

Richard S. and I were classmates in five different schools. We were in the same year in Jing-Ling Middle School in Nanjing in 1946, but not in the same class. So we really did not know each other at that time.

We first knew each other in 1949 when we were classmate again in Taipei in Shi Yuan Fu Zhong. Afterwards, we were classmates again three times: in Taiwan University, Brown University and Caltech. Not only that, we had the same adviser for bachelor thesis at Taida, and the same master thesis adviser at Brown. He was indeed an old old friend.

So for about 14 years, from 1949 to 1962, we were close. Close, I mean we were in the vicinity of each other. Richard was proud and reserved, and we were both independent. So we were not close in the sense of sharing everything with each other. But we were close friends that we know the other was always around to lend support when needed.

He seldom talked about his childhood and family. His father had died probably when he was still young. All I know is that he was raised in an extended family, and the head of the family was his uncle, an army general whom he revered very much. Because of Richard's brilliance, he was the favorite son of the family among his siblings and cousins. Richard did not abuse his innate brilliance, he worked very hard, and very focused in his endeavors.

In the freshman year at Taida, I was in the Civil Engineering Department, he at the Mechanical Engineering Department. He moved to the Civil Engineering Department in the sophomore year. We had the same thesis adviser, Professor LU Xiao Hou 卢孝侯, an authority in structural engineering in China. The thesis subjects were on bridges. I let him choose first. He chose the "suspension bridge". Then I chose the "arch".

I went to Brown University in 1955, he in 1956. After 1950, practically no Chinese student came to US to study from Mainland China. On the other hand, Taiwan did not open the gate for college graduates to study abroad until 1953. I was the first Chinese graduate student at Brown directly from Taiwan. The professors in US universities did not know how to evaluate the scholastic records and recommendations from Taiwan. They took a chance on me. I was doing very well. When Richard applied for study at Brown, my advisor asked me about his scholarship. I said that he was as good as me. He came to Brown also on fellowship.

We both studied with Professor Kolsky on experimental investigation of stress waves in solids.

I moved to Caltech in 1957 in the Engineering Science Department, after getting my Sc. M. from Brown. He moved to Caltech a year later, but in Aeronautics Department. His advisor was Lagerstrom, who developed the singular perturbation method (matched expansion method) not long before. The thesis topic must be quite tough. It took him five years to complete his PhD study in 1963.

After graduation, he got a faculty position at Carnegie Institute of Technology in Pittsburgh, not in aero or mechanics departments, but in civil engineering. That was a disappointment, although he was doing quite well there. University salaries are always much lower than those of industries. So, after two years, he quit the academic life and came back to Southern California and joined the MacDonald Douglas Aircraft Company, which later merged with Boeing.

His father-in-law was a high rank general. In 1990s, the husband of his sister-in-law was Defense Minister and then Premier in Taiwan. When Y H Pao retired from the directorship of Taida's Institute of Applied Mechanics at that time, Richard was considered to succeed Pao. He hesitated and did not take the job.

While their family moved from Pittsburgh back to Los Angeles area, we moved to New England in 1968. After we came back to Southern California, I started to organize a monthly gathering of old friends, initially for school mates from Caltech. Richard and his wife were regular attendees for the gathering. We had many happy hours together. He was proud and sometimes aloof to people. But we were always nice to each other.

I do not know much about his professional achievements, because he was later engaged mostly in sensitive areas, so I did not follow his works.

He passed away in 2011.

In the last days of his life, when he was awake, his wife told me what he was reading: Einstein. I can understand his yearning. Einstein was his ultimate scientific idol. But the backwardness of science in Taiwan in early 1950's, when hardly any one understood Relativity theory there, led us to think that relativity and quantum theory were something unreachable for us. It was only when we came to US for graduate study that we were able to appreciate their beauty and power. By then, to pursuit for its research in depth was already too late.

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我和 Richard S 先后在五个学校同学过。1946 年在金陵中学我们同级不同班，因此当时并不认识。

我们初次相识是 1949 年在台北的师院附中成为同学的时候。这之后，我们三度同学：台大、布朗大学、加州理工学院。不仅如此，我们在台大本科论文导师是同一位老师，在布朗大学的硕士导师也是同一位。他实在是很老的老朋友了。

于是，从 1949 到 1962 年大约 14 年间，我们非常近。近，我指的是我们就在彼此附近。Richard 傲慢矜持，而我们又都很独立，因此，在不分彼此交流所有东西上我们可并不近。但我们是好朋友，知道一旦需要对方随时会给予支持。

他很少谈及自己的童年和家庭。他大概幼时丧父，我只知道他在一个大家庭中长大，家长是他伯父，是一位将官，他十分尊敬他的伯父。由于 Richard 才华出

众，他在兄弟姐妹和堂兄弟姐妹中是家里最受宠的男孩。Richard 并不滥用自己的天生才华，他十分勤奋，专注于自己努力的方面。

台大读大一的时候，我在土木工程系，他在机械工程系，二年级他转到土木。我们的论文导师都是中国结构工程权威卢孝侯，题目是关于桥梁的，我让他先选，他选了“吊桥”，于是我选“拱桥”。

我 1955 年到的布朗大学，他是 1956 年。1950 年以后，中国大陆实际上没有中国学生到美国留学，而台湾到 1953 年才开放了本科毕业生出国留学。我是第一个直接从台湾到布朗的学生，美国教授们不知道怎么评估台湾的学业成绩和推荐信，拿我来试一试。我学得很好，等 Richard 申请布朗的时候，导师问我他的学术水平，我说他跟我一样优秀，于是他也拿到了布朗的奖学金。

我们都是师从 Kolsky 教授从事固体中应力波的实验研究。

1957 年我拿到布朗的硕士后，到加州理工学院读工程科学系，他翌年也来了加州理工，在航空系。他的导师是 Lagerstrom，不久前刚刚提出了奇异摄动法（匹配展开法）。他的论文方向一定很难，他用了五年才在 1963 年完成博士工作。

毕业后，他在匹兹堡的卡耐基理工学院拿到教职，不是航空也不是力学系，而是土木工程系。这让他颇感失望，虽然在那儿他干得不错。大学的薪水总是远远赶不上工业界的，于是两年后他告别学术界，去了南加州的麦道飞机公司，这家公司后来被波音兼并了。

他的岳父是个高级将领，九十年代他的连襟在台湾当了国防部长、后来做了行政院长。鲍亦兴辞去台大的应用力学研究所所长时，曾经考虑过 Richard 接任，他犹豫再三，不曾接受任命。

他家从匹兹堡搬到洛杉矶的时候，我们 1968 年搬到了新英格兰。等我们搬回南加州，我开始组织老朋友每月聚会，开始的时候就是加州理工的同学们。Richard 和他太太总是参加的，我们一起非常愉快。他是个傲慢的人，有时候对人带搭不理，但我们一直相互很友好。

我并不知道他在科研上的成就，因为后来他做的大多是敏感领域的工作，因此我没有去了解。

他在 2011 年过世。

听他太太说，生命的最后几天，还清醒的时候，他读的是爱因斯坦。我能理解他的向往，爱因斯坦是他终极科学偶像，但五十年代台湾没什么人懂相对论，那里科学的落后使我们认为相对论、量子力学遥不可及，直到我们来了美国才有机会欣赏其优美与深远。可那时候，在这方面做深入研究已为时太晚。