

Childhood Inspiration

The first Chinese citizen to give a Harvard graduation speech recalled why his mom lit his hand on fire

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A biology student from rural China became the first Chinese citizen to deliver a graduation speech at Harvard University this week.

On Wednesday (May 26), He Jiang, a doctoral student in biochemistry, spoke about the time his mother set his hand on fire when he was a boy, after a poisonous spider bit him. The incident inspired him to bring scientific knowledge to where it's needed the most, he said.

The graduate explained he grew up in a village in central China's Hunan province. When he was bit by the spider 15 years ago, there was no doctor in the area. So his mother wrapped his hand with layers of cotton, soaked the cotton in wine, and ignited it. The pain made him want to scream, he said, but "all I could do was watch my hand burn—one minute, then two minutes—until mom put out the fire."

Heat deactivates proteins, which is what a spider's venom is made of, so his mother's cure was actually effective. "I now know that better, less painful, and less risky treatments existed... why didn't I receive one at the time?" he asked in the speech. He said he is "troubled by the unequal distribution of scientific knowledge throughout the world," and dedicated to communicate what he has learned to those who need it, like "the farmers in my village."

He was one of the three graduate speakers at Harvard's 365th commencement. China's state media outlets bragged he was "making history" and have run many profiles of him leading up to the graduation.

He was the first in his family to attend college. "If you don't study hard and leave this village, you will be farming your whole life," he said his father always told him.

Here's the full text of He's speech in English from financial publisher *Caixin*:

The Spider's Bite

When I was in middle school, a poisonous spider bit my right hand. I ran to my mom for help—but instead of taking me to a doctor, my mom set my hand on fire.

After wrapping my hand with several layers of cotton, then soaking it in wine, she put a chopstick into my mouth, and ignited the cotton. Heat quickly penetrated the cotton and began to roast my hand. The searing pain made me want to scream, but the chopstick prevented it. All I could do was watch my hand burn - one minute, then two minutes –until mom put out the fire.

You see, the part of China I grew up in was a rural village, and at that time pre-industrial. When I was born, my village had no cars, no telephones, no electricity, not even running water. And we certainly didn't have access to modern medical resources. There was no doctor my mother could bring me to see about my spider bite.

For those who study biology, you may have grasped the science behind my mom's cure: heat deactivates proteins, and a spider's venom is simply a form of protein. It's cool how that folk remedy actually incorporates basic biochemistry, isn't it? But I am a PhD student in biochemistry at Harvard, I now know that better, less painful

and less risky treatments existed. So I can't help but ask myself, why I didn't receive one at the time?



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Fifteen years have passed since that incident. I am happy to report that my hand is fine. But this question lingers, and I continue to be troubled by the unequal distribution of scientific knowledge throughout the world. We have learned to edit the human genome and unlock many secrets of how cancer progresses. We can manipulate neuronal activity literally with the switch of a light. Each year brings more advances in biomedical research-exciting, transformative accomplishments. Yet, despite the knowledge we have amassed, we haven't been so successful in deploying it to where it's needed most.

According to the World Bank, twelve percent of the world's population lives on less than \$2 a day. Malnutrition kills more than 3 million children annually. Three hundred million people are afflicted by malaria globally. All over the world, we constantly see these problems of poverty, illness, and lack of resources impeding the flow of scientific information. Lifesaving knowledge we take for granted in the modern world is often unavailable in these underdeveloped regions. And in far too many places, people are still essentially trying to cure a spider bite with fire.

While studying at Harvard, I saw how scientific knowledge can help others in simple, yet profound ways. The bird flu pandemic in the 2000s looked to my village like a spell cast by demons. Our folk medicine didn't even have half-measures to offer. What's more, farmers didn't know the difference between common cold and flu; they didn't understand that the flu was much more lethal than the common cold. Most people were also unaware that the virus could transmit across different species.

So when I realized that simple hygiene practices like separating different animal species could contain the spread of the disease, and that I could help make this knowledge available to my village, that was my first "Aha" moment as a budding scientist. But it was more than that: it was also a vital inflection point in my own ethical development, my own self-understanding as a member of the global community.

Harvard dares us to dream big, to aspire to change the world. Here on this Commencement Day, we are probably thinking of grand destinations and big adventures that await us. As for me, I am also thinking of the farmers in my village. My experience here reminds me how important it is for researchers to communicate our knowledge to those who need it. Because by using the science we already have, we could probably bring my village and thousands like it into the world you and I take for granted every day. And that's an impact every one of us can make!

But the question is, will we make the effort or not?

More than ever before, our society emphasizes science and innovation. But an equally important emphasis should be on distributing the knowledge we have to where it's needed. Changing the world doesn't mean that everyone has to find the next big thing. It can be as simple as becoming better communicators, and finding more creative ways to pass on the knowledge we have to people like my mom and the farmers in their local community. Our society

also needs to recognize that the equal distribution of knowledge is a pivotal step of human development, and work to bring this into reality.

And if we do that, then perhaps a teenager in rural China who is bitten by a spider will not have to burn his hand, but will know to seek a doctor instead.