

Memories of Bambi Hu

In 1978 the UH Physics Dept. voted to hire a theorist. I was on the hiring committee. In a pile of applications only one stood out for me: Bambi Hu. I don't recall talking with Bambi during his job application visit but, as Paul Chu recalled in his talk at Bambi's memorial service, I held Bambi's colloquium in high regard. It was clear to me that Bambi was an independent, mathematically strong theoretical physicist in the classic tradition, and one who had very good taste in theoretical physics. The Department chose to hire Bambi by one vote. This one vote win changed the face and direction of the department in theoretical physics.

When I arrived here in 1974, to a first approximation, theoretical physics didn't exist at UH. Why did Bambi land here? Here's the bigger picture.

The sciences and engineering had been royally funded in the U.S. after Sputnik went into orbit in 1957. Americans (including myself) were scared. We were behind. Federal money poured into physics in an effort to reverse that weakness. Ph.D.s like Bambi and I landed at UH because, after 1971, there was a very big oversupply of physics Ph.D.s with few academic job offers. Bambi, Ting and I were the base on which theory was built and other good theorists were hired.

The era 1979-80 was a time when Bambi would often come into my office after 5 PM, depressed, asking what to do. There was pressure for him to work on research that was not his own choice. Bambi and I both disliked pressure immensely. Bambi was worried about tenure under such circumstances. He saw 'black' in his future in that regard. But it turned out well for him; he was even promoted early.

By 1979-80 China was beginning to open up to the West. Around 1980 Bambi and I were on the Graduate Studies Committee and I was chairman. We had to advertise for grad students, and then screen the applications. Our existing grad students were unfit for theory. I asked Bambi: why don't you write letters in Chinese to the best universities in China and try to get us some good students. He did, and the result was amazing. We had a *flood* of very good students for the next ten years. We were a year ahead of the T.D. Lee Program, which was national. Bambi invited T.D. here for a visit to talk about his and our programs. I recall that we took him for a meal at the Warwick Hotel. We sat in a nice room at the rear of the hotel with a good view.

Mel Eisner and Simon Moss were always very supportive of hiring good theorists; they enthusiastically backed our choices to the hilt. Without Mel and Simon, we would not have been able to hire Bambi. In those days we generally took an applicant to Mel's house for a drink before his fireplace before going to a restaurant. I invited my

classmate Howard Georgi here from Harvard. Bambi, Ting and I took Howard to a very expensive restaurant on Richmond, Tony's, and had an excellent meal with lots of wine. Howard said that he didn't know of a better restaurant in Boston. Afterward we didn't hear the end of it over the bill for that evening!

In the early 1980s nonlinear dynamics was hot as a research field. Bambi got into the field first, I taught nld in the early 1980s in order to learn it, and was doing research in the field by 1985. Bambi invited a nonlinear classmate from Cornell to give a colloquium. That was the first of many visits here by Mitch Feigenbaum (Gemunu's dissertation advisor). I was surprised that there was not an ounce of arrogance in Mitch, he was as friendly and considerate as anyone you can imagine. Mitch and Bambi had worked at Cornell under high-energy theorist Peter Caruthers.

In 1983 I went to Norway to a NATO_ASI. I knew the younger of the two organizers from Yale. This would play a small but pleasant role in Bambi's life in 2001.

In 1989 we had the ok to hire a new faculty member in nonlinear dynamics. This opportunity was part of the 'package' that Robert Helleman had negotiated when he came here ca. 1985. Bambi, Helleman and I along with Mike Gorman (nld experiment) and Marty Golubitsky (nld in the math dept.) were appointed to the hiring committee. We focused on four outstanding applications. Bambi recommended Chao Tang, who'd worked with Per Bak. I respected Bambi

and deferred to his choice because I didn't like Robert's candidate and neither of them agreed to mine as first choice. Robert followed suit. The last thing we three could afford was to present a divided front and let the opposition run through the middle. We won the in the faculty meeting by one vote. Chao turned us down, so I always say that we hired both Bambi and Gemunu by one vote! After winning by one vote Bambi, Robert and I were really feeling our oats, so we walked over to the Satellite Underground and happily drank a beer together to celebrate. There were very few occasions in the Dept. when we felt that good!

By 1990 Mainland Chinese students were going to places like Harvard, so we did not get a flood of very good applicants any more. Bambi and I didn't have any new tricks to fill that deficit. But the ten-year long march of very good students into our dept. would have been impossible without Bambi. We were first, and those who had come early had sent home word recommending that more good students come to UH.

Bambi once told me that he wanted to attend the famous Geilo school. I was on the program committee and had probably advertised the daily schedule of the meeting to him this way: 3 hrs. of lectures, 4 hour break for skiing and lunch, 2 hrs. of lectures, 1-2 hours free for the sauna or swimming pool. Then, a gourmet dinner and followed by dancing and non-scientific conversation about skiing, past Geilo meetings and the like, until after midnight. Geilo

through 2015 is the very last 'old world' physics meeting in existence, the absolute opposite of a typical APS Meeting! Bambi attended Geilo in 2001 and one other time and thoroughly enjoyed it. I had never before imagined Bambi as athlete, but his athletic enthusiasm came out in full force at Geilo. Or maybe he was a bit caught up in the rare atmosphere of Norway like I was. Bambi was on cross-country skis every day, and was very proud of it. The meeting takes place in March or April when there is plenty of snow (1-2m on the Hardangervidda 1400-2200m high). Even Geilo (600m high just beneath the Hardangervidda) can be biting-cold in spring if there is wind. Skiing cross-country there is not always pleasant although it generally is. Anyway, the organizing committee meets to give awards to participants who have stood out in one way or another. The awards are presented after the banquet on the last evening. The awards should be both true and funny. Bambi was so enthusiastic and persistent about skiing that we invented 'The Roald Amundsen Award' for him. A notable later winner of the Amundsen Award is Joel Stavans from Israel. Gemunu later won a different award.

I always liked and respected Bambi. He had very high mathematical ability and extremely good taste in research. People like Einstein and Feynman were his models. Bambi always worked on interesting physics problems. His papers and lectures were polished and beautiful, he had very good taste and high standards in theoretical physics. I envied him when he solved

the intermittency problem, I could not have done that. Bambi did what a first rate theorist can often do, he worked in many different fields in physics. Among them are phase transitions and critical phenomena, quasi-crystals, nonlinear dynamics, and quantum systems.

Time has passed too fast, it seems to me only like a short while ago that he and Betty arrived here and I advised Bambi 'you'll have to learn to drive a car.' I miss him and always will. He was always cheerful and friendly. After hiring Bambi we hired more good theorists. We put UH on the worldwide map in theoretical physics.

In fond memory of Bambi,
Joseph McCauley
1 Dec. 2015.