

# The magic washing machine | Hans Rosling

Time	Subtitle	Machine Translation
15s	I was only four years old	-
17s	when I saw my mother <b>load a washing machine</b> 将衣服放进洗衣机	当我看到妈妈生平第一次 给洗衣机装上洗衣机时, 我才四岁
20s	for <b>the very first time</b> in her life. 人生中的第一次, very表示强调, 例如 the very best invention	。
23s	<u>That was a great day for my mother.</u>	那对我妈妈来说是美好的一天。
25s	My mother and father <b>had been saving money for years</b>	我父母 多年来一直在攒钱
28s	to be able to buy that machine,	买那台机器,
30s	and <u>the first day it was going to be used,</u>	而且它要使用的第一天,
32s	even Grandma <u>was invited to see the machine.</u> 被邀请去看...	就连奶奶都被邀请 去看这台机器。
35s	(Laughter) And Grandma was even more <b>excited.</b> 激动, 兴奋	(笑声) 奶奶更兴奋了。
39s	Throughout her life, she had been <u>heating</u> water with <u>firewood</u> , 柴火 加热, 供暖	在她的一生中, 她一直在 用柴火烧水,
43s	and she had <u>hand-washed laundry</u> for seven children. 手洗衣服	并 为七个孩子洗手。
47s	And now, <u>she was going to watch electricity do that work.</u>	而现在, 她要看着 电力完成这项工作。
53s	My mother <u>carefully</u> opened the door,	妈妈小心翼翼地打开门, 像
57s	and <b>she loaded the laundry into the machine</b> , 把...装入...	这样把要洗的衣服 放进机器里
1:02	like this.	。
1:03	And then, when she closed the door,	然后, 当她关上门时,
1:05	Grandma said, "No, no, no, no!"	奶奶说: "不, 不, 不, 不!"
1:07	Let me! Let me <u>push the button!</u>	让我! 让我按下按钮! "
1:11	And Grandma pushed the button,	) 奶奶按下按钮
1:14	and she said, "Oh, <u>fantastic!</u> 极好的	, 她说: "哦, 太棒了!"
1:16	I want to see this! Give me a chair! Give me a chair! I want to see it," 在... 前面...	我想看这个! 给我一把椅子! 给我一把椅子! 我想看它, "
1:20	and she sat down <u>in front of</u> the machine,	然后她在机器前坐下
1:23	and <u>she watched the entire</u> washing program. 整个的, 全部的	, 她观看 了整个洗涤程序。
1:27	(Laughter) <b>She was mesmerized.</b>	(笑声) 她被迷住了。
1:29	<b>To my grandmother</b> , the washing machine was a <b>miracle.</b>	对我的祖母来说, 洗衣机是一个奇迹。
1:35	Today, in Sweden and <b>other rich countries</b> ,	今天, 在瑞典和其他富裕国家,

1:38	people are using <b>so many different machines</b> . <small>充满。。。</small>	人们正在 使用许多不同的机器。
1:42	Look -- the homes <b>are full of</b> machines.	看——家里到处都是机器。
1:44	<u>I can't even name them all.</u>	我甚至无法说出所有这些。
1:46	And they also, <u>when they want to travel,</u>	而且, 当他们想旅行时,
1:50	they use <u>flying machines</u>	他们会
1:52	that can <b>take them to remote destinations.</b>	使用可以将他们带到偏远目的地的飞行器。
1:54	And yet, <b>in the world,</b>	然而, 在这个世界上,
1:56	there are so many people <b>who still heat the water on fire,</b>	仍然有很多人 将水加热到火上
2:00	and <b>they cook their food on fire.</b>	, 他们将食物放在火上。
2:02	<u>Sometimes they don't even have enough food.</u>	有时他们甚至 没有足够的食物。
2:05	<b>And they live below the poverty line.</b>	他们生活在贫困线以下。
2:07	There are two billion <b>fellow human</b> beings	有 20 亿同胞
2:10	who <u>live on less than two dollars a day.</u>	每天的生活费不到 2 美元。
2:13	And <u>the richest people over there --</u> there's one billion people,	那里最富有的人—— 有10亿人
2:16	and they live <u>above what I call the "air line"</u> -- (Laughter)	, 他们生活在 我所说的“空中线”之上—— (笑声)
2:20	because they spend more than 80 dollars a day	因为他们 每天
2:24	<b>on their consumption.</b>	在消费上花费超过80美元。
2:26	But this is just one, two, three billion people,	但这只是一、二、 三十亿人,
2:28	and <b>obviously</b> , there are seven billion people in the world,	很明显, 世界上有 七十亿人,
2:31	so there must be one, two, three, four billion people more	所以生活在贫困和空中线之间的人肯定还有一、二、 三、 四十亿人
2:35	<b>who live in between the poverty and the air line.</b>	。
2:38	They have electricity,	他们有电,
2:40	but the question is: How many have washing machines? <small>详细审查</small>	但问题是: 有多少人有洗衣机?
2:43	<b>I've done the scrutiny of market data,</b> and I've found that, indeed, <small>穿过, 渗入</small>	我仔细研究了市场数据, 我发现洗衣机确实
2:48	<u>the washing machine has <b>penetrated</b> below the air line,</u>	已经渗透到空气线以下,
2:52	and today, <b>there's an additional one billion people out there</b>	而今天, 还有另外 10 亿
2:55	who live above the "wash line."	人生活在“洗涤线”之上。

2:57	(Laughter)	(笑声)
2:59	And they <b>consume</b> for more than 40 dollars per day.	) 他们 每天消费超过 40 美元。
3:03	So two billion <b>have access to washing machines</b> .	因此, 有 20 亿人可以 使用洗衣机。
3:06	And the <sup>剩余的</sup> <b>remaining</b> five billion --	剩下的五十亿——
3:09	<u>how do they wash?</u>	他们怎么洗?
3:10	Or, <sup>精确的</sup> to be more precise,	或者, 更准确地说,
3:12	<b>how do most of the women in the world wash?</b>	世界上大多数女性是如何洗脸的?
3:15	Because <b>it remains the hard work for women to wash</b> .	因为它仍然 是女性的艰苦工作。
3:19	<u>They wash like this: by hand.</u>	他们是这样洗的: 用手。
3:22	It's hard, <b>time-consuming</b> <sup>劳工</sup> labor,	这是一项艰巨、耗时的工作
3:27	<u>which they have to do for hours every week.</u>	, 他们每周必须做 几个小时。
3:30	And sometimes they also have to <u>bring water from far away</u>	有时他们还必须 从远处带水
3:33	<b>to do the laundry</b> at home,	在家洗衣服,
3:34	or they have to <b>bring the laundry away</b> to a <b>stream</b> <sup>遥远的</sup> far off.	或者他们必须将衣物 带到远处的溪流中。
3:38	And they <u>want the washing machine.</u>	他们想要洗衣机。
3:41	They don't want to <u>spend such a large part of their life</u>	他们不想花费 生命中的大部分时间来
3:44	doing <b>this hard work</b>	从事这种
3:46	<u>with so relatively low productivity.</u>	生产率相对较低的艰苦工作。
3:49	<b>And there's nothing different in their wish</b>	他们的愿望
3:51	<b>than it was for my grandma.</b>	和我奶奶的愿望没有什么不同。
3:53	Look here, <b>two generations ago</b> in Sweden --	看这里, 两代 前的瑞典——
3:55	<sup>getting</sup> <u>picking water from the stream,</u>	从小溪里取水,
3:57	<b>heating with firewood and washing like that.</b>	用柴火取暖, 然后这样洗。
4:00	<u>They want the washing machine in exactly the same way.</u>	他们想要洗衣机 的方式完全相同。
4:03	But when I <sup>演讲</sup> lecture <u>to environmentally concerned students,</u>	但是当我 给关心环保的学生讲课时,
4:06	they tell me, "No, <b>everybody in the world</b> cannot have cars and washing machines."	他们告诉我, "不, 世界上每个人 都不能拥有汽车和洗衣机。"
4:11	<u>How can we tell this woman</u>	我们怎么能告诉这个
4:13	that she isn't going to have a washing machine?	女人她 不会有洗衣机呢?
4:15	And then I ask my students -- <u>over the last</u>	

	<u>two years</u> , I've asked --	然后我问我的学生—— 在过去的两年里，我问过——
4:19	"How many of you don't use a car?"	“你们中有多少人不开车？”
4:21	And <u>some of them</u> <u>proudly</u> raise their <u>hand</u> and say, "I don't use a car."	他们中的一些人自豪地举起手说：“我不开车。”
4:25	And then I <u>put the really tough</u> question:	然后我提出了一个非常棘手的问题：
4:27	"How many of you <u>hand-wash</u> your jeans and your bedsheets?"	“你们中有多少人 手洗牛仔裤和床单？”
4:31	<u>And no one raised their hand.</u>	没有人举手。
4:35	Even the <u>hardcore</u> <sup>中坚分子</sup> in the green movement use washing machines.	即使是绿色运动中的铁杆也 使用洗衣机。
4:39	(Laughter)	(笑声)
4:43	So how come [this is] something that everyone uses	那么为什么[这是] 每个人都使用的东西
4:45	and they think others will not stop it?	， 他们认为其他人不会阻止它？
4:47	<u>What is special with this?</u>	这有什么特别之处？
4:48	I had to do <u>an analysis</u> about the energy <u>use in the world.</u>	我必须 对世界上的能源使用情况进行分析。
4:51	Here we are.	我们到了。
4:52	Look here. You see the seven billion people <u>up there?</u>	看这里。 你看到上面 的七十亿人了吗？
4:55	The air people, the wash people,	空气人、洗衣人
4:57	the bulb people and the fire people.	、灯泡人和火人。
5:00	<u>One unit like this</u>	像这样
5:02	is an energy unit of fossil fuel -- oil, coal or gas.	的一个单位是化石燃料的能源单位—— 石油、煤炭或天然气。
5:07	<u>That's what</u> <u>most of the electricity</u> and the energy in the world is.	这就是世界上大部分的电力 和能源。
5:11	And it's 12 units used in the entire world,	而且全世界用了12个单位
5:14	and the richest one billion, they use six of them.	， 最富有的10亿， 他们用了6个。
5:17	Half of the energy is used by one seventh of the world <u>population</u> . <sup>人口，居民</sup>	世界七分之一的人口使用了一半的能源。
5:20	And these ones, who have washing machines	而这些有洗衣机
5:23	but not a house full of other machines,	但没有装满其他机器的房子的人，
5:25	they use two.	他们使用两台。
5:26	This group uses three, one each.	本组使用三个， 每个一个。
5:29	And they also have electricity. And over there, they don't even use one each.	他们也有电。 在那里， 他们甚至每个人都不使用一个。
5:33	That makes 12 of them.	这就是其中的 12 个。

5:35	But <b>the main concern</b>	但
5:37	for the <b>environmentally interested students</b> -- and they are right --	对环境感兴趣的 学生——他们是对的——
5:40	is about the future.	主要关心的是未来。
5:43	<b>What are the trends?</b>	趋势是什么？
5:44	If we just <sup>拖延，延长</sup> <b>prolong</b> the trends, <b>without any real advanced analysis,</b>	如果我们只是将趋势延长到 2050 年，而没有任何真正的高级分析，
5:48	to 2050,	-
5:49	<b>there are two things that can increase the energy use:</b>	那么有两件事可以增加能源使用：
5:52	first, <u>population growth</u> ; second, <u>economic growth</u> .	第一，人口增长；第二，人口增长。二是经济增长。
5:55	<u>Population growth will mainly occur among the poorest people here,</u>	人口增长将主要发生 在这里最贫困的人群中，
5:59	because they have <u>high child mortality</u>	因为他们的儿童死亡率很高
6:01	and they have many children per woman.	，而且每名妇女有很多孩子。
6:03	And that will get you two extra,	这会给你额外的两个，
6:05	<u>but that won't change the energy use very much.</u>	但这不会 改变能源的使用。
6:07	<b>What will happen is economic growth.</b>	将会发生的是经济增长。
6:09	The best of here in the <b>emerging</b> <sup>新兴的</sup> economies --	新兴经济体中的佼佼者——
6:12	I call them "the New East" --	我称他们为“新东方”——
6:13	they will jump the air line.	他们将跳空航线。
6:15	"Wopp!" they will say.	“哇！”他们会说。
6:17	<b>And they will start to use</b> <u>as much as the Old West are doing already.</u>	他们将开始 使用旧西部已经在做的事情。
6:20	(Laughter)	(笑声)
6:21	And these people, they want the washing machine.	而这些人， 他们想要洗衣机。
6:24	I told you. They'll go there.	我告诉你了。 他们会去那里。
6:25	<b>And they will double their energy use.</b>	他们的能源使用量将增加一倍。
6:27	<b>And we hope that the poor people will get into the electric light.</b>	我们希望穷人 能够进入电灯。
6:30	<u>And they'll get a two-child family without a stop in population growth.</u>	他们将拥有一个 没有停止人口增长的二孩家庭。
6:33	But the total energy consumption will increase to 22 units.	但总能耗 将增加到22个单位。
6:37	And these 22 units --	而这 22 个单位——
6:40	still, the richest people use most of them.	仍然是最富有的人 使用的最多。
6:44	So what needs to be done?	那么需要做什么呢？



6:45	Because the risk,	因为风险，气候变化
6:47	the high probability of climate change is real.	的高概率 是真实的。
6:50	It's real.	它是真实的。
6:52	Of course, they must be more energy efficient. <sup>有能力的</sup>	当然，它们必须 更节能。
6:55	They must change their behavior in some way.	他们必须 以某种方式改变他们的行为。
6:57	They must also start to produce green energy,	他们还必须 开始生产绿色能源，
7:00	much more green energy.	更多的绿色能源。
7:01	But until they have the same energy consumption per person,	但在他们的 人均能量消耗相同之前，
7:05	they shouldn't give advice to others --	他们不应该给别人建议——
7:06	what to do and what not to do.	什么该做，什么不该做。
7:08	(Laughter)	(笑声)
7:09	(Applause)	(掌声)
7:10	Here, we can get more green energy all over.	在这里，我们可以得到更多的 绿色能源。
7:15	This is what we hope might happen.	这就是我们希望可能发生的事情。
7:17	It's a real challenge in the future.	这是未来的真正挑战。
7:19	But I can <sup>保证</sup> assure you that this woman in the favela in Rio,	但我可以向你 保证，里约贫民窟里的这个 女人，
7:23	she wants a washing machine.	她想要一台洗衣机。
7:25	She's very happy about her <sup>部长，大臣</sup> minister of energy	她很 高兴她的能源部长
7:27	that provided electricity to everyone --	为每个人提供电力——
7:29	so happy that she even voted for her.	很高兴她甚至投票给了她。
7:33	And she became Dilma Rousseff,	And she became Dilma Rousseff,
7:34	the president-elect of one of the biggest democracies in the world,	the president-elect of one of the biggest democracies in the world,
7:39	moving from minister of energy to president.	moving from minister of energy to president.
7:42	If you have democracy, people will vote for washing machines.	如果你有民主， 人们会投票给洗衣机。
7:46	They love them!	他们爱他们！
7:49	And what's the magic with them?	他们有什么魔力？
7:51	My mother explained the magic with this machine	我妈妈 在第一天就解释了这台机器的魔力
7:54	the very, very first day.	。
7:57	She said, "Now, Hans.	她说：“现在，汉斯。
7:59	We have loaded the laundry.	我们已经把衣服装好了

8:01	The machine will make the work.	。机器会做的
8:02	And now we can go to the library."	。现在我们可以去图书馆了。”
8:05	Because this is the magic: you load the laundry,	因为这就是魔法：你装好衣服
8:08	and what do you get out of the machine?	，你从机器里得到什么？
8:10	You get books out of the machines,	你从机器里得到书，
8:14	children's books.	儿童读物。
8:15	And mother got time to read for me.	妈妈有时间为我读书。
8:17	She loved this.	她喜欢这个。
8:18	I got the "ABC's" -- this is why I started my career as a professor,	我得到了“ABC”——这就是为什么 我开始了我的教授生涯，
8:22	when my mother had time to read for me.	当时我母亲有时间为我读书。
8:24	And she also got books for herself.	她还为自己买了书。
8:26	She managed to study English and learn that as a foreign language.	她设法学习英语 并将其作为一门外语学习。
8:30	And she read so many novels,	她在这里读了很多小说
8:32	so many different novels here.	，很多不同的小说。
8:35	And we really, we really loved this machine.	我们真的，我们真的很喜欢这台机器。
8:38	(Laughter) And what we said, my mother and me,	(笑声) 我和妈妈说，
8:42	"Thank you, industrialization.	“感谢工业化。
8:45	Thank you, steel mill.	感谢钢铁厂。
8:47	Thank you, power station.	感谢发电厂
8:49	And thank you, chemical processing industry	。感谢 化学加工业
8:52	that gave us time to read books."	，让我们有时间看书。”
8:54	Thank you very much. (Laughter)	非常感谢。（笑声）
8:56	(Applause)	(掌声)