Brain's special sound skill

大脑原来自带消音系统

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导读：听觉皮层是我们的大脑处理声音的区域，然而令人感到好奇的是，我们对其他声音十分敏感，却往往忽略了自身发出的声音。而这种能力，其实对于我们而言至关重要……

Our brain is able to ignore our own footsteps, according to a new study. CFP

You're walking down a quiet street and suddenly you hear some footsteps. Undoubtedly, it means that there's someone around. But have you ever wondered why it occurs to us that it's someone else's footsteps, not ours?
你正走在一条安静的街道上，突然，你听见了脚步声。毫无疑问，这表示有人在附近。但你可曾想过，为什么我们会认为是别人的脚步声，而不是自己的呢？

According to a new study published in the journal Nature in September, this phenomenon results from a function in our brain to ignore the noises we make ourselves.
据去年9月发布于《自然》期刊的一项新研究表明，这一现象源于大脑的一项功能 —— 忽略我们自身发出的声音。

In order to explore how our brain does this, a group of scientists from New York University in the US carried out an experiment with mice at Duke University. In the experiment, researchers controlled the sounds a group of mice could hear, reported Science Daily.
为了探索大脑是如何做到这一点的，来自美国纽约大学的一队科学家在杜克大学用老鼠做了一项实验。据“每日科学”网站报道，在实验中，研究人员对一组老鼠能听见的声音进行了控制。

During the first several days, the mice would hear the same sound each time they took a step. This was just like "running on a tiny piano with each key playing exactly the same note", senior study author Richard Mooney, a professor of neurobiology at Duke University, told Live Science.
在最初的几天里，每当老鼠活动时都会听到同样的声音。这就像“在一架小钢琴上面活动，每个琴键发出的都是同样的声音，”资深研究作者、杜克大学神经生物学教授理查德·穆尼在接受《生活科学》杂志采访时表示。

adj. 听觉的， n. 皮质
Scientists found that their auditory cortex – the area of the brain that processes sound – became active at first but decreased its response to the sound after two or three minutes when the mice became familiar with it.
adj. 熟悉的;
科学家们发现，老鼠的听觉皮层 —— 大脑处理声音的区域 —— 刚开始的时候十分活跃，但过了两三分钟，老鼠对声音熟悉了之后，它们的听觉皮层对声音的反应便降低了。

"It's almost like they were wearing special headphones that could filter out the sound of their own movements," David Schneider, an assistant professor at the Center for Neural Science at New York University, told HuffPost.
“这就像它们戴上了特制的耳机，过滤掉了自己活动的声音，”纽约大学神经科学中心助理教授大卫·施耐德在接受《赫芬顿邮报》采访时表示。

But once the sound changed, their auditory cortex became active again.
但一旦声音改变，老鼠的大脑皮层便再次活跃了起来。

This suggests that the "sensory filter" in a mouse's brain could help it detect new sounds or abnormal noise in the environment easily after tuning out familiar sounds, according to Science Daily.
据“每日科学”网站报道，这意味着老鼠大脑中的“感觉过滤器”在熟悉的声音消失后，能帮助它们轻松地察觉环境中的新声音和反常噪音。

"For mice, this is really important," said Schneider. "They are prey animals, so they really need to be able to listen for a cat creeping up on them, even when they're walking and making noise."
n. 被捕食的动物；捕食（习性）；受害者；受骗者； n.& adj. 爬行（的）；
“对于老鼠而言，这点至关重要，”施耐德表示。“它们是其他动物的猎物，所以即便在行动并发出声音的时候，它们也十分需要能够在猫偷偷靠近时有所察觉。”

As important as it is for mice's survival, the ability to ignore movement-related noises is also useful for humans when it comes to complex tasks, such as playing an instrument.
对于人类而言，能够忽略自身行动所产生的声音来完成复杂的工作，比如弹奏乐器，这种能力对老鼠的生存同样重要。

According to Schneider, "the ability to ignore the expected consequences of our movement gives us the extra-cool ability to detect when we've got it wrong. So if I play the piano just right, I hear it, but my auditory cortex is pretty silent. But when I play it wrong, I get a much larger response."
施耐德认为：“忽略行动所带来的预期结果的这种能力，令我们发现错误的能力也异常出色。因此，如果我在弹钢琴时没有出现失误，我的听觉皮层是安静的。但如果我弹错了，我的反应就大多了。”

So, our brain could be telling us, "Hey, that didn't sound right, maybe I should move my fingers a little different next time," Schneider told HuffPost.
所以，大脑能够告诉我们：“那听起来不太对，下一次或许要用略微不同的指法进行弹奏，”施耐德在接受《赫芬顿邮报》采访时如此表示。

(Translator & Editor: Wang Xingwei AND Luo Sitian)
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辞海拾贝

Auditory cortex	听觉皮层	**Filter out**	过滤掉

Sensory	感觉的	**Detect**	察觉
Abnormal	反常的	**Prey**	猎物