. You learn the number list and you

learn how to apply it. A little linguistic trick. Well, some languages don't do this, because some languages don't have exact number words. They're languages that don't have a word like "seven" or a word like "eight." In fact, people who speak these languages don't count, and they have trouble keeping track of exact quantities. So, for example, if I ask you to match this number of penguins to the same number of ducks, you would be able to do that by counting. But folks who don't have that linguistic trick can't do that.

Languages also differ in how they divide up the color spectrum -- the visual world. Some languages have lots of words for colors, some have only a couple words, "light" and "dark." And languages differ in where they put boundaries between colors. So, for example, in English, there's a word for blue that covers all of the colors that you can see on the screen, but in Russian, there isn't a single word. Instead, Russian speakers have to differentiate between light blue, "goluboy," and dark blue, "siniy." So Russians have this lifetime of experience of, in language, distinguishing these two colors. When we test people's ability to perceptually discriminate these colors, what we find is that Russian speakers are faster across this linguistic boundary. They're faster to be able to tell the difference between a light and dark blue. And when you look at people's brains as they're looking at colors -- say you have colors shifting slowly from light to dark blue -- the brains of people who use different words for light and dark blue will give a surprised reaction as the colors shift from light to dark, as if, "Ooh, something has categorically changed," whereas the brains of English speakers, for example, that don't make this categorical distinction, don't give that surprise, because nothing is categorically changing.

Languages have all kinds of structural quirks. This is one of my favorites. Lots of languages have grammatical gender; every noun gets assigned a gender, often masculine or feminine. And these genders differ across languages. So, for example, the sun is feminine in German but masculine in Spanish, and the moon, the reverse. Could this actually have any consequence for how people think? Do German speakers think of the sun as somehow more female-like, and the moon somehow more male-like? Actually, it turns out that's the case. So if you ask German and Spanish speakers to, say, describe a bridge, like the one here -- "bridge" happens to be grammatically feminine in German, grammatically masculine in Spanish -- German speakers are more likely to say bridges are "beautiful," "elegant" and stereotypically feminine words. Whereas Spanish speakers will be more likely to say they're "strong" or "long," these masculine words.

Languages also differ in how they describe events, right? You take an event like this, an accident. In English, it's fine to say, "He broke the vase." In a language like Spanish, you might be more likely to say, "The vase broke," or, "The vase broke itself." If it's an accident, you wouldn't say that someone did it. In English, quite weirdly, we can even say things like, "I broke my arm." Now, in lots of languages, you couldn't use that construction unless you are a lunatic and you went out looking to break your arm -- (Laughter) and you succeeded. If it was an accident, you would use a different construction.

Now, this has consequences. So, people who speak different languages will pay attention to different things, depending on what their language usually requires them to do. So we show the same accident to English speakers and Spanish speakers. English speakers will remember who did it, because English requires you to say, "He did it; he broke the vase." Whereas Spanish speakers might be less likely to remember who did it if it's an accident, but they're more likely to remember that it was an accident. They're more likely to remember the intention. So, two people watch the same event, witness the same crime, but end up remembering different things about that event. This has implications, of course, for eyewitness testimony. It also has implications for blame and punishment. So if you take English speakers and I just show you someone breaking a vase, and I say, "He broke the vase," as opposed to "The vase broke," even though you can witness it yourself, you can watch the video, you can watch the crime against the vase, you will punish someone more, you will blame someone more if I just said, "He broke it," as opposed to, "It broke." The language guides our reasoning about events.

Now, I've given you a few examples of how language can profoundly shape the way we think, and it does so in a variety of ways. So language can have big effects, like we saw with space and time, where people can lay out space and time in completely different coordinate frames from each other. Language can also have really deep effects -- that's what we saw with the case of number. Having count words in your language, having number words, opens up the whole world of mathematics. Of course, if you don't count, you can't do algebra, you can't do any of the things that would be required to build a room like this or make this broadcast, right? This little trick of number words gives you a stepping stone into a whole cognitive realm.

Language can also have really early effects, what we saw in the case of color. These are really simple, basic, perceptual decisions. We make thousands of them all the

time, and yet, language is getting in there and fussing even with these tiny little perceptual decisions that we make. Language can have really broad effects. So the case of grammatical gender may be a little silly, but at the same time, grammatical gender applies to all nouns. That means language can shape how you're thinking about anything that can be named by a noun. That's a lot of stuff.

And finally, I gave you an example of how language can shape things that have personal weight to us -- ideas like blame and punishment or eyewitness memory. These are important things in our daily lives.

Now, the beauty of linguistic diversity is that it reveals to us just how ingenious and how flexible the human mind is. Human minds have invented not one cognitive universe, but 7,000 -- there are 7,000 languages spoken around the world. And we can create many more -- languages, of course, are living things, things that we can hone and change to suit our needs. The tragic thing is that we're losing so much of this linguistic diversity all the time. We're losing about one language a week, and by some estimates, half of the world's languages will be gone in the next hundred years. And the even worse news is that right now, almost everything we know about the human mind and human brain is based on studies of usually American English-speaking undergraduates at universities. That excludes almost all humans. Right? So what we know about the human mind is actually incredibly narrow and biased, and our science has to do better.

I want to leave you with this final thought. I've told you about how speakers of different languages think differently, but of course, that's not about how people elsewhere think. It's about how you think. It's how the language that you speak shapes the way that you think. And that gives you the opportunity to ask, "Why do I think the way that I do?" "How could I think differently?" And also, "What thoughts do I wish to create?"

Thank you very much.

Why we have too few women leaders

视频地址

https://www.ted.com/talks/sheryl_sandberg_why_we_have_too_few_women_leaders

演讲文稿

So for any of us in this room today, let's start out by admitting we're lucky. We don't live in the world our mothers lived in, our grandmothers lived in, where career choices for women were so limited. And if you're in this room today, most of us grew up in a world where we have basic civil rights, and amazingly, we still live in a world where some women don't have them. But all that aside, we still have a problem, and it's a real problem. And the problem is this: Women are not making it to the top of any profession anywhere in the world. The numbers tell the story quite clearly. 190 heads of state -- nine are women. Of all the people in parliament in the world, 13 percent are women. In the corporate sector, women at the top, C-level jobs, board seats -- tops out at 15, 16 percent. The numbers have not moved since 2002 and are going in the wrong direction. And even in the non-profit world, a world we sometimes think of as being led by more women, women at the top: 20 percent.

We also have another problem, which is that women face harder choices between professional success and personal fulfillment. A recent study in the U.S. showed that, of married senior managers, two-thirds of the married men had children and only one-third of the married women had children. A couple of years ago, I was in New York, and I was pitching a deal, and I was in one of those fancy New York private equity offices you can picture. And I'm in the meeting -- it's about a three-hour meeting --and two hours in, there needs to be that bio break, and everyone stands up, and the partner running the meeting starts looking really embarrassed. And I realized he doesn't know where the women's room is in his office. So I start looking around for moving boxes, figuring they just moved in, but I don't see any. And so I said, "Did you just move into this office?" And he said, "No, we've been here about a year." And I said, "Are you telling me that I am the only woman to have pitched a deal in this office in a year?" And he looked at me, and he said, "Yeah. Or maybe you're the only one who had to go to the bathroom."

So the question is, how are we going to fix this? How do we change these numbers at the top? How do we make this different? I want to start out by saying, I talk about this -- about keeping women in the workforce -- because I really think that's the answer. In the high-income part of our workforce, in the people who end up at the top -- Fortune 500 CEO jobs, or the equivalent in other industries -- the problem, I am convinced, is that women are dropping out. Now people talk about this a lot, and they talk about things like flextime and mentoring and programs companies should have to train women. I want to talk about none of that today, even though that's all really important. Today I want to focus on what we can do as individuals. What are the messages we need to tell ourselves? What are the messages we tell the women that work with and for us? What are the messages we tell our daughters?

Now, at the outset, I want to be very clear that this speech comes with no judgments. I don't have the right answer. I don't even have it for myself. I left San Francisco, where I live, on Monday, and I was getting on the plane for this conference. And my daughter, who's three, when I dropped her off at preschool, did that whole hugging-the-leg, crying, "Mommy, don't get on the plane" thing. This is hard. I feel guilty sometimes. I know no women, whether they're at home or whether they're in the workforce,who don't feel that sometimes. So I'm not saying that staying in the workforce is the right thing for everyone.

My talk today is about what the messages are if you do want to stay in the workforce, and I think there are three. One, sit at the table. Two, make your partner a real partner. And three, don't leave before you leave. Number one: sit at the table. Just a couple weeks ago at Facebook, we hosted a very senior government official, and he came in to meet with senior execs from around Silicon Valley. And everyone kind of sat at the table. He had these two women who were traveling with him pretty senior in his department, and I kind of said to them, "Sit at the table. Come on, sit at the table," and they sat on the side of the room. When I was in college, my senior year, I took a course called European Intellectual History. Don't you love that kind of thing from college? I wish I could do that now. And I took it with my roommate, Carrie, who was then a brilliant literary student -- and went on to be a brilliant literary scholar -- and my brother -- smart guy, but a water-polo-playing pre-med, who was a sophomore.

The three of us take this class together. And then Carrie reads all the books in the original Greek and Latin, goes to all the lectures. I read all the books in English and

go to most of the lectures. My brother is kind of busy. He reads one book of 12 and goes to a couple of lectures, marches himself up to our room a couple days before the exam to get himself tutored. The three of us go to the exam together, and we sit down. And we sit there for three hours -- and our little blue notebooks -- yes, I'm that old.We walk out, we look at each other, and we say, "How did you do?" And Carrie says, "Boy, I feel like I didn't really draw out the main point on the Hegelian dialectic." And I say, "God, I really wish I had really connected John Locke's theory of property with the philosophers that follow." And my brother says, "I got the top grade in the class."

"You got the top grade in the class? You don't know anything."

The problem with these stories is that they show what the data shows: women systematically underestimate their own abilities. If you test men and women, and you ask them questions on totally objective criteria like GPAs, men get it wrong slightly high, and women get it wrong slightly low. Women do not negotiate for themselves in the workforce. A study in the last two years of people entering the workforce out of college showed that 57 percent of boys entering, or men, I guess, are negotiating their first salary, and only seven percent of women. And most importantly, men attribute their success to themselves, and women attribute it to other external factors. If you ask men why they did a good job, they'll say, "I'm awesome. Obviously. Why are you even asking?" If you ask women why they did a good job, what they'll say is someone helped them, they got lucky, they worked really hard. Why does this matter? Boy, it matters a lot. Because no one gets to the corner office by sitting on the side, not at the table, and no one gets the promotion if they don't think they deserve their success, or they don't even understand their own success.

I wish the answer were easy. I wish I could go tell all the young women I work for, these fabulous women, "Believe in yourself and negotiate for yourself. Own your own success." I wish I could tell that to my daughter. But it's not that simple. Because what the data shows, above all else, is one thing,which is that success and likeability are positively correlated for men and negatively correlated for women. And everyone's nodding, because we all know this to be true.

There's a really good study that shows this really well. There's a famous Harvard Business School study on a woman named Heidi Roizen. And she's an operator in a company in Silicon Valley, and she uses her contacts to become a very successful venture capitalist. In 2002 -- not so long ago -- a professor who was then at Columbia University took that case and made it [Howard] Roizen. And he gave the case out, both of them, to two groups of students. He changed exactly one word: "Heidi" to "Howard." But that one word made a really big difference. He then surveyed the students, and the good news was the students, both men and women, thought Heidi and Howard were equally competent, and that's good. The bad news was that everyone liked Howard. He's a great guy. You want to work for him. You want to spend the day fishing with him. But Heidi? Not so sure. She's a little out for herself. She's a little political. You're not sure you'd want to work for her. This is the complication. We have to tell our daughters and our colleagues, we have to tell ourselves to believe we got the A, to reach for the promotion, to sit at the table, and we have to do it in a world where, for them, there are sacrifices they will make for that, even though for their brothers, there are not.

The saddest thing about all of this is that it's really hard to remember this. And I'm about to tell a story which is truly embarrassing for me, but I think important. I gave this talk at Facebook not so long ago to about 100 employees, and a couple hours later, there was a young woman who works there sitting outside my little desk, and she wanted to talk to me. I said, okay, and she sat down, and we talked. And she said, "I learned something today. I learned that I need to keep my hand up." "What do you mean?" She said, "You're giving this talk, and you said you would take two more questions. I had my hand up with many other people, and you took two more questions. I put my hand down, and I noticed all the women did the same, and then you took more questions, only from the men." And I thought to myself, "Wow, if it's me -- who cares about this, obviously -- giving this talk -- and during this talk, I can't even notice that the men's hands are still raised, and the women's hands are still raised, how good are we as managers of our companies and our organizations at seeing that the men are reaching for opportunities more than women?" We've got to get women to sit at the table.

Message number two: Make your partner a real partner. I've become convinced that we've made more progress in the workforce than we have in the home. The data shows this very clearly. If a woman and a man work full-time and have a child, the woman does twice the amount of housework the man does, and the woman does three times the amount of childcare the man does. So she's got three jobs or two jobs,

and he's got one. Who do you think drops out when someone needs to be home more? The causes of this are really complicated, and I don't have time to go into them. And I don't think Sunday football-watching and general laziness is the cause.

I think the cause is more complicated. I think, as a society, we put more pressure on our boys to succeed than we do on our girls. I know men that stay home and work in the home to support wives with careers, and it's hard. When I go to the Mommy-and-Me stuff and I see the father there, I notice that the other mommies don't play with him. And that's a problem, because we have to make it as important a job, because it's the hardest job in the world to work inside the home, for people of both genders, if we're going to even things out and let women stay in the workforce.

Studies show that households with equal earning and equal responsibility also have half the divorce rate. And if that wasn't good enough motivation for everyone out there, they also have more -- how shall I say this on this stage? They know each other more in the biblical sense as well.

Message number three: Don't leave before you leave. I think there's a really deep irony to the fact that actions women are taking -- and I see this all the time -- with the objective of staying in the workforce actually lead to their eventually leaving. Here's what happens: We're all busy. Everyone's busy. A woman's busy. And she starts thinking about having a child, and from the moment she starts thinking about having a child, she starts thinking about making room for that child. "How am I going to fit this into everything else I'm doing?" And literally from that moment, she doesn't raise her hand anymore, she doesn't look for a promotion, she doesn't take on the new project, she doesn't say," Me. I want to do that." She starts leaning back. The problem is that -- let's say she got pregnant that day, that day --nine months of pregnancy, three months of maternity leave, six months to catch your breath -- Fast-forward two years, more often -- and as I've seen it -- women start thinking about this way earlier --when they get engaged, or married, when they start thinking about having a child, which can take a long time. One woman came to see me about this. She looked a little young. And I said, "So are you and your husband thinking about having a baby?" And she said, "Oh no, I'm not married." She didn't even have a boyfriend.

I said, "You're thinking about this just way too early."

But the point is that what happens once you start kind of quietly leaning back? Everyone who's been through this -- and I'm here to tell you, once you have a child at home, your job better be really good to go back, because it's hard to leave that kid at home. Your job needs to be challenging. It needs to be rewarding. You need to feel like you're making a difference. And if two years ago you didn't take a promotion and some guy next to you did, if three years ago you stopped looking for new opportunities, you're going to be bored because you should have kept your foot on the gas pedal. Don't leave before you leave. Stay in. Keep your foot on the gas pedal, until the very day you need to leave to take a break for a child -- and then make your decisions. Don't make decisions too far in advance, particularly ones you're not even conscious you're making.

My generation really, sadly, is not going to change the numbers at the top. They're just not moving. We are not going to get to where 50 percent of the population -- in my generation, there will not be 50 percent of [women] at the top of any industry. But I'm hopeful that future generations can. I think a world where half of our countries and our companies were run by women, would be a better world. It's not just because people would know where the women's bathrooms are, even though that would be very helpful. I think it would be a better world. I have two children. I have a five-year-old son and a two-year-old daughter. I want my son to have a choice to contribute fully in the workforce or at home, and I want my daughter to have the choice to not just succeed, but to be liked for her accomplishments.

Thank you.

The Power of Introverts

视频地址

https://www.ted.com/talks/susan_cain_the_power_of_introverts/transcript?referrer=playlist-the_most_popular_talks_of_all

演讲文稿

When I was nine years old, I went off to summer camp for the first time. And my mother packed me a suitcase full of books, which to me seemed like a perfectly natural thing to do. Because in my family, reading was the primary group activity. And this might sound antisocial to you, but for us it was really just a different way of being social. You have the animal warmth of your family sitting right next to you, but you are also free to go roaming around the adventureland inside your own mind. And I had this idea that camp was going to be just like this, but better.

I had a vision of 10 girls sitting in a cabin cozily reading books in their matching nightgowns.

Camp was more like a keg party without any alcohol. And on the very first day, our counselor gathered us all together and she taught us a cheer that she said we would be doing every day for the rest of the summer to instill camp spirit. And it went like this: "R-O-W-D-I-E, that's the way we spell rowdie. Rowdie, rowdie, let's get rowdie."

Yeah. So I couldn't figure out for the life of me why we were supposed to be so rowdy, or why we had to spell this word incorrectly.

But I recited a cheer. I recited a cheer along with everybody else. I did my best. And I just waited for the time that I could go off and read my books.

But the first time that I took my book out of my suitcase, the coolest girl in the bunk came up to me and she asked me, "Why are you being so mellow?" -- mellow, of course, being the exact opposite of R-O-W-D-I-E. And then the second time I tried it, the counselor came up to me with a concerned expression on her face and she repeated the point about camp spirit and said we should all work very hard to be outgoing.

And so I put my books away, back in their suitcase, and I put them under my bed, and there they stayed for the rest of the summer. And I felt kind of guilty about this. I felt as if the books needed me somehow, and they were calling out to me and I was forsaking them. But I did forsake them and I didn't open that suitcase again until I was back home with my family at the end of the summer.

Now, I tell you this story about summer camp. I could have told you 50 others just like it -- all the times that I got the message that somehow my quiet and introverted style of being was not necessarily the right way to go, that I should be trying to pass as more of an extrovert. And I always sensed deep down that this was wrong and that introverts were pretty excellent just as they were. But for years I denied this intuition, and so I became a Wall Street lawyer, of all things, instead of the writer that I had always longed to be -- partly because I needed to prove to myself that I could be bold and assertive too. And I was always going off to crowded bars when I really would have preferred to just have a nice dinner with friends. And I made these self-negating choices so reflexively, that I wasn't even aware that I was making them.

Now this is what many introverts do, and it's our loss for sure, but it is also our colleagues' loss and our communities' loss. And at the risk of sounding grandiose, it is the world's loss. Because when it comes to creativity and to leadership, we need introverts doing what they do best. A third to a half of the population are introverts -- a third to a half. So that's one out of every two or three people you know. So even if you're an extrovert yourself, I'm talking about your coworkers and your spouses and your children and the person sitting next to you right now -- all of them subject to this bias that is pretty deep and real in our society. We all internalize it from a very early age without even having a language for what we're doing.

Now, to see the bias clearly, you need to understand what introversion is. It's different from being shy. Shyness is about fear of social judgment. Introversion is more about, how do you respond to stimulation, including social stimulation. So extroverts really crave large amounts of stimulation, whereas introverts feel at their most alive and their most switched-on and their most capable when they're in quieter, more low-key environments. Not all the time -- these things aren't absolute -- but a lot of the time. So the key then to maximizing our talents is for us all to put ourselves in the zone of stimulation that is right for us.

But now here's where the bias comes in. Our most important institutions, our schools and our workplaces, they are designed mostly for extroverts and for extroverts' need for lots of stimulation. And also we have this belief system right now that I call the new groupthink, which holds that all creativity and all productivity comes from a very oddly gregarious place.

So if you picture the typical classroom nowadays: When I was going to school, we sat in rows. We sat in rows of desks like this, and we did most of our work pretty autonomously. But nowadays, your typical classroom has pods of desks -- four or five or six or seven kids all facing each other. And kids are working in countless group assignments. Even in subjects like math and creative writing, which you think would depend on solo flights of thought, kids are now expected to act as committee members. And for the kids who prefer to go off by themselves or just to work alone, those kids are seen as outliers often or, worse, as problem cases. And the vast majority of teachers reports believing that the ideal student is an extrovert as opposed to an introvert, even though introverts actually get better grades and are more knowledgeable, according to research.

Okay, same thing is true in our workplaces. Now, most of us work in open plan offices, without walls, where we are subject to the constant noise and gaze of our coworkers. And when it comes to leadership, introverts are routinely passed over for leadership positions, even though introverts tend to be very careful, much less likely to take outsize risks -- which is something we might all favor nowadays. And interesting research by Adam Grant at the Wharton School has found that introverted leaders often deliver better outcomes than extroverts do, because when they are managing proactive employees, they're much more likely to let those employees run with their ideas, whereas an extrovert can, quite unwittingly, get so

excited about things that they're putting their own stamp on things, and other people's ideas might not as easily then bubble up to the surface.

Now in fact, some of our transformative leaders in history have been introverts. I'll give you some examples. Eleanor Roosevelt, Rosa Parks, Gandhi -- all these peopled described themselves as quiet and soft-spoken and even shy. And they all took the spotlight, even though every bone in their bodies was telling them not to. And this turns out to have a special power all its own, because people could feel that these leaders were at the helm not because they enjoyed directing others and not out of the pleasure of being looked at; they were there because they had no choice, because they were driven to do what they thought was right.

Now I think at this point it's important for me to say that I actually love extroverts. I always like to say some of my best friends are extroverts, including my beloved husband. And we all fall at different points, of course, along the introvert/extrovert spectrum. Even Carl Jung, the psychologist who first popularized these terms, said that there's no such thing as a pure introvert or a pure extrovert. He said that such a man would be in a lunatic asylum, if he existed at all. And some people fall smack in the middle of the introvert/extrovert spectrum, and we call these people ambiverts. And I often think that they have the best of all worlds. But many of us do recognize ourselves as one type or the other.

And what I'm saying is that culturally, we need a much better balance. We need more of a yin and yang between these two types. This is especially important when it comes to creativity and to productivity, because when psychologists look at the lives of the most creative people, what they find are people who are very good at exchanging ideas and advancing ideas, but who also have a serious streak of introversion in them.

And this is because solitude is a crucial ingredient often to creativity. So Darwin, he took long walks alone in the woods and emphatically turned down dinner-party invitations. Theodor Geisel, better known as Dr. Seuss, he dreamed up many of his amazing creations in a lonely bell tower office that he had in the back of his house in La Jolla, California. And he was actually afraid to meet the young children who read his books for fear that they were expecting him this kind of jolly Santa Claus-like figure and would be disappointed with his more reserved persona. Steve Wozniak

invented the first Apple computer sitting alone in his cubicle in Hewlett-Packard where he was working at the time. And he says that he never would have become such an expert in the first place had he not been too introverted to leave the house when he was growing up.

Now, of course, this does not mean that we should all stop collaborating -- and case in point, is Steve Wozniak famously coming together with Steve Jobs to start Apple Computer -- but it does mean that solitude matters and that for some people it is the air that they breathe. And in fact, we have known for centuries about the transcendent power of solitude. It's only recently that we've strangely begun to forget it. If you look at most of the world's major religions, you will find seekers -- Moses, Jesus, Buddha, Muhammad --seekers who are going off by themselves alone to the wilderness, where they then have profound epiphanies and revelations that they then bring back to the rest of the community. So, no wilderness, no revelations.

This is no surprise, though, if you look at the insights of contemporary psychology. It turns out that we can't even be in a group of people without instinctively mirroring, mimicking their opinions. Even about seemingly personal and visceral things like who you're attracted to, you will start aping the beliefs of the people around you without even realizing that that's what you're doing.

And groups famously follow the opinions of the most dominant or charismatic person in the room, even though there's zero correlation between being the best talker and having the best ideas -- I mean zero. So --

You might be following the person with the best ideas, but you might not. And do you really want to leave it up to chance? Much better for everybody to go off by themselves, generate their own ideas freed from the distortions of group dynamics, and then come together as a team to talk them through in a well-managed environment and take it from there.

Now if all this is true, then why are we getting it so wrong? Why are we setting up our schools this way, and our workplaces? And why are we making these introverts feel so guilty about wanting to just go off by themselves some of the time? One answer lies deep in our cultural history. Western societies, and in particular the

U.S., have always favored the man of action over the "man" of contemplation. But in America's early days, we lived in what historians call a culture of character, where we still, at that point, valued people for their inner selves and their moral rectitude. And if you look at the self-help books from this era, they all had titles with things like "Character, the Grandest Thing in the World." And they featured role models like Abraham Lincoln, who was praised for being modest and unassuming. Ralph Waldo Emerson called him "A man who does not offend by superiority."

But then we hit the 20th century, and we entered a new culture that historians call the culture of personality. What happened is we had evolved an agricultural economy to a world of big business. And so suddenly people are moving from small towns to the cities. And instead of working alongside people they've known all their lives, now they are having to prove themselves in a crowd of strangers. So, quite understandably, qualities like magnetism and charisma suddenly come to seem really important. And sure enough, the self-help books change to meet these new needs and they start to have names like "How to Win Friends and Influence People." And they feature as their role models really great salesmen. So that's the world we're living in today. That's our cultural inheritance.

Now none of this is to say that social skills are unimportant, and I'm also not calling for the abolishing of teamwork at all. The same religions who send their sages off to lonely mountain tops also teach us love and trust. And the problems that we are facing today in fields like science and in economics are so vast and so complex that we are going to need armies of people coming together to solve them working together. But I am saying that the more freedom that we give introverts to be themselves, the more likely that they are to come up with their own unique solutions to these problems.

So now I'd like to share with you what's in my suitcase today. Guess what? Books. I have a suitcase full of books. Here's Margaret Atwood, "Cat's Eye." Here's a novel by Milan Kundera. And here's "The Guide for the Perplexed" by Maimonides. But these are not exactly my books. I brought these books with me because they were written by my grandfather's favorite authors.

My grandfather was a rabbi and he was a widower who lived alone in a small apartment in Brooklyn that was my favorite place in the world when I was growing up, partly because it was filled with his very gentle, very courtly presence and partly because it was filled with books. I mean literally every table, every chair in this apartment had yielded its original function to now serve as a surface for swaying stacks of books. Just like the rest of my family, my grandfather's favorite thing to do in the whole world was to read.

But he also loved his congregation, and you could feel this love in the sermons that he gave every week for the 62 years that he was a rabbi. He would takes the fruits of each week's reading and he would weave these intricate tapestries of ancient and humanist thought. And people would come from all over to hear him speak.

But here's the thing about my grandfather. Underneath this ceremonial role, he was really modest and really introverted -- so much so that when he delivered these sermons, he had trouble making eye contact with the very same congregation that he had been speaking to for 62 years. And even away from the podium, when you called him to say hello, he would often end the conversation prematurely for fear that he was taking up too much of your time. But when he died at the age of 94, the police had to close down the streets of his neighborhood to accommodate the crowd of people who came out to mourn him. And so these days I try to learn from my grandfather's example in my own way.

So I just published a book about introversion, and it took me about seven years to write. And for me, that seven years was like total bliss, because I was reading, I was writing, I was thinking, I was researching. It was my version of my grandfather's hours of the day alone in his library. But now all of a sudden my job is very different, and my job is to be out here talking about it, talking about introversion.

And that's a lot harder for me, because as honored as I am to be here with all of you right now, this is not my natural milieu.

So I prepared for moments like these as best I could. I spent the last year practicing public speaking every chance I could get. And I call this my "year of speaking dangerously."

And that actually helped a lot. But I'll tell you, what helps even more is my sense, my belief, my hope that when it comes to our attitudes to introversion and to quiet and to solitude, we truly are poised on the brink on dramatic change. I mean, we are. And so I am going to leave you now with three calls for action for those who share this vision.

Number one: Stop the madness for constant group work. Just stop it.

And I want to be clear about what I'm saying, because I deeply believe our offices should be encouraging casual, chatty cafe-style types of interactions -- you know, the kind where people come together and serendipitously have an exchange of ideas. That is great.It's great for introverts and it's great for extroverts. But we need much more privacy and much more freedom and much more autonomy at work. School, same thing. We need to be teaching kids to work together, for sure, but we also need to be teaching them how to work on their own. This is especially important for extroverted children too. They need to work on their own because that is where deep thought comes from in part.

Okay, number two: Go to the wilderness. Be like Buddha, have your own revelations. I'm not saying that we all have to now go off and build our own cabins in the woods and never talk to each other again, but I am saying that we could all stand to unplug and get inside our own heads a little more often.

Number three: Take a good look at what's inside your own suitcase and why you put it there. So extroverts, maybe your suitcases are also full of books. Or maybe they're full of champagne glasses or skydiving equipment. Whatever it is, I hope you take these things out every chance you get and grace us with your energy and your joy. But introverts, you being you, you probably have the impulse to guard very carefully what's inside your own suitcase. And that's okay. But occasionally, just occasionally, I hope you will open up your suitcases for other people to see, because the world needs you and it needs the things you carry.

So I wish you the best of all possible journeys and the courage to speak softly.

Thank you.

A healthy economy should be designed to thrive, not grow

视频地址

https://www.ted.com/talks/kate_raworth_a_healthy_economy_should_be_designed_to_thrive_not_grow/transcript

演讲文稿

Have you ever watched a baby learning to crawl? Because as any parent knows, it's gripping. First, they wriggle about on the floor, usually backwards, but then they drag themselves forwards, and then they pull themselves up to stand, and we all clap. And that simple motion of forwards and upwards, it's the most basic direction of progress we humans recognize.

We tell it in our story of evolution as well, from our lolloping ancestors to Homo erectus, finally upright, to Homo sapiens, depicted, always a man, always mid-stride.

So no wonder we so readily believe that economic progress will take this very same shape, this ever-rising line of growth. It's time to think again, to reimagine the shape of progress, because today, we have economies that need to grow, whether or not they make us thrive, and what we need, especially in the richest countries, are economies that make us thrive whether or not they grow. Yes, it's a little flippant word hiding a profound shift in mindset, but I believe this is the shift we need to make if we, humanity, are going to thrive here together this century.

So where did this obsession with growth come from? Well, GDP, gross domestic product, it's just the total cost of goods and services sold in an economy in a year. It was invented in the 1930s, but it very soon became the overriding goal of policy making, so much so that even today, in the richest of countries, governments think that the solution to their economic problems lies in more growth.

Just how that happened is best told through the 1960 classic by W.W. Rostow. I love it so much, I have a first-edition copy. "The Stages of Economic Growth: A Non-Communist Manifesto."

You can just smell the politics, huh?

And Rostow tells us that all economies need to pass through five stages of growth: first, traditional society, where a nation's output is limited by its technology, its institutions and mindset; but then the preconditions for take off, where we get the beginnings of a banking industry, the mechanization of work and the belief that growth is necessary for something beyond itself, like national dignity or a better life for the children; then take off, where compound interest is built into the economy's institutions and growth becomes the normal condition; fourth is the drive to maturity where you can have any industry you want, no matter your natural resource base; and the fifth and final stage, the age of high-mass consumption where people can buy all the consumer goods they want, like bicycles and sewing machines -- this was 1960, remember.

Well, you can hear the implicit airplane metaphor in this story, but this plane is like no other, because it can never be allowed to land. Rostow left us flying into the sunset of mass consumerism, and he knew it. As he wrote, "And then the question beyond, where history offers us only fragments. What to do when the increase in real income itself loses its charm?" He asked that question, but he never answered it, and here's why. The year was 1960, he was an advisor to the presidential candidate John F. Kennedy, who was running for election on the promise of five-percent growth, so Rostow's job was to keep that plane flying, not to ask if, how, or when it could ever be allowed to land.

So here we are, flying into the sunset of mass consumerism over half a century on, with economies that have come to expect, demand and depend upon unending growth, because we're financially, politically and socially addicted to it. We're financially addicted to growth, because today's financial system is designed to pursue the highest rate of monetary return, putting publicly traded companies under constant pressure to deliver growing sales, growing market share and growing profits, and because banks create money as debt bearing interest, which must be repaid with more. We're politically addicted to growth because politicians want to

raise tax revenue without raising taxes and a growing GDP seems a sure way to do that. And no politician wants to lose their place in the G-20 family photo.

But if their economy stops growing while the rest keep going, well, they'll be booted out by the next emerging power house. And we are socially addicted to growth, because thanks to a century of consumer propaganda, which fascinatingly was created by Edward Bernays, the nephew of Sigmund Freud, who realized that his uncle's psychotherapy could be turned into very lucrative retail therapy if we could be convinced to believe that we transform ourselves every time we buy something more.

None of these addictions are insurmountable, but they all deserve far more attention than they currently get, because look where this journey has been taking us. Global GDP is 10 times bigger than it was in 1950 and that increase has brought prosperity to billions of people, but the global economy has also become incredibly divisive, with the vast share of returns to wealth now accruing to a fraction of the global one percent. And the economy has become incredibly degenerative, rapidly destabilizing this delicately balanced planet on which all of our lives depend. Our politicians know it, and so they offer new destinations for growth. You can have green growth, inclusive growth, smart, resilient, balanced growth. Choose any future you want so long as you choose growth.

I think it's time to choose a higher ambition, a far bigger one, because humanity's 21st century challenge is clear: to meet the needs of all people within the means of this extraordinary, unique, living planet so that we and the rest of nature can thrive.

Progress on this goal isn't going to be measured with the metric of money. We need a dashboard of indicators. And when I sat down to try and draw a picture of what that might look like, strange though this is going to sound, it came out looking like a doughnut. I know, I'm sorry, but let me introduce you to the one doughnut that might actually turn out to be good for us. So imagine humanity's resource use radiating out from the middle. That hole in the middle is a place where people are falling short on life's essentials. They don't have the food, health care, education, political voice, housing that every person needs for a life of dignity and opportunity. We want to get everybody out of the hole, over the social foundation and into that green doughnut itself. But, and it's a big but, we cannot let our

collective resource use overshoot that outer circle, the ecological ceiling, because there we put so much pressure on this extraordinary planet that we begin to kick it out of kilter. We cause climate breakdown, we acidify the oceans, a hole in the ozone layer, pushing ourselves beyond the planetary boundaries of the life-supporting systems that have for the last 11,000 years made earth such a benevolent home to humanity.

So this double-sided challenge to meet the needs of all within the means of the planet, it invites a new shape of progress, no longer this ever-rising line of growth, but a sweet spot for humanity, thriving in dynamic balance between the foundation and the ceiling. And I was really struck once I'd drawn this picture to realize that the symbol of well-being in many ancient cultures reflects this very same sense of dynamic balance, from the Maori Takarangito the Taoist Yin Yang, the Buddhist endless knot, the Celtic double spiral.

So can we find this dynamic balance in the 21st century? Well, that's a key question, because as these red wedges show, right now we are far from balanced, falling short and overshooting at the same time. Look in that hole, you can see that millions or billions of people worldwide still fall short on their most basic of needs. And yet, we've already overshot at least four of these planetary boundaries, risking irreversible impact of climate breakdown and ecosystem collapse. This is the state of humanity and our planetary home. We, the people of the early 21st century, this is our selfie.

No economist from last century saw this picture, so why would we imagine that their theories would be up for taking on its challenges? We need ideas of our own, because we are the first generation to see this and probably the last with a real chance of turning this story around. You see, 20th century economics assured us that if growth creates inequality, don't try to redistribute, because more growth will even things up again. If growth creates pollution, don't try to regulate, because more growth will clean things up again.

Except, it turns out, it doesn't, and it won't. We need to create economies that tackle this shortfall and overshoot together, by design. We need economies that are regenerative and distributive by design. You see, we've inherited degenerative industries. We take earth's materials, make them into stuff we want, use it for a while,

often only once, and then throw it away, and that is pushing us over planetary boundaries, so we need to bend those arrows around, create economies that work with and within the cycles of the living world, so that resources are never used up but used again and again, economies that run on sunlight, where waste from one process is food for the next.

And this kind of regenerative design is popping up everywhere. Over a hundred cities worldwide, from Quito to Oslo, from Harare to Hobart, already generate more than 70 percent of their electricity from sun, wind and waves. Cities like London, Glasgow, Amsterdam are pioneering circular city design, finding ways to turn the waste from one urban process into food for the next. And from Tigray, Ethiopia to Queensland, Australia, farmers and foresters are regenerating once-barren landscapes so that it teems with life again.

But as well as being regenerative by design, our economies must be distributive by design, and we've got unprecedented opportunities for making that happen, because 20th-century centralized technologies, institutions, concentrated wealth, knowledge and power in few hands. This century, we can design our technologies and institutions to distribute wealth, knowledge and empowerment to many. Instead of fossil fuel energy and large-scale manufacturing, we've got renewable energy networks, digital platforms and 3D printing. 200 years of corporate control of intellectual property is being upended by the bottom-up, open-source, peer-to-peer knowledge commons. And corporations that still pursue maximum rate of return for their shareholders, well they suddenly look rather out of date next to social enterprises that are designed to generate multiple forms of value and share it with those throughout their networks. If we can harness today's technologies, from AI to blockchain to the Internet of Things to material science, if we can harness these in service of distributive design, we can ensure that health care, education, finance, energy, political voice reaches and empowers those people who need it most. You see, regenerative and distributive design create extraordinary opportunities for the 21st-century economy.

So where does this leave Rostow's airplane ride? Well, for some it still carries the hope of endless green growth, the idea that thanks to dematerialization, exponential GDP growth can go on forever while resource use keeps falling. But look at the data. This is a flight of fancy. Yes, we need to dematerialize our economies, but this

dependency on unending growth cannot be decoupled from resource use on anything like the scale required to bring us safely back within planetary boundaries.

I know this way of thinking about growth is unfamiliar, because growth is good, no? We want our children to grow, our gardens to grow. Yes, look to nature and growth is a wonderful, healthy source of life. It's a phase, but many economies like Ethiopia and Nepal today may be in that phase. Their economies are growing at seven percent a year. But look again to nature, because from your children's feet to the Amazon forest, nothing in nature grows forever. Things grow, and they grow up and they mature, and it's only by doing so that they can thrive for a very long time. We already know this. If I told you my friend went to the doctor who told her she had a growth that feels very different, because we intuitively understand that when something tries to grow forever within a healthy, living, thriving system, it's a threat to the health of the whole. So why would we imagine that our economies would be the one system that could buck this trend and succeed by growing forever? We urgently need financial, political and social innovations that enable us to overcome this structural dependency on growth, so that we can instead focus on thriving and balance within the social and the ecological boundaries of the doughnut.

And if the mere idea of boundaries makes you feel, well, bounded, think again. Because the world's most ingenious people turn boundaries into the source of their creativity. From Mozart on his five-octave piano Jimi Hendrix on his six-string guitar, Serena Williams on a tennis court, it's boundaries that unleash our potential. And the doughnut's boundaries unleash the potential for humanity to thrive with boundless creativity, participation, belonging and meaning.

It's going to take all the ingenuity that we have got to get there, so bring it on.

Thank you

Is the world getting better or worse? A look at numbers

视频地址

https://www.ted.com/talks/steven_pinker_is_the_world_getting_better_or_worse_a_look_at_the_numbers

演讲文稿

Many people face the news each morning with trepidation and dread. Every day, we read of shootings, inequality, pollution, dictatorship, war and the spread of nuclear weapons. These are some of the reasons that 2016 was called the "Worst. Year. Ever." Until 2017 claimed that record , and left many people longing for earlier decades, when the world seemed safer, cleaner and more equal.

But is this a sensible way to understand the human condition in the 21st century? As Franklin Pierce Adams pointed out, "Nothing is more responsible for the good old days than a bad memory."

You can always fool yourself into seeing a decline if you compare bleeding headlines of the present with rose-tinted images of the past. What does the trajectory of the world look likewhen we measure well-being over time using a constant yardstick?

Let's compare the most recent data on the present with the same measures 30 years ago.Last year, Americans killed each other at a rate of 5.3 per hundred thousand, had seven percent of their citizens in poverty and emitted 21 million tons of particulate matter and four million tons of sulfur dioxide. But 30 years ago, the homicide rate was 8.5 per hundred thousand, poverty rate was 12 percent and we emitted 35 million tons of particulate matter and 20 million tons of sulfur dioxide.

What about the world as a whole? Last year, the world had 12 ongoing wars, 60 autocracies,10 percent of the world population in extreme poverty and more than 10,000 nuclear weapons. But 30 years ago, there were 23 wars, 85 autocracies, 37

percent of the world population in extreme poverty and more than 60,000 nuclear weapons. True, last year was a terrible year for terrorism in Western Europe, with 238 deaths, but 1988 was worse with 440 deaths.

What's going on? Was 1988 a particularly bad year? Or are these improvements a sign that the world, for all its struggles, gets better over time? Might we even invoke the admittedly old-fashioned notion of progress? To do so is to court a certain amount of derision, because I have found that intellectuals hate progress.

And intellectuals who call themselves progressive really hate progress.

Now, it's not that they hate the fruits of progress, mind you. Most academics and pundits would rather have their surgery with anesthesia than without it. It's the idea of progress that rankles the chattering class. If you believe that humans can improve their lot, I have been told, that means that you have a blind faith and a quasi-religious belief in the outmoded superstition and the false promise of the myth of the onward march of inexorable progress. You are a cheerleader for vulgar American can-doism, with the rah-rah spirit of boardroom ideology, Silicon Valley and the Chamber of Commerce. You are a practitioner of Whig history, a naive optimist, a Pollyanna and, of course, a Pangloss, alluding to the Voltaire character who declared, "All is for the best in the best of all possible worlds."

Well, Professor Pangloss, as it happens, was a pessimist. A true optimist believes there can be much better worlds than the one we have today. But all of this is irrelevant, because the question of whether progress has taken place is not a matter of faith or having an optimistic temperament or seeing the glass as half full. It's a testable hypothesis. For all their differences, people largely agree on what goes into human well-being: life, health, sustenance, prosperity, peace, freedom, safety, knowledge, leisure, happiness. All of these things can be measured. If they have improved over time, that, I submit, is progress.

Let's go to the data, beginning with the most precious thing of all, life. For most of human history, life expectancy at birth was around 30. Today, worldwide, it is more than 70, and in the developed parts of the world, more than 80. 250 years ago, in the richest countries of the world, a third of the children did not live to see their fifth

birthday, before the risk was brought down a hundredfold. Today, that fate befalls less than six percent of children in the poorest countries of the world. Famine is one of the Four Horsemen of the Apocalypse. It could bring devastation to any part of the world. Today, famine has been banished to the most remote and war-ravaged regions. 200 years ago, 90 percent of the world's population subsisted in extreme poverty. Today, fewer than 10 percent of people do. For most of human history, the powerful states and empires were pretty much always at war with each other, and peace was a mere interlude between wars. Today, they are never at war with each other. The last great power war pitted the United States against China 65 years ago. More recently, wars of all kinds have become fewer and less deadly. The annual rate of war has fallen from about 22 per hundred thousand per year in the early '50s to 1.2 today. Democracy has suffered obvious setbacks in Venezuela, in Russia, in Turkey and is threatened by the rise of authoritarian populism in Eastern Europe and the United States. Yet the world has never been more democratic than it has been in the past decade, with two-thirds of the world's people living in democracies. Homicide rates plunge whenever anarchy and the code of vendetta are replaced by the rule of law. It happened when feudal Europe was brought under the control of centralized kingdoms, so that today a Western European has 1/35th the chance of being murdered compared to his medieval ancestors. It happened again in colonial New England, in the American Wild West when the sheriffs moved to town, and in Mexico.

Indeed, we've become safer in just about every way. Over the last century, we've become 96 percent less likely to be killed in a car crash, 88 percent less likely to be mowed down on the sidewalk, 99 percent less likely to die in a plane crash, 95 percent less likely to be killed on the job, 89 percent less likely to be killed by an act of God, such as a drought, flood, wildfire, storm, volcano, landslide, earthquake or meteor strike, presumably not because God has become less angry with us but because of improvements in the resilience of our infrastructure. And what about the quintessential act of God, the projectile hurled by Zeus himself? Yes, we are 97 percent less likely to be killed by a bolt of lightning.

Before the 17th century, no more than 15 percent of Europeans could read or write. Europe and the United States achieved universal literacy by the middle of the 20th century, and the rest of the world is catching up. Today, more than 90 percent of the world's population under the age of 25 can read and write. In the 19th century, Westerners worked more than 60 hours per week. Today, they work fewer than 40. Thanks to the universal penetration of running water and electricity in the

developed world and the widespread adoption of washing machines, vacuum cleaners, refrigerators, dishwashers, stoves and microwaves, the amount of our lives that we forfeit to housework has fallen from 60 hours a week to fewer than 15 hours a week.

Do all of these gains in health, wealth, safety, knowledge and leisure make us any happier? The answer is yes. In 86 percent of the world's countries, happiness has increased in recent decades.

Well, I hope to have convinced you that progress is not a matter of faith or optimism, but is a fact of human history, indeed the greatest fact in human history. And how has this fact been covered in the news?

A tabulation of positive and negative emotion words in news stories has shown that during the decades in which humanity has gotten healthier, wealthier, wiser, safer and happier, the "New York Times" has become increasingly morose and the world's broadcasts too have gotten steadily glummer.

Why don't people appreciate progress? Part of the answer comes from our cognitive psychology. We estimate risk using a mental shortcut called the "availability heuristic." The easier it is to recall something from memory, the more probable we judge it to be. The other part of the answer comes from the nature of journalism, captured in this satirical headline from "The Onion," "CNN Holds Morning Meeting to Decide What Viewers Should Panic About For Rest of Day."

News is about stuff that happens, not stuff that doesn't happen. You never see a journalist who says, "I'm reporting live from a country that has been at peace for 40 years," or a city that has not been attacked by terrorists. Also, bad things can happen quickly, but good things aren't built in a day. The papers could have run the headline, "137,000 people escaped from extreme poverty yesterday" every day for the last 25 years. That's one and a quarter billion people leaving poverty behind, but you never read about it. Also, the news capitalizes on our morbid interest in what can go wrong, captured in the programming policy, "If it bleeds, it leads." Well, if you combine our cognitive biases with the nature of news, you can see why the world has been coming to an end for a very long time indeed.

Let me address some questions about progress that no doubt have occurred to many of you. First, isn't it good to be pessimistic to safeguard against complacency, to rake the muck, to speak truth to power? Well, not exactly. It's good to be accurate. Of course we should be aware of suffering and danger wherever they occur, but we should also be aware of how they can be reduced, because there are dangers to indiscriminate pessimism. One of them is fatalism. If all our efforts at improving the world have been in vain, why throw good money after bad? The poor will always be with you. And since the world will end soon -- if climate change doesn't kill us all, then runaway artificial intelligence will -- a natural response is to enjoy life while we can, eat, drink and be merry, for tomorrow we die.

The other danger of thoughtless pessimism is radicalism. If our institutions are all failing and beyond hope for reform, a natural response is to seek to smash the machine, drain the swamp, burn the empire to the ground, on the hope that whatever rises out of the ashes is bound to be better than what we have now.

Well, if there is such a thing as progress, what causes it? Progress is not some mystical force or dialectic lifting us ever higher. It's not a mysterious arc of history bending toward justice. It's the result of human efforts governed by an idea, an idea that we associate with the 18th century Enlightenment, namely that if we apply reason and science that enhance human well-being, we can gradually succeed. Is progress inevitable? Of course not. Progress does not mean that everything becomes better for everyone everywhere all the time. That would be a miracle, and progress is not a miracle but problem-solving. Problems are inevitable and solutions create new problems which have to be solved in their turn. The unsolved problems facing the world today are gargantuan, including the risks of climate change and nuclear war, but we must see them as problems to be solved, not apocalypses in waiting, and aggressively pursue solutions like Deep Decarbonization for climate change and Global Zero for nuclear war.

Finally, does the Enlightenment go against human nature? This is an acute question for me, because I'm a prominent advocate of the existence of human nature, with all its shortcomings and perversities. In my book "The Blank Slate," I argued that the human prospect is more tragic than utopian and that we are not stardust, we are not golden and there's no way we are getting back to the garden.

But my worldview has lightened up in the 15 years since "The Blank Slate" was published. My acquaintance with the statistics of human progress, starting with violence but now encompassing every other aspect of our well-being, has fortified my belief that in understanding our tribulations and woes, human nature is the problem, but human nature, channeled by Enlightenment norms and institutions, is also the solution.

Admittedly, it's not easy to replicate my own data-driven epiphany with humanity at large. Some intellectuals have responded with fury to my book "Enlightenment Now," saying first how dare he claim that intellectuals hate progress, and second, how dare he claim that there has been progress.

With others, the idea of progress just leaves them cold. Saving the lives of billions, eradicating disease, feeding the hungry, teaching kids to read? Boring.

At the same time, the most common response I have received from readers is gratitude, gratitude for changing their view of the world from a numb and helpless fatalism to something more constructive, even heroic.

I believe that the ideals of the Enlightenment can be cast a stirring narrative, and I hope that people with greater artistic flare and rhetorical power than I can tell it better and spread it further. It goes something like this.

We are born into a pitiless universe, facing steep odds against life-enabling order and in constant jeopardy of falling apart. We were shaped by a process that is ruthlessly competitive. We are made from crooked timber, vulnerable to illusions, self-centeredness and at times astounding stupidity.

Yet human nature has also been blessed with resources that open a space for a kind of redemption. We are endowed with the power to combine ideas recursively, to have thoughts about our thoughts. We have an instinct for language, allowing us to share the fruits of our ingenuity and experience. We are deepened with the capacity

for sympathy, for pity, imagination, compassion, commiseration. These endowments have found ways to magnify their own power. The scope of language has been augmented by the written, printed and electronic word. Our circle of sympathy has been expanded by history, journalism and the narrative arts. And our puny rational faculties have been multiplied by the norms and institutions of reason, intellectual curiosity, open debate, skepticism of authority and dogma and the burden of proof to verify ideas by confronting them against reality.

As the spiral of recursive improvement gathers momentum, we eke out victories against the forces that grind us down, not least the darker parts of our own nature. We penetrate the mysteries of the cosmos, including life and mind. We live longer, suffer less, learn more, get smarter and enjoy more small pleasures and rich experiences. Fewer of us are killed, assaulted, enslaved, exploited or oppressed by the others. From a few oases, the territories with peace and prosperity are growing and could someday encompass the globe. Much suffering remains and tremendous peril, but ideas on how to reduce them have been voiced, and an infinite number of others are yet to be conceived.

We will never have a perfect world, and it would be dangerous to seek one. But there's no limit to the betterments we can attain if we continue to apply knowledge to enhance human flourishing. This heroic story is not just another myth. Myths are fictions, but this one is true, true to the best of our knowledge, which is the only truth we can have. As we learn more, we can show which parts of the story continue to be true and which ones false, as any of them might be and any could become.

And this story belongs not to any tribe but to all of humanity, to any sentient creature with the power of reason and the urge to persist in its being, for it requires only the convictions that life is better than death, health is better than sickness, abundance is better than want, freedom is better than coercion, happiness is better than suffering and knowledge is better than ignorance and superstition.

Thank you.

Why you should make useless things?

视频地址

https://www.ted.com/talks/simone_giertz_why_you_should_make_useless_things/discussion

演讲文稿

Hello. My name is Simone. You know how people tell you if you get nervous when onstage, picture people in the audience naked? Like it's this thing that's supposed to make you feel better. But I was thinking -- picturing all of you naked in 2018 feels kind of weird and wrong. Like, we're working really hard on moving past stuff like that, so we need a new method of dealing with if you get nervous onstage. And I realized that what I'd really like is that I can look at you as much as you're looking at me -- just to even things out a little bit. So if I had way more eyeballs, then we'd all be really comfortable, right? So in preparation for this talk, I made myself a shirt.

It's googly eyes. It took me 14 hours and 227 googly eyes to make this shirt. And being able to look at you as much as you're looking at me is actually only half of the reason I made this. The other half is being able to do this.

So I do a lot of things like this. I see a problem and I invent some sort of solution to it. For example, brushing your teeth. Like, it's this thing we all have to do, it's kind of boring, and nobody really likes it. If there were any seven-year-olds in the audience, they'd be like, "Yes!" So what about if you had a machine that could do it for you?

I call it ... I call it "The Toothbrush Helmet."

So my toothbrush helmet is recommended by zero out of 10 dentists, and it definitely did not revolutionize the world of dentistry, but it did completely change my life. Because I finished making this toothbrush helmet three years ago and after I finished making it, I went into my living room and I put up a camera, and I filmed a seven-second clip of it working. And by now, this is a pretty standard modern-day

fairy tale of girl posting on the internet, the internet takes the girl by storm, thousands of men voyage into the comment sections to ask for her hand in marriage –

She ignores all of them, starts a YouTube channel and keeps on building robots. Since then, I've carved out this little niche for myself on the internet as an inventor of useless machines, because as we all know, the easiest way to be at the top of your field is to choose a very small field.

So I run a YouTube channel about my machines, and I've done things like cutting hair with drones –

To a machine that helps me wake up in the morning –

To this machine that helps me chop vegetables.

I'm not an engineer. I did not study engineering in school. But I was a super ambitious student growing up. In middle school and high school, I had straight A's, and I graduated at the top of my year. On the flip side of that, I struggled with very severe performance anxiety. Here's an email I sent to my brother around that time. "You won't understand how difficult it is for me to tell you, to confess this. I'm so freaking embarrassed. I don't want people to think that I'm stupid. Now I'm starting to cry too. Damn." And no, I did not accidentally burn our parents' house down. The thing I'm writing about in the email and the thing I'm so upset about is that I got a B on a math test.

So something obviously happened between here and here.

One of those things was puberty.

Beautiful time indeed. But moreover, I got interested in building robots, and I wanted to teach myself about hardware. But building things with hardware,

especially if you're teaching yourself, is something that's really difficult to do. It has a high likelihood of failure and moreover, it has a high likelihood of making you feel stupid. And that was my biggest fear at the time. So I came up with a setup that would guarantee success 100 percent of the time. With my setup, it would be nearly impossible to fail. And that was that instead of trying to succeed, I was going to try to build things that would fail. And even though I didn't realize it at the time, building stupid things was actually quite smart, because as I kept on learning about hardware, for the first time in my life, I did not have to deal with my performance anxiety. And as soon as I removed all pressure and expectations from myself, that pressure quickly got replaced by enthusiasm, and it allowed me to just play.

So as an inventor, I'm interested in things that people struggle with. It can be small things or big things or medium-sized things and something like giving a TED talk presents this whole new set of problems that I can solve. And identifying a problem is the first step in my process of building a useless machine. So before I came here, I sat down and I thought of some of the potential problems I might have in giving this talk. Forgetting what to say. That people won't laugh -- that's you. Or even worse, that you'll laugh at the wrong things -- that was an OK part to laugh at, thank you.

Or that when I get nervous, my hands start shaking and I'm really self-conscious about it. Or that my fly has been open this entire time and all of you noticed but I didn't, but it's closed so we're all good on that one.

But one thing I'm actually really nervous about is my hands shaking. I remember when I was a kid, giving presentations in school, I would have my notes on a piece of paper, and I would put a notebook behind the paper so that people wouldn't be able to see the paper quivering. And I give a lot of talks. I know that about half of you in the audience are probably like, "Building useless machines is really fun, but how is this in any way or form a business?" And giving talks is a part of it. And the arrangers always put out a glass of water for you onstage so you have something to drink if you get thirsty, and I always so badly want to drink that water, but I don't dare to pick the glass up because then people might be able to see that my hands are shaking. So what about a machine that hands you a glass of water? Sold to the nervous girl in the googly-eye shirt.

Actually, I need to take this off because I have a thing –

I still don't know what to call this, but I think some sort of "head orbit device," because it rotates this platform around you and you can put anything on it. You can have a camera; you can get photos of your entire head. Like it's really -- it's a very versatile machine.

OK, and I have -- I mean, you can put some snacks on it, for example, if you want to. I have some popcorn here. And you just put a little bit like that. And then you want to -- there's some sacrifices for science -- just some popcorn falling on the floor. Let's do the long way around.

And then you have a little hand. You need to adjust the height of it, and you just do it by shrugging.

I just bumped my mic off, but I think we're all good. OK, also I need to chew this popcorn, so if you guys could just clap your hands a little bit more –

OK, so it's like your own little personal solar system, because I'm a millennial, so I want everything to revolve around me.

Back to the glass of water, that's what we're here for. So, I promise -- I mean, it still has -- it doesn't have any water in it, I'm sorry. But I still need to work on this machine a little bit because I still need to pick up the glass and put it on the platform, but if your hands are shaking a little bit, nobody's going to notice because you're wearing a very mesmerizing piece of equipment.

So, we're all good. OK.

Oh no, it got stuck. Isn't it comforting that even robots sometimes get stage fright? It just gets stuck a little bit. It's very human of them. Oh wait, let's go back a little bit, and then –

Isn’t it be a beautiful time to be alive?

So, as much as my machines can seem like simple engineering slapstick, I realize that I stumbled on something bigger than that. It's this expression of joy and humility that often gets lost in engineering, and for me it was a way to learn about hardware without having my performance anxiety get in the way. I often get asked if I think I'm ever going to build something useful, and maybe someday I will. But the way I see it, I already have because I've built myself this job and it's something that I could never have planned for, or that I could –

It's something that I could never have planned for. Instead it happened just because I was enthusiastic about what I was doing, and I was sharing that enthusiasm with other people. To me that's the true beauty of making useless things, because it's this acknowledgment that you don't always know what the best answer is. And it turns off that voice in your head that tells you that you know exactly how the world works. And maybe a toothbrush helmet isn't the answer, but at least you're asking the question.

Thank you.

Connected, but alone?

视频地址

https://www.ted.com/talks/sherry_turkle_alone_together

演讲文稿

Just a moment ago, my daughter Rebecca texted me for good luck. Her text said, "Mom, you will rock." I love this. Getting that text was like getting a hug. And so there you have it. I embody the central paradox. I'm a woman who loves getting texts who's going to tell you that too many of them can be a problem.

Actually that reminder of my daughter brings me to the beginning of my story. 1996, when I gave my first TED Talk, Rebecca was five years old and she was sitting right there in the front row. I had just written a book that celebrated our life on the internet and I was about to be on the cover of Wired magazine. In those heady days, we were experimenting with chat rooms and online virtual communities. We were exploring different aspects of ourselves. And then we unplugged. I was excited. And, as a psychologist, what excited me most was the idea that we would use what we learned in the virtual world about ourselves, about our identity, to live better lives in the real world.

Now fast-forward to 2012. I'm back here on the TED stage again. My daughter's 20. She's a college student. She sleeps with her cellphone, so do I. And I've just written a new book, but this time it's not one that will get me on the cover of Wired magazine. So what happened? I'm still excited by technology, but I believe, and I'm here to make the case, that we're letting it take us places that we don't want to go.

Over the past 15 years, I've studied technologies of mobile communication and I've interviewed hundreds and hundreds of people, young and old, about their plugged-in lives. And what I've found is that our little devices, those little devices in our pockets, are so psychologically powerful that they don't only change what we do, they change who we are. Some of the things we do now with our devices are things that, only a few years ago, we would have found odd or disturbing, but they've quickly come to seem familiar, just how we do things.

So just to take some quick examples: People text or do email during corporate board meetings. They text and shop and go on Facebook during classes, during presentations, actually during all meetings. People talk to me about the important new skill of making eye contact while you're texting. (Laughter) People explain to me that it's hard, but that it can be done. Parents text and do email at breakfast and at dinner while their children complain about not having their parents' full attention. But then these same children deny each other their full attention. This is a recent shot of my daughter and her friends being together while not being together. And we even text at funerals. I study this. We remove ourselves from our grief or from our revery and we go into our phones.

Why does this matter? It matters to me because I think we're setting ourselves up for trouble — trouble certainly in how we relate to each other, but also trouble in how we relate to ourselves and our capacity for self-reflection. We're getting used to a new way of being alone together. People want to be with each other, but also elsewhere — connected to all the different places they want to be. People want to customize their lives. They want to go in and out of all the places they are because the thing that matters most to them is control over where they put their attention. So you want to go to that board meeting, but you only want to pay attention to the bits that interest you. And some people think that's a good thing. But you can end up hiding from each other, even as we're all constantly connected to each other.

A 50-year-old business man lamented to me that he feels he doesn't have colleagues anymore at work. When he goes to work, he doesn't stop by to talk to anybody, he doesn't call. And he says he doesn't want to interrupt his colleagues because, he says, "They're too busy on their email." But then he stops himself and he says," You know, I'm not telling you the truth. I'm the one who doesn't want to be interrupted. I think I should want to, but actually I'd rather just do things on my Blackberry."

Across the generations, I see that people can't get enough of each other, if and only if they can have each other at a distance, in amounts they can control. I call it the Goldilocks effect: not too close, not too far, just right. But what might feel just right for that middle-aged executive can be a problem for an adolescent who needs to develop face-to-face relationships. An 18-year-old boy who uses texting for almost everything says to me wistfully, "Someday, someday, but certainly not now, I'd like to learn how to have a conversation."

When I ask people "What's wrong with having a conversation?" People say, "I'll tell you what's wrong with having a conversation. It takes place in real time and you can't control what you're going to say. "So that's the bottom line. Texting, email, posting, all of these things let us present the self as we want to be. We get to edit, and that means we get to delete, and that means we get to retouch, the face, the voice, the flesh, the body — not too little, not too much, just right.

Human relationships are rich and they're messy and they're demanding. And we clean them up with technology. And when we do, one of the things that can happen is that we sacrifice conversation for mere connection. We short-change ourselves. And over time, we seem to forget this, or we seem to stop caring.

I was caught off guard when Stephen Colbert asked me a profound question, a profound question. He said, "Don't all those little tweets, don't all those little sips of online communication, add up to one big gulp of real conversation?" My answer was no, they don't add up. Connecting in sips may work for gathering discrete bits of information, they may work for saying, "I'm thinking about you," or even for saying, "I love you," — I mean, look at how I felt when I got that text from my daughter — but they don't really work for learning about each other, for really coming to know and understand each other. And we use conversations with each other to learn how to have conversations with ourselves. So a flight from conversation can really matter because it can compromise our capacity for self-reflection. For kids growing up, that skill is the bedrock of development.

Over and over I hear, "I would rather text than talk." And what I'm seeing is that people get so used to being short-changed out of real conversation, so used to getting by with less, that they've become almost willing to dispense with people altogether. So for example, many people share with me this wish, that someday a more advanced version of Siri, the digital assistant on Apple's iPhone, will be more like a best friend, someone who will listen when others won't. I believe this wish reflects a painful truth that I've learned in the past 15 years. That feeling that no one is listening to me is very important in our relationships with technology. That's why it's so appealing to have a Facebook page or a Twitter feed — so many automatic listeners. And the feeling that no one is listening to me make us want to spend time with machines that seem to care about us.

We're developing robots, they call them sociable robots, that are specifically designed to be companions — to the elderly, to our children, to us. Have we so lost confidence that we will be there for each other? During my research I worked in nursing homes, and I brought in these sociable robots that were designed to give the elderly the feeling that they were understood. And one day I came in and a woman who had lost a child was talking to a robot in the shape of a baby seal. It seemed to be looking in her eyes. It seemed to be following the conversation. It comforted her. And many people found this amazing.

But that woman was trying to make sense of her life with a machine that had no experience of the arc of a human life. That robot put on a great show. And we're vulnerable. People experience pretend empathy as though it were the real thing. So during that moment when that woman was experiencing that pretend empathy, I was thinking, "That robot can't empathize. It doesn't face death. It doesn't know life."

And as that woman took comfort in her robot companion, I didn't find it amazing; I found it one of the most wrenching, complicated moments in my 15 years of work. But when I stepped back, I felt myself at the cold, hard center of a perfect storm. We expect more from technology and less from each other. And I ask myself, "Why have things come to this?"

And I believe it's because technology appeals to us most where we are most vulnerable. And we are vulnerable. We're lonely, but we're afraid of intimacy. And so from social networks to sociable robots, we're designing technologies that will give us the illusion of companionship without the demands of friendship. We turn to technology to help us feel connected in ways we can comfortably control. But we're not so comfortable. We are not so much in control.

These days, those phones in our pockets are changing our minds and hearts because they offer us three gratifying fantasies. One, that we can put our attention wherever we want it to be; two, that we will always be heard; and three, that we will never have to be alone. And that third idea, that we will never have to be alone, is central to changing our psyches. Because the moment that people are alone, even for a few seconds, they become anxious, they panic, they fidget, they reach for a device. Just think of people at a checkout line or at a red light. Being alone feels like a problem that needs to be solved. And so people try to solve it by connecting. But here,

connection is more like a symptom than a cure. It expresses, but it doesn't solve, an underlying problem. But more than a symptom, constant connection is changing the way people think of themselves. It's shaping a new way of being.

The best way to describe it is, I share therefore I am. We use technology to define ourselves by sharing our thoughts and feelings even as we're having them. So before it was: I have a feeling, I want to make a call. Now it's: I want to have a feeling, I need to send a text. The problem with this new regime of "I share therefore I am" is that, if we don't have connection, we don't feel like ourselves. We almost don't feel ourselves. So what do we do? We connect more and more. But in the process, we set ourselves up to be isolated.

How do you get from connection to isolation? You end up isolated if you don't cultivate the capacity for solitude, the ability to be separate, to gather yourself. Solitude is where you find yourself so that you can reach out to other people and form real attachments. When we don't have the capacity for solitude, we turn to other people in order to feel less anxious or in order to feel alive. When this happens, we're not able to appreciate who they are. It's as though we're using them as spare parts to support our fragile sense of self. We slip into thinking that always being connected is going to make us feel less alone. But we're at risk, because actually it's the opposite that's true. If we're not able to be alone, we're going to be more lonely. And if we don't teach our children to be alone, they're only going to know how to be lonely.

When I spoke at TED in 1996, reporting on my studies of the early virtual communities, I said, "Those who make the most of their lives on the screen come to it in a spirit of self-reflection." And that's what I'm calling for here, now: reflection and, more than that, a conversation about where our current use of technology may be taking us, what it might be costing us. We're smitten with technology. And we're afraid, like young lovers, that too much talking might spoil the romance. But it's time to talk. We grew up with digital technology and so we see it as all grown up. But it's not, it's early days. There's plenty of time for us to reconsider how we use it, how we build it. I'm not suggesting that we turn away from our devices, just that we develop a more self-aware relationship with them, with each other and with ourselves.

I see some first steps. Start thinking of solitude as a good thing. Make room for it. Find ways to demonstrate this as a value to your children. Create sacred spaces at home — the kitchen, the dining room — and reclaim them for conversation. Do the same thing at work. At work, we're so busy communicating that we often don't have time to think, we don't have time to talk, about the things that really matter. Change that. Most important, we all really need to listen to each other, including to the boring bits. Because it's when we stumble or hesitate or lose our words that we reveal ourselves to each other.

Technology is making a bid to redefine human connection — how we care for each other, how we care for ourselves — but it's also giving us the opportunity to affirm our values and our direction. I'm optimistic. We have everything we need to start. We have each other. And we have the greatest chance of success if we recognize our vulnerability. That we listen when technology says it will take something complicated and promises something simpler.

So in my work, I hear that life is hard, relationships are filled with risk. And then there's technology — simpler, hopeful, optimistic, ever-young. It's like calling in the cavalry. An ad campaign promises that online and with avatars, you can "Finally, love your friends love your body, love your life, online and with avatars." We're drawn to virtual romance, to computer games that seem like worlds, to the idea that robots, robots, will someday be our true companions. We spend an evening on the social network instead of going to the pub with friends.

But our fantasies of substitution have cost us. Now we all need to focus on the many, many ways technology can lead us back to our real lives, our own bodies, our own communities, our own politics, our own planet. They need us. Let's talk about how we can use digital technology, the technology of our dreams, to make this life the life we can love.

Thank you.

Is our universe the only universe?

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https://www.ted.com/talks/brian_greene_why_is_our_universe_fine_tuned_for_life

演讲文稿

A few months ago the Nobel Prize in physics was awarded to two teams of astronomers for a discovery that has been hailed as one of the most important astronomical observations ever. And today, after briefly describing what they found, I'm going to tell you about a highly controversial framework for explaining their discovery, namely the possibility that way beyond the Earth, the Milky Way and other distant galaxies, we may find that our universe is not the only universe, but is instead part of a vast complex of universes that we call the multiverse.

Now the idea of a multiverse is a strange one. I mean, most of us were raised to believe that the word "universe" means everything. And I say most of us with forethought, as my four-year-old daughter has heard me speak of these ideas since she was born. And last year I was holding her and I said, "Sophia, I love you more than anything in the universe." And she turned to me and said, "Daddy, universe or multiverse?" (Laughter)

But barring such an anomalous upbringing, it is strange to imagine other realms separate from ours, most with fundamentally different features, that would rightly be called universes of their own. And yet, speculative though the idea surely is, I aim to convince you that there's reason for taking it seriously, as it just might be right. I'm going to tell the story of the multiverse in three parts. In part one, I'm going to describe those Nobel Prize-winning results and to highlight a profound mystery which those results revealed. In part two, I'll offer a solution to that mystery. It's based on an approach called string theory, and that's where the idea of the multiverse will come into the story. Finally, in part three, I'm going to describe a cosmological theory called inflation, which will pull all the pieces of the story together.

Okay, part one starts back in 1929 when the great astronomer Edwin Hubble realized that the distant galaxies were all rushing away from us, establishing that space itself is stretching, it's expanding. Now this was revolutionary. The prevailing wisdom was that on the largest of scales the universe was static. But even so, there was one thing that everyone was certain of: The expansion must be slowing down. That, much as the gravitational pull of the Earth slows the ascent of an apple tossed upward, the gravitational pull of each galaxy on every other must be slowing the expansion of space.

Now let's fast-forward to the 1990s when those two teams of astronomers I mentioned at the outset were inspired by this reasoning to measure the rate at which the expansion has been slowing. And they did this by painstaking observations of numerous distant galaxies, allowing them to chart how the expansion rate has changed over time. Here's the surprise: They found that the expansion is not slowing down. Instead they found that it's speeding up, going faster and faster. That's like tossing an apple upward and it goes up faster and faster. Now if you saw an apple do that, you'd want to know why. What's pushing on it?

Similarly, the astronomers' results are surely well-deserving of the Nobel Prize, but they raised an analogous question. What force is driving all galaxies to rush away from every other at an ever-quickening speed? Well the most promising answer comes from an old idea of Einstein's. You see, we are all used to gravity being a force that does one thing, pulls objects together. But in Einstein's theory of gravity, his general theory of relativity, gravity can also push things apart.

How? Well according to Einstein's math, if space is uniformly filled with an invisible energy, sort of like a uniform, invisible mist, then the gravity generated by that mist would be repulsive, repulsive gravity, which is just what we need to explain the observations. Because the repulsive gravity of an invisible energy in space -- we now call it dark energy, but I've made it smokey white here so you can see it -- its repulsive gravity would cause each galaxy to push against every other, driving expansion to speed up, not slow down. And this explanation represents great progress.

But I promised you a mystery here in part one. Here it is. When the astronomers worked out how much of this dark energy must be infusing space to account for the

cosmic speed up, look at what they found. This number is small. Expressed in the relevant unit, it is spectacularly small. And the mystery is to explain this peculiar number. We want this number to emerge from the laws of physics, but so far no one has found a way to do that.

Now you might wonder, should you care? Maybe explaining this number is just a technical issue, a technical detail of interest to experts, but of no relevance to anybody else. Well it surely is a technical detail, but some details really matter. Some details provide windows into uncharted realms of reality, and this peculiar number may be doing just that, as the only approach that's so far made headway to explain it invokes the possibility of other universes --an idea that naturally emerges from string theory, which takes me to part two: string theory.

So hold the mystery of the dark energy in the back of your mind as I now go on to tell you three key things about string theory. First off, what is it? Well it's an approach to realize Einstein's dream of a unified theory of physics, a single overarching framework that would be able to describe all the forces at work in the universe. And the central idea of string theory is quite straightforward. It says that if you examine any piece of matter ever more finely, at first you'll find molecules and then you'll find atoms and subatomic particles. But the theory says that if you could probe smaller, much smaller than we can with existing technology, you'd find something else inside these particles -- a little tiny vibrating filament of energy, a little tiny vibrating string. And just like the strings on a violin, they can vibrate in different patterns producing different musical notes. These little fundamental strings, when they vibrate in different patterns, they produce different kinds of particles -- so electrons, quarks, neutrinos, photons, all other particles would be united into a single framework, as they would all arise from vibrating strings. It's a compelling picture, a kind of cosmic symphony, where all the richness that we see in the world around us emerges from the music that these little, tiny strings can play.

But there's a cost to this elegant unification, because years of research have shown that the math of string theory doesn't quite work. It has internal inconsistencies, unless we allow for something wholly unfamiliar -- extra dimensions of space. That is, we all know about the usual three dimensions of space. And you can think about those as height, width and depth.But string theory says that, on fantastically small scales, there are additional dimensions crumpled to a tiny size so small that we have not detected them. But even though the dimensions are

hidden, they would have an impact on things that we can observe because the shape of the extra dimensions constrains how the strings can vibrate. And in string theory, vibration determines everything. So particle masses, the strengths of forces, and most importantly, the amount of dark energy would be determined by the shape of the extra dimensions. So if we knew the shape of the extra dimensions, we should be able to calculate these features, calculate the amount of dark energy.

The challenge is we don't know the shape of the extra dimensions. All we have is a list of candidate shapes allowed by the math. Now when these ideas were first developed, there were only about five different candidate shapes, so you can imagine analyzing them one-by-one to determine if any yield the physical features we observe. But over time the list grew as researchers found other candidate shapes. From five, the number grew into the hundreds and then the thousands -- A large, but still manageable, collection to analyze, since after all,graduate students need something to do. But then the list continued to grow into the millions and the billions, until today. The list of candidate shapes has soared to about 10 to the 500.

So, what to do? Well some researchers lost heart, concluding that was so many candidate shapes for the extra dimensions, each giving rise to different physical features, string theory would never make definitive, testable predictions. But others turned this issue on its head, taking us to the possibility of a multiverse. Here's the idea. Maybe each of these shapes is on an equal footing with every other. Each is as real as every other, in the sense that there are many universes, each with a different shape, for the extra dimensions. And this radical proposal has a profound impact on this mystery: the amount of dark energy revealed by the Nobel Prize-winning results.

Because you see, if there are other universes, and if those universes each have, say, a different shape for the extra dimensions, then the physical features of each universe will be different, and in particular, the amount of dark energy in each universe will be different. Which means that the mystery of explaining the amount of dark energy we've now measured would take on a wholly different character. In this context, the laws of physics can't explain one number for the dark energy because there isn't just one number, there are many numbers. Which means we have been asking the wrong question. It's that the right question to ask is, why do we humans find ourselves in a universe with a particular amount of dark energy we've measured instead of any of the other possibilities that are out there?

And that's a question on which we can make headway. Because those universes that have much more dark energy than ours, whenever matter tries to clump into galaxies, the repulsive push of the dark energy is so strong that it blows the clump apart and galaxies don't form. And in those universes that have much less dark energy, well they collapse back on themselves so quickly that, again, galaxies don't form. And without galaxies, there are no stars, no planets and no chance for our form of life to exist in those other universes.

So we find ourselves in a universe with the particular amount of dark energy we've measured simply because our universe has conditions hospitable to our form of life. And that would be that. Mystery solved, multiverse found. Now some find this explanation unsatisfying. We're used to physics giving us definitive explanations for the features we observe. But the point is, if the feature you're observing can and does take on a wide variety of different values across the wider landscape of reality, then thinking one explanation for a particular value is simply misguided.

An early example comes from the great astronomer Johannes Kepler who was obsessed with understanding a different number -- why the Sun is 93 million miles away from the Earth. And he worked for decades trying to explain this number, but he never succeeded, and we know why. Kepler was asking the wrong question.

We now know that there are many planets at a wide variety of different distances from their host stars. So hoping that the laws of physics will explain one particular number, 93 million miles, well that is simply wrongheaded. Instead the right question to ask is, why do we humans find ourselves on a planet at this particular distance, instead of any of the other possibilities? And again, that's a question we can answer. Those planets which are much closer to a star like the Sun would be so hot that our form of life wouldn't exist. And those planets that are much farther away from the star, well they're so cold that, again, our form of life would not take hold. So we find ourselves on a planet at this particular distance simply because it yields conditions vital to our form of life. And when it comes to planets and their distances, this clearly is the right kind of reasoning. The point is, when it comes to universes and the dark energy that they contain, it may also be the right kind of reasoning.

One key difference, of course, is we know that there are other planets out there, but so far I've only speculated on the possibility that there might be other universes. So to pull it all together, we need a mechanism that can actually generate other universes. And that takes me to my final part, part three. Because such a mechanism has been found by cosmologists trying to understand the Big Bang. You see, when we speak of the Big Bang, we often have an image of a kind of cosmic explosion that created our universe and set space rushing outward.

But there's a little secret. The Big Bang leaves out something pretty important, the Bang. It tells us how the universe evolved after the Bang, but gives us no insight into what would have powered the Bang itself. And this gap was finally filled by an enhanced version of the Big Bang theory. It's called inflationary cosmology, which identified a particular kind of fuel that would naturally generate an outward rush of space. The fuel is based on something called a quantum field, but the only detail that matters for us is that this fuel proves to be so efficient that it's virtually impossible to use it all up, which means in the inflationary theory, the Big Bang giving rise to our universe is likely not a one-time event. Instead the fuel not only generated our Big Bang, but it would also generate countless other Big Bangs, each giving rise to its own separate universe with our universe becoming but one bubble in a grand cosmic bubble bath of universes.

And now, when we meld this with string theory, here's the picture we're led to. Each of these universes has extra dimensions. The extra dimensions take on a wide variety of different shapes. The different shapes yield different physical features. And we find ourselves in one universe instead of another simply because it's only in our universe that the physical features, like the amount of dark energy, are right for our form of life to take hold. And this is the compelling but highly controversial picture of the wider cosmos that cutting-edge observation and theory have now led us to seriously consider.

One big remaining question, of course, is, could we ever confirm the existence of other universes? Well let me describe one way that might one day happen. The inflationary theory already has strong observational support. Because the theory predicts that the Big Bang would have been so intense that as space rapidly expanded, tiny quantum jitters from the micro world would have been stretched out to the macro world, yielding a distinctive fingerprint, a pattern of slightly hotter spots and slightly colder spots, across space, which powerful telescopes have now

observed. Going further, if there are other universes, the theory predicts that every so often those universes can collide. And if our universe got hit by another, that collision would generate an additional subtle pattern of temperature variations across space that we might one day be able to detect. And so exotic as this picture is, it may one day be grounded in observations, establishing the existence of other universes.

I'll conclude with a striking implication of all these ideas for the very far future. You see, we learned that our universe is not static, that space is expanding, that that expansion is speeding up and that there might be other universes all by carefully examining faint pinpoints of starlight coming to us from distant galaxies. But because the expansion is speeding up, in the very far future, those galaxies will rush away so far and so fast that we won't be able to see them -- not because of technological limitations, but because of the laws of physics. The light those galaxies emit, even traveling at the fastest speed, the speed of light, will not be able to overcome the ever-widening gulf between us. So astronomers in the far future looking out into deep space will see nothing but an endless stretch of static, inky, black stillness. And they will conclude that the universe is static and unchanging and populated by a single central oasis of matter that they inhabit -- a picture of the cosmos that we definitively know to be wrong.

Now maybe those future astronomers will have records handed down from an earlier era, like ours, attesting to an expanding cosmos teeming with galaxies. But would those future astronomers believe such ancient knowledge? Or would they believe in the black, static empty universe that their own state-of-the-art observations reveal? I suspect the latter. Which means that we are living through a remarkably privileged era when certain deep truths about the cosmos are still within reach of the human spirit of exploration. It appears that it may not always be that way. Because today's astronomers, by turning powerful telescopes to the sky, have captured a handful of starkly informative photons -- a kind of cosmic telegram billions of years in transit. and the message echoing across the ages is clear. Sometimes nature guards her secrets with the unbreakable grip of physical law. Sometimes the true nature of reality beckons from just beyond the horizon.

Thank you very much.