Today I want to talk about the Earth's last major climatic shift, at the end of the last ice age.
今天我想谈谈在上个冰河时代的末期，地球最近的一次主要的气候改变。
But first, let's back up a moment and review what we know about climatic change in general.
但首先，让我们倒退一会儿，并大体上回顾我们所了解的气候变化。
First, we defined "climate" as consistent patterns of weather over significant periods of time.
首先，我们定义的“气候”是跨越了有效的时间周期的一致的天气模式。
In general, changes in climate occur when the energy balance of the Earth is disturbed.
通常，在气候上的变化发生在地球能量平衡被扰乱的时候。
Solar energy enters the Earth's atmosphere as light and is radiated by the Earth's surface as heat.
太阳能以光的形式进入地球大气，并且经由地球表面以热的形式被辐射。
Land, water, and ice each affect this energy exchange differently.
陆地，水和冰，每一种媒介都在不同程度上影响了这种能量交换。
The system is so complex that to date, our best computer models are only crude approximations and are not sophisticated enough to test hypotheses about the causes of climatic change.
该系统是如此复杂以至于，迄今为止，我们最好的电脑模型也仅仅只是粗略的近似值，而且精度不足以检验关于气候变化原因的假说。
Of course, that doesn't keep us from speculating.
当然，这个不妨碍我们猜测。
For instance, volcanic activity is one mechanism that might affect climatic change.
例如，火山活动可能是影响气候变化的一个途径
When large volcanoes erupt, they disperse tons of particles into the upper atmosphere, where the particles then reflect light.
当大的火山群喷发时，它们撒播了很多的微粒进入上面的大气层中，于是这些微粒在那里反射了光。
Since less light is entering the system of energy exchange, the result would be a cooling of the Earth's surface.
由于较少的光进入了能量交换系统，结果会是地球表面的冷却。
Of course, this is just one possible mechanism of global climate change.
当然，这只是全球气候变化的可能的机制之一。
In all probability, a complete explanation would involve several different

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mechanisms operating at the same time.
很可能，一个完整的解释会牵涉几种不同的机制在同一时间起作用。