

Butterfly in Bombay, Storm in Taipei 蝴蝶效应

The drop of water falls from the glass and runs down a student's hand like a frightened insect. "Don't move an inch," say the professor. "I'm going to drop another one on exactly the same spot." Down comes the drop, but this time it runs in a different direction. Why? Because some condition in the initial system had changed, even though it wasn't **noticeable**. Perhaps the drop was smaller. Or perhaps there was a temperature change in the room, in the water, or on the student's hand.

从玻璃杯倒出的这滴水滴到学生手中，就像只受到惊吓的小虫。「不要动，」教授说。「我要在你手上同一点再倒一滴水。」水滴流了下来，可是这一次它流往不同的方向。为什么？因为部分的初始条件已经改变，尽管这些改变看不太出来。也许，第二滴水较小，或者房间、水，甚至是学生的手的温度改变了。

This is **chaos**. Our world may seem **orderly** and predictable, but **in reality** it is anything but that. Everything that happens is the result of a series of **interconnected** events. It's a little like the telephone game children play at school. At one end of the chain, someone whispers something to the next person. As the information moves down the chain, a letter gets lost, or a word is **pronounced** incorrectly. By the time it reaches the other end, the **original** sentence sounds quite different. That's chaos **at play**. One small change leads to another change, and so on.

这就是所谓的「浑沌效应」。我们所处的世界看似井然有序、凡事皆可预期，但事实上绝非如此。任何事情都是一连串事件交互影响的结果。这有点像小孩子在学校玩的传话游戏一样。在队伍的一端，一个小孩悄声地对下一个小孩说了一句话，当这句话顺着队伍传下去时，也许某个字母被漏掉了，或者某个字被念错了。当话传到队伍的末端时，听起来已经完全不像原来的句子了。这就是浑沌效应发挥了作用，一点小小的改变会导致一连串的转变。

Scientists call this phenomenon "the [butterfly effect](#)." Even though it is tiny, when a butterfly **bats** its wings, it creates small changes in the **atmosphere**. These changes then **interact with** everything else. Just like the telephone game, they **contribute to** major changes down the chain – maybe even a **tornado**. Now imagine what two butterflies in [Bombay](#) could do to the weather in Taipei!

科学家将这种现象称为「蝴蝶效应」。蝴蝶身躯虽小，当牠拍动翅膀时，仍然会轻微改变气压。这些看似不起眼的改变会牵动大气层其它方面的转变，就像是传话游戏一样，会对最后的结果造成极大的影响，甚至会引发一场飓风。这时你不妨想想：要是「两」只蝴蝶在孟买拍动翅膀，台北的气候可会受到什么样的影响！

—by J. Michael Cole

Vocabulary

noticeable [ˈnɒtɪsəbəl] adj. 显而易见的

chaos [ˈkeɪs] n. 混乱

orderly [ˈɔːdəli] adj. 有条理的

contribute [kən ` trɪbjut] **to** 促成

More Information

in reality 实际上

interconnected [ˌɪntəˌkɒ ` nɛktɪd] adj. 互相关联的

pronounce [prə ` naʊns] v. 发音

original [ə ` rɪdʒən!] adj. 最初的，本来的

at play 在起作用

bat: [bæt] v. 拍打 flutter

atmosphere [` ætməsˌfɪr] n. 大气

interact with 互相作用；互相影响

tornado [tɔr ` nedo] n. 龙卷风；旋风；飓风

Bombay [bɑm ` be] 孟买（位于印度西部，1995年7月28日该省省政府将该市更名为 Mumbai）