这张纸片托住了一整杯水

科学课上学到一个说法：空气有力量，而且力量大得能托住一杯水。我不信。空气天天扑在我脸上，风都吹不乱我的头发，它凭什么托住一杯水？放学回家，我把杯子、纸和自来水搬到餐桌上，决定自己试一次。

我先接水。杯子是家里最普通的玻璃杯，我把它凑到水龙头下面，让水慢慢涨到杯口。水接满以后我不敢再碰桌子，怕一晃就洒。水面上鼓起一个亮亮的圆顶，比杯口还高一点，像给杯子戴了一顶水帽子。我撕下一张卡纸，比杯子口大一圈，平平地盖上去，用手掌按住，把纸压得贴住杯口，一个缝也不留。手心全是汗，我在裤子上蹭了两下，又按回去。

最难的是倒过来这一步。我把胳膊伸直，让杯子离桌子高高的，然后手腕慢慢往下翻。翻到一半的时候，杯子横在天上，水往纸那边压过去，纸中间凹下去一点点。我的心跟着那一点凹陷提到了嗓子眼，心想完了，要洒，这半杯水要浇在数学作业上。我闭了一下眼，再睁开，杯子已经整个倒过来了。纸没掉。水没流。纸变成了一张薄薄的鼓面，托着一整杯晃都不晃的水。

我举着杯子一动不动，保持那个姿势数了六十个数，才慢慢把它翻回桌上。水只剩小半杯洒在桌面上，那是我翻回来时杯口离开纸漏的，不算它洒的。我喊我妈来看，让她也试一次。她盖纸的时候按得不严实，边上一个角翘着，倒过来没两秒，水就顺着那个角流下来，把抹布染透了。妈妈说，哦，要按严实。我说对，我查了，这叫大气压：杯子外面到处是空气，空气从下面往上顶住纸，顶得比一杯水的分量还大；纸边上漏了缝，空气从缝里钻进去，顶不住了，水就下来。

现在我不怀疑空气了。它不吹风的时候也在使劲，只是我们平时看不见它推的东西。我把空杯子倒扣在桌上，纸也不掉——那杯没有水，空气两边一平衡，纸就只是平平地待着。这个实验我一共做了五遍，越做越稳。手心的汗倒是每次都出，惊奇这件事，做五遍也不会打折。

This Paper Held Up a Whole Glass of Water

In science class we learned a claim: air has strength, enough strength to hold up a glass of water. I did not believe it. Air blows in my face every day, wind can't even mess up my hair, so how could it hold up a whole glass of water? After school I carried a glass, some paper, and tap water to the dining table and decided to try it myself.

First I filled the glass. It was the plainest glass at home. I held it under the faucet and let the water rise to the rim. Once full, I did not dare touch the table, afraid a shake would spill it. The water swelled into a shiny dome slightly higher than the rim, like the glass wearing a cap made of water. I tore off a piece of card paper, a ring bigger than the mouth, laid it flat on top, pressed with my palm so the paper clung to the rim with no gap left. My palm went sweaty; I wiped it twice on my trousers and pressed back down.

The hardest part was turning it over. I stretched my arm out, held the glass high

above the table, and slowly rolled my wrist downward. Halfway through, the glass hung sideways in the air, the water pressing toward the paper, and the middle of the paper dimpled in just a little. My heart jumped to my throat with that little dimple — it is over, I thought, it will spill, this half glass of water will flood my math homework. I shut my eyes for a second, opened them, and the glass was fully upside down. The paper did not fall. The water did not run. The paper had become a thin, bulging drumhead holding up a whole glass of water that did not even slosh.

I held the glass motionless, kept that pose while counting to sixty, then slowly turned it back onto the table. Only a small splash of water ended up on the table — that leaked when the rim lifted off the paper on the way back, so I do not count it as a spill. I called my mother to watch, then made her try. She did not press the paper down tight; one corner at the edge curled up, and two seconds after turning it over the water ran down that corner and soaked the rag. My mother said, oh, it has to be sealed tight. I said right, I looked it up — it is called air pressure: air is everywhere outside the glass, pressing upward on the paper from below, harder than the weight of a glass of water; if the edge of the paper leaks, air sneaks in through the gap, the push fails, and the water comes down.

Now I no longer doubt the air. Even when it is not blowing a wind it is still pushing hard; we just cannot see what it pushes. I turned an empty glass upside down on the table and the paper stayed — with no water inside, the air balances on both sides and the paper simply sits flat. I did this experiment five times in all, steadier each time. My palm sweats every single time, though. The amazement does not wear off after five tries.