

## In memoriam of Professor Kerson Huang

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The world renowned Chinese American physicist Professor Kerson Huang passed away on 1 September 2016, at the age of 88. Mr. Huang was born in Nanning, Guangxi Province, China, and grew up in the Philippines. He earned his PhD from the Massachusetts Institute of Technology (MIT) in 1953, and eventually joined the faculty. Mr. Huang successfully collaborated with C. N. Yang and Tsung-Dao Lee on the analysis of dilute hard-sphere Bose system, an achievement which brought him fame in his early years. I had once tried to explain to Soviet physicists who thought K. Huang (黄昆) and Kerson Huang (黄克孙) were the same person. Professor Kerson Huang was the first person who dared to put the stringent explanations of Onsager solution of 2D Ising model into statistical physics textbooks which, of course, included his own interpretation and contribution. I studied Prof Huang's famous book a long time ago due to my interest in 3D Ising model. Prof Huang later told me that he had a student in his statistical physics course in MIT whose surname was Ising and he discovered that that student was the son of old Ising.

Prof Kerson Huang made a visit to Beijing in early 1973. One day, I accompanied him on a tour of the Summer Palace where light snow was falling on the frozen lake. Inspired by such beautiful scenery, we chanted an ancient Chinese verse at the same instant. That verse is as following:

*When I left here,  
Willow shed tear.  
I came back now,  
Snow bends the bough.<sup>a</sup>*

At that time, Yu Lu (于淥) and I were studying Kenneth Wilson's first two papers regarding the idea of incorporating renormalization group into the theory of phase transition and critical phenomena. We wanted to seize the opportunity to discuss this physical issue with Prof Huang. Prof Huang told us he had no

<sup>a</sup>From *Book of Songs*, translated by Xu Yuanchong (许渊冲)

experience in this area, but he knew Wilson did a series of reports on this topic at the Institute for Advanced Studies in Princeton, and he could ask Wilson to send the report materials to us. Not long afterwards, we received the preprint from Wilson, that was a review later published in *Physics Reports* in partnership with Kogut. That material provided great help for us in understanding the concept of the renormalization group (RG). We expressed our appreciation towards Kerson Huang and Wilson in our paper sent to *Acta Physica Sinica* (《物理学报》). However, the editor of *Acta Physica Sinica* wanted to know the class position and political attitudes of foreigners', so Yu Lu and I decided to delete the acknowledgements. It was only in 2014 when Kerson Huang and other scholars managed to edit the *Wilson Memorial Collection* that I had the opportunity to tell this story from the past.

The Institute of Theoretical Physics was established by the Chinese Academy of Sciences in June 1978. Our institute received an invitation from the Institute for Theoretical Physics at the University of California, Santa Barbara (UCSB) in April 1980 for their inauguration ceremony. A five-person delegation, which included He Zuoxiu (何祚庥), Dai Yuanben (戴元本), Guo Hanying (郭汉英), Zhu Xiquan (朱希泉) and me, made a visit to the east coast of America after the ceremony. During our time in Boston, Prof Kerson Huang invited us for dinner at his place. He Zuoxiu found a small book on Prof Huang's book shelf which turned out to be Prof Huang's Chinese translation of *Rubaiyat* (by Omar Khayyam, 1048–1122) in the style of ancient Chinese poetry. In the preface, Prof Huang mentioned that the first person who translated this volume into Chinese was Guo Moruo<sup>b</sup> (郭沫若), where an extra character “匪” (bandit)<sup>c</sup> had been inserted after the surname Guo using a red stamp. This discovery surprised He Zuoxiu and he shouted to Guo Hanying (Guo Hanying was a son of Guo Moruo), “Little bandit Guo, come and see!”. It turned out this book was printed in Taiwan, and to get it past the Nationalist censors, this insertion was necessary. Prof Huang handed each of us a copy of the Chinese edition of *Rubaiyat* as a gift. One of my popular scientific articles on chaos theory cited the verses from Prof Huang's translation of *Rubaiyat*. That article was published in *Twenty-First Century*, a journal in Hong Kong, and later reprinted in Shanghai *Science* magazine. The verses I cited expressed the view of human helplessness in the face of historical predetermination:

*The Moving Finger writes; and, having writ,  
Moves on: nor all your Piety nor Wit  
Shall lure it back to cancel half a Line,  
Nor all your Tears wash out a Word of it.*<sup>d</sup>

<sup>b</sup>Guo Moruo was the President of the Chinese Academy of Sciences from 1949 to his death in 1978.

<sup>c</sup>The Nationalists referred to leftist writers as bandits.

<sup>d</sup>English translation from Edward Fitzgerald.

After retiring from MIT, Mr. Kerson Huang shifted his interests to biophysics. Since then, we interacted relatively little in research, as he was more concerned about the secondary structure and folding of RNA sequences. During his retirement, he was a visiting professor at Nanyang Technological University of Singapore and visited Beijing as well. We kept in contact and occasionally met with each other. In 2013, Mr. Huang sent a copy of his new collection of poems titled “梦雨录” (*Dreaming of Rain*) to me. Inside the book, there was a poem depicting the experience of Mr. Huang’s father during the Chinese Revolution and the War of Resistance Against Japan.