Lotfi A. Zadeh:
A Short, Sweet, and Personal Remembrance

Enric Trillas

Enric Trillas, Lotfi Zadeh, Sergei Ovchinnikov, Elie Sanchez

My initial acquaintance with Professor Lotfi A. Zadeh, did proceed through the following four steps:

   1) I firstly met Zadeh, the scientist, not the man, by chance and between August and September, 1975.

   2) I firstly tried, unsuccessfully, to personally met Zadeh, the man, in May, 1976.

   3) I finally met personally Zadeh, the man, in July 1977 in the Barcelona Airport.

   4) I finally met Zadeh, the scientist and the man, in July 1977, when hearing his lecture on 'Fuzzy Sets and Possibility Theory' at a Conference in Barcelona.

I would like to add some words concerning each one of these steps. Words reflecting what, stored in my memory, are but the first impressions I did receive from Zadeh. For me constitute a kind of sweed sensations that, more than three years after his passing away, I consider were permanent during our forty years of friendship.

---oooOooo---

   -Concerning (1), I knew by chance on Zadeh, the scientist, in August 1975. It was in a French Newspaper and in an interview with Professor Arnold Kaufmann, motivated by his then recent book 'Introduction a la théorie des sous-ensembles flous a l'usage des ingénieurs'. Acquainted with Menger's probabilistic 'Ensembles flous' (Hazy Sets), I did erroneously suppose such book dealt with such probabilistic concept. I bought and read it.

Surprisingly for me, Kaufmann's 'ensembles flous' appeared unrelated with Hazy Sets, and the book made me to suspect this new concept was closely related with the imprecise, or vague, words in language, whose analysis, avoided by logicians, did remark Bertrand Russell.

Worried for what seemed new to me, I searched for and read the actual *mother* of the subject, the 1965 paper 'Fuzzy Sets' by Zadeh. It immediately captured my attention and interest by showing me that the new idea was related with   the

meaning of imprecise linguistic terms. That the paper actually contains a mathematical (new) definition of meaning.

Zadeh's paper seemed to me continuing the path Leibniz did suggest with his famous *Not discuss, compute!*, possibly inspirited by the old 13th Century book *Ars Magna* by Ramon Llull, of which and latter on, George Boole presented a first model in his 1847 book, 'The Mathematical Analysis of Logic'. Zadeh's ideas seemed to me a new step ahead in such endeavor; a feeling of intrigue invaded my thinking and I decided to learn more on Zadeh's Fuzzy Sets. I think it was around the end of September, 1975.

- Concerning (2), in May 1976, and having previously crossed some faxes with Lotfi from January, I was in Amherst and Chicago to respectively meeting Bert Schweizer and Karl Menger. I decided travel to meet Zadeh in Berkeley, and I announce him my trip by fax.

But his office at Cory Hall was closed, I was informed that he was traveling, and nobody knew the date of his return. I felt myself in a failure, wait there three days, met Hung Nguyen, and return home. I was then unaware of how much he travelled, and only further on I knew that my fax arrived after Zadeh departed; he had no opportunity for answering me that those days he will not be in Berkeley.

- Concerning (3), my intention for travelling to Berkeley was not only to personally meet Lotfi, but also inviting him to deliver a plenary lecture at the international conference we were organizing in Barcelona for July, 1977. Finally, Zadeh accepted the invitation, came to Barcelona with his wife Fay, and we met at the airport where I was to pick-up them.

Once in my car, Lotfi asked me to shortly turn around Barcelona, a city that, neither him, nor Fay, did know and on which they kept some curiosity and, specially, for Gaudi's *Holly Family* Church. From the very beginning, common interests aroused between Lotfi and me.

- Concerning (4), being myself with a probabilistic training, and having been working for several years in Probabilistic Metric Spaces, it was difficult for me to mathematically capture non-random uncertainty. My first interest in Fuzzy Sets

just came from the fact that they are not necessarily related with probability; something that, surprising for me, attracted my attention.

Zadeh's lecture in Barcelona, introducing measures of possibility and finally comparing them with probability measures, was for me a kind of enlightening reinforcing my previous conviction that Fuzzy Sets do have with Commonsense Reasoning done and expressed in an ordinary language. For instance, the lecture made me to realize that the common statement, *It is possible but not probable,* is mathematically explained by the Zadeh's Theory of Possibility.

This lecture, preceding by around one year its publication in the first issue of the Journal 'Fuzzy Sets and Systems', implied my definitive decision of devoting myself to do some research on the mathematical modeling of linguistic statements by means of fuzzy sets. A task that today, and even completely retired, I am trying to continue.

Just for it, I feel myself indebted with Zadeh, the scientist. Not less with Zadeh, the man, with who blossomed a sincere friendship lasting for around forty years. Lotfi not only was a brilliant thinker but, and specially, a marvelous human being. Even if today we continue missing him: Let's commemorate his one hundred Birthday!

---oooOooo---

Anyway, what would be actually important is to begin with a *critical review* of Zadeh's large work from, at least, the scientific, technologic and philosophic perspectives, and further from the not at all subjective, but necessarily positive comments, coming from those that, like me, knew him and did flourish around him.

Even when everything runs today at a high speed it is, perhaps, too early for such a complex enterprise that, undoubtedly deserved by Zadeh, in my view would be the best intellectual homage to a great thinker, engineer and scientist, whose place in the History of Thinking is not yet easy to fix.

Will he rest forever in peace!