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Architectural Acoustics

Session 2pAAb: Dah-You Maa: His Contributions and Life in Acoustics

2pAAb3. Dah-You Maa: Most senior academic brother

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F. V. Hunt's ONR-supported acoustics lab at Harvard turned out 30 PhD graduates after WW II. As one of those students in the late 1950s, I gradually became aware that Hunt had had a prewar group of graduate students as well. Leo Beranek was Hunt's first PhD, Dah-You Maa his second (both in 1940). Maa's two 1939 JASA articles on room acoustics, one coauthored with Beranek and Hunt, were benchmark papers of the day. I became fascinated with Maa's story, partly because he seemed so completely unreachable. He had returned to China during the war; afterward the Cold War intervened. I finally met my much older academic brother in 1980, at the 10th ICA in Sydney, Australia. Thus began a warm and rewarding relationship. In 1987 he began representing China on the International Commission on Acoustics, and for seven years we saw each other annually at Commission meetings. I learned of his work on nonlinear standing waves, a problem in which I too shared a keen interest. The high point was at the 14th ICA in Beijing. I was finally able to see his laboratory and meet his doctoral student Ke Liu. A memorable dinner followed that evening.
MAA AS A GRADUATE STUDENT IN THE US

As one of F. V. Hunt’s acoustics doctoral students in the 1950s, I gradually became aware that, besides the post World War II students like me, Hunt had had a prewar group. Leo Beranek was Hunt’s first doctoral student, Dah-You Maa his second. Both graduated in 1940.

After his BS degree from Peking (now Beijing) University in 1936, Maa came to the US in 1937 for graduate work, initially at UCLA under Vern Knudsen. But when Knudsen went on sabbatical leave, Maa moved to Hunt’s group at Harvard, completing his master’s degree in 1939 and his PhD in June 1940. He left the US to return to China in August 1940. His graduate days in the US proved quite fruitful. Three papers on acoustics of rectangular rooms were published in JASA, two as sole author, one as coauthor. Reference 2 was his PhD thesis. A fourth paper, on flutter echoes, dating back to his work with Knudsen at UCLA, was published in 1941, after Maa had returned to China.

All three of the papers on rectangular rooms were first aired as orally presented papers at ASA Meetings. Hunt later recalled ruefully how satisfied they had been when giving the oral version of the Hunt, Beranek, and Maa paper at the Tenth Anniversary Meeting of the Society in Washington, DC, in May 1939. They had completely cleaned up the problem of steady-state sound and its decay in rectangular rooms. Also at that meeting, alas, came the report of J. C. Maxfield and his colleagues that for listening satisfaction the room most definitely should not be rectangular. Good listening required diffusion, not highly regular modal structure.

In addition to the academic and research success achieved while at Harvard, Maa’s days there were happy ones. He and Leo Beranek became close friends, a bond that lasted a lifetime. Years later, after I met Maa in person (see below), he took great delight in recounting how he and Leo would often go to Harvard Square (adjacent to Harvard in Cambridge) for their evening meal. A complete dinner cost 35 cents, a nickel extra if you had ice cream! Leo later identified the dining place as the Red Apple Restaurant and added that at least once a week they took the subway to Boston for a meal in Chinatown. Prices were similar but the quantity of food greater.

1940 TO 1979

Maa’s return to China did not result in an immediate lapse of his connections with acoustical colleagues in the US. In 1943 he was elected a Fellow of the Acoustical Society of America. A paper he wrote during the war on fluctuations in room acoustics was, with Leo’s help, published in JASA in 1946.

While I was an acoustics graduate student at Harvard, 1956-1960, and for many years after, all I knew about Maa was that he was No. 2 in Hunt’s long line of graduate students. Although I came to know many of Hunt’s earlier students, including several from the prewar period, I had no way of learning anything about Maa, whom I thought of as my much older academic brother. Perhaps I was fascinated because Maa seemed so unreachable. He had returned to China even before the US entered WW II and with the development of the Cold War, prospects of finding out anything about him seemed remote. I recall asking Hunt in the early 1960s whether he ever heard from or about Maa. Hunt shook his head sadly; it seemed to him that the Cold War had put them on opposite sides. In 1969 Hunt was awarded the Acoustical Society’s Gold Medal. To celebrate the occasion, Hunt mailed a copy of the encomium record of the event, including Leo’s introduction, Hunt’s response, and the complete list of the Hunt doctorates, to all his former students—except of course Maa who was beyond reach. Hunt died in 1972, apparently never knowing what had happened to Maa. Although I did not know it at the time, Leo and Maa exchanged letters from 1940 until about 1950. After that their correspondence lapsed until 1979.

AFTER 1979

In 1979 the US and China established diplomatic relations, and the way was open for scientists from both countries to visit each other. The first fruit I saw of the change came when Rong-jue Wei (Nanjing
University) attended the Acoustical Society’s Fiftieth Anniversary Meeting, held at MIT in Cambridge.

Leo recounts his reunion with Maa in China that year.\footnote{For an account of Maa’s experiences in China after he returned in 1940, see the paper by L. L. Beranek and N. Xiang, “Dah-You Maa, friend and scholar,” in this volume.}

My chance to meet Maa came at the Tenth International Congress on Acoustics (ICA) in Sydney, Australia, in 1980. Knowing that Maa would attend, I brought with me a copy of Hunt’s Gold Medal encomium,\footnote{M. E. Hawley, in Acoustical News—USA, “The Gold Medal 1969,” J. Acoust. Soc. Am. 46, 319-322 (1969).} which I had obtained from the Hunt family. After listening to Maa’s paper on jet noise, I went down to the podium to introduce myself and give him the encomium. This grand old man of Chinese acoustics greeted me with great graciousness and cordiality. It was for me a very touching moment. Thus began a warm and rewarding relationship.

Although the Eleventh ICA (Paris, 1983) and Twelfth ICA (Toronto, 1986) afforded brief meetings with Maa, a better opportunity came when in 1987 he became the Chinese representative on the International Commission on Acoustics. I was the US representative, and our terms overlapped for six years. The annual meetings of the Commission gave us ample opportunity to visit and get to know each other. I learned of his developing interest in nonlinear acoustics, particularly standing waves of finite amplitude, a problem on which I had also worked.

My most memorable meeting with Maa occurred in 1992, at the Fourteenth ICA in Beijing, for which Maa was cochair. I came to the Congress early, and Maa invited me to visit his laboratory and meet his student, Ke Liu, who was doing experiments on standing waves of finite amplitude. The visit was quite interesting. That evening Maa and Liu took me to dinner at a Cantonese restaurant. After we sat down and were given menus, Maa and Liu discussed possibilities in Chinese. Then Maa turned to me and asked “Do you like snake?” I tried to hide my surprise and managed to reply that although I’d had no experience with snake meat, I was ready to try it. So Maa have the order to the waiter. Imagine my surprise when next the waiter brought out for our approval the very large live snake that was to be our meal. Maa and Liu seemed satisfied, and I was not about to be negative. The rest of the dinner was full of more interesting surprises, but I managed to get through it all and in fact enjoyed it a great deal. It was definitely an evening to remember.

We corresponded some after the Beijing ICA, and Maa sent me a copy of the volume of his collected scientific papers. Our last in-person encounter was at the Honolulu ASA Meeting in 1996. I am filled with admiration for Maa and very glad to have been his much younger academic brother.

\textbf{REFERENCES}

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