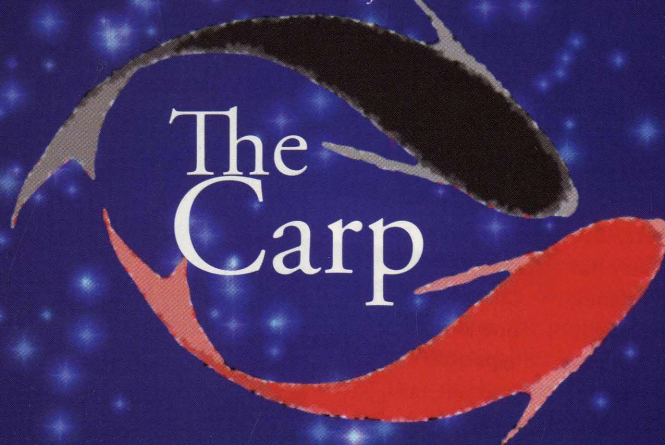


Science, Poetry and Memories of a Lost Childhood

An award-winning poet can be found studying
the enormity of the universe
in the OU physics and astronomy department.

BY ANNE BARAJAS HARP



My father was the school principal. The day I was born, he caught a twenty pound carp. He gave it to the school kitchen. All the teachers and boarding students tasted it.

Waves of mountains surrounded us. I grew up yearning for the ocean. Smoke arose from green mountains to form clouds each morning. My father named me Cloud.

When a son was born to Confucius, the king of Lu sent over a carp as a present. Confucius named his son Carp.

The wise say a carp leaping over the dragon gate is a very lucky sign. My father says he named me Cloud because I was born in the year of the dragon: there are always clouds following a dragon. Confucius' son died an early death. My father has only three daughters.

When I was three, I wandered all over the campus. A stray cat in a haunted town. My mother says I passed the room where my father was imprisoned. He whispered to me, hid a message in my little pocket. It was his will that I should grow up a strong woman, and find justice for him.

They caught me. My father was beaten near to death. Some of them were students, whose parents were peasants. Some of them were teachers, who used to be his best friends. They had tasted the carp.

It has been recorded that Confucius could not tell the difference between millet and wheat, and was thus mocked by a peasant. This peasant became a big hero, representing the wisdom of the people, thousands of years after Confucius' death.

My father still goes fishing, the only thing that seems to calm him. The mountains are sleeping waves. My father catches very small fish. My mother eats them. My friends laugh at me, when I tell them that once upon a time, my father caught a carp weighing twenty pounds.

As a child, Yun Wang spent much of her time looking up, mesmerized by the night sky and worlds beyond our own. Her fascination was understandable, given that events in the world around her were so painful to watch.

Wang, an associate professor in the University of Oklahoma's Department of Physics and Astronomy, has given voice to her love of the known and the unknown through her work in the pioneering field of dark energy and as an award-winning poet. Both endeavors have their roots in Wang's childhood, spent in rural China during the height of the Cultural Revolution.

Wang's parents were educators, her father a high school principal. Poetry has been a part of Wang's life since infancy, when her father would mollify her nighttime cries by chanting classical Chinese poems.

"I was reciting ancient poems when I was a little kid," says Wang, whose *The Book of Jade* was recognized with the 15th annual Nicholas Roerich Poetry Prize. Many of the book's poems are either autobiographical or were inspired by people she knew in China.

"We all write about what happened to us when we were younger," she says. "Some of what I heard and experienced was kind of traumatic; it's cathartic to write about it so I can put it behind me."

China also has left the Cultural Revolution behind, though what happened there from 1966 to 1976 has not been forgotten. Mao Tse-Tung provoked a class war and mobilized China's youth into a force known as the Red Guard. The Red Guard and its followers killed as many as a half-million people suspected of being elites bent on restoring capitalism. Many intellectuals—including Wang's own outspoken father—were targeted.

"Everything my dad stood for was basically the opposite of what people were incited to do," she says, explaining that his efforts to recognize excellence and chastise mediocrity among faculty and staff formed grudges that had deadly consequences. Red Guard members and some of her father's own former co-workers beat him several times. On one occasion, he slipped into a coma.

Wang and a sister were sent to live with an aunt for safekeeping for more than a year. She returned to her hometown of Gaoping and remembers when her father was sent to a labor camp to be "reformed." Once released, he was demoted and transferred from town to town, far away from Wang and her family. He came home about once a month but never again was



Photo provided

China's Cultural Revolution, which would destroy life as they knew it, was still in the future when one-year-old Yun Wang was pictured here with her proud parents. Her father, a high school principal, never again was allowed to teach in his home community.

allowed to teach in his own community.

Despite his absence and being taunted by peers for her family's notoriety, Wang excelled in school. Science and literature were her strengths. As a young teen, she was selected to represent her area at a national math competition. She graduated from school at age 16 and took her college placement exam, ranking second among the entire Guizhou province.

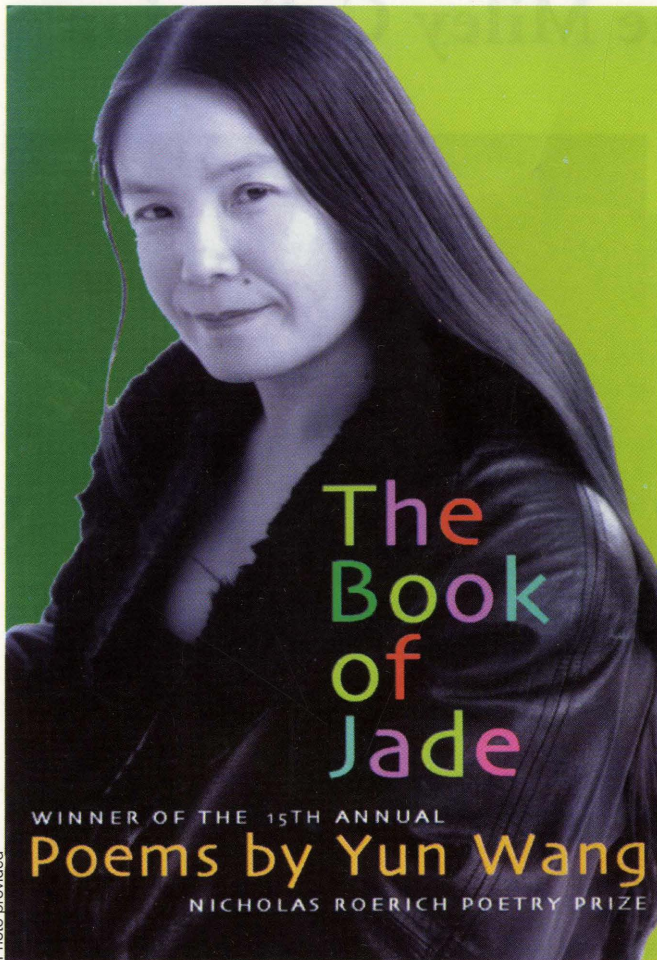
Wang was recruited to attend Tsinghua University in Beijing, considered the MIT of China. She waffled between studying physics or literature, but her father had a strong opinion. "If there are any political movements, the writers are the first to get in trouble," he advised as he steered her toward the sciences.

After college graduation, Wang was chosen by the China-U.S. Physics Examination and Admission program, which selected the top 100 Chinese physics students each year and offered a passport, student visa and admission to an American graduate school.

"That was my ticket out of China," Wang says with a smile. She chose to study at Carnegie Mellon University, where a graduate program in cosmology (the study of the origins of structure in the universe) was getting its start.

"I'd always had a primeval curiosity about the universe, just looking up and seeing the sky filled with stars. If I wanted to understand the world and the universe, cosmology seemed to be the perfect choice because it's the science of the whole universe."

That science is rapidly changing, and Wang is at the forefront. She is among the leading experts on "dark energy," a not-so-easily-understood cosmic phenomenon often confused with dark matter. Dark matter has been recognized since the 1970s and is



Yun Wang's *The Book of Jade*, inspired by her life in China and the people she knew there, was recognized with the 15th annual Nicholas Roerich Poetry Prize.

believed to be an invisible form of matter that has gravity and makes up about 30 percent of the universe.

By contrast, dark energy was discovered in 1998, does not have a gravitational pull, and is believed to make up 70 percent of the universe. And it appears to be growing in dominance.

"The universe is expanding, and it has been since its birth," Wang says. In 1998, two teams of astronomers realized that the expansion of the universe is speeding up, which is called "cosmic acceleration."

The astronomers detected cosmic acceleration by examining the explosive death of white dwarf stars. "They explode like bombs and actually outshine a whole galaxy," Wang says. The light emitted by the exploding stars can be measured and helps determine how far away the stars are from Earth and one another. The surprise came when astronomers realized that these explosions were farther away than they were expected to be. More inquiry revealed that the universe is getting stretched at an accelerated pace, and the force behind that stretching has been termed dark energy.

"We don't know what dark energy is—that's why I wrote a whole book about it," Wang says wryly. "It is a great mystery

"I am very serious about my own research, but I am equally serious about opening doors for others."

waiting to be solved." Her 2010 text is focused on observational techniques astronomers can use to discover the nature of dark energy. The book is only part of Wang's published research; her work has been cited more than 1,700 times during the past six years, according to the Science Citation Index. She also is the recipient of a prestigious National Science Foundation CAREER grant and has been appointed as a member of NASA's Wide-Field Infrared Survey Telescope Science Definition Team.

Outside her personal research, Wang directs two graduate students whose work is answering questions about dark energy.

"I am very serious about my own research, but I am equally serious about opening doors for others," she adds.

Regardless of what dark energy is revealed to be, Wang believes it is not some alarming force that need be feared. "It's hard to think of the universe as something that can be harmed or not harmed," she says, conceding that the universe could eventually get stretched to the point where matter would become too "dilute" to support life.

"That might sound really scary, but we're talking about 10 to the 100th power billion years. It's an almost infinitely remote future. I'm an optimist, so I think if humanity is still around in a couple of billion years, we will have long figured out how to go to another universe."

Optimism has always been one of Wang's key characteristics, despite the hardships she has endured. She recalls being a teen who told people that she was interested in "truth, goodness and beauty."

"That led me to science; I wanted to be a scientist because that seemed to be the best place to pursue truth. For me, the truth that we don't know yet is so full of wonder—it doesn't matter what it is, it's wondrous. It is something that is worth giving my life to pursuing," she says.

"Dr. Wang brings this wonderful intellectual portfolio into the classroom, where she ignites the interest of our students and serves as an excellent role model," says Kelvin Droegemeier, OU's vice president for research. "Perhaps most impressive, Dr. Wang blends her passion of studying the heavens with the creativity of the human spirit through her poetry."

Wang, a wife and mother of two, has authored a second book of poetry yet to be published and has translated more than 50 works by the beloved Chinese poet, Su Dong Po. Someday, she hopes to publish the poems side by side in both Chinese and English.

"I feel very fortunate to have a career doing what I love to do. And to be able to write poetry and publish it, how wonderful that is," the scientist marvels. "Everything I have now just seems so wonderful, and I cherish all the good things in my life." 🍷

Anne Barajas Harp is a freelance writer living in Norman.