

## **Speech before my lecture:**

Before starting my lecture I would like to say a few words. I was introduced to the matching theory by David Gale. The first matching result that I proved was suggested to me by him. It was a lemma that permitted the proof of Dubins and Freeman's non-manipulability Theorem for the Marriage market in just three lines. The theorem says that the mechanism that produces the optimal stable matching for men is not individually and nor collectively manipulable by the men. As a consequence, the mechanism that produces the optimal stable matching for the students is not individually and nor collectively manipulable by the students. The original demonstration consisted of 20 pages, so a shorter proof was of interest since that result opened space to relevant strategy questions. That lemma appears in the first paper in which I participated as Gale's collaborator. This was in 1983. I was enrolled in a pos-graduate program at the Mathematics Department of the California University, in Berkeley, supported by a Brazilian fellowship. The two years spent in Berkeley working with David were very decisive in my career. I was very impressed with his ability for making short my long proofs, for combining precision and rigor with elegance in his style of exposition and with his creativity, not only in his demonstrations but also in the formulation of new and challenging research problems. He always congratulated me with joy and enthusiasm every time I succeed in proving some new result. This increased my will to work hard in order not to disappoint him.

Before that time I didn't know anything about Game Theory and had never heard about matching. I used to meet other pos-docs during tea time of the Department of Mathematics. It was evident their curiosity to know about the subject of my work with the famous mathematical-economist. I study the stable marriage problem, I used to say.

- What is that?
- It is about marriages and divorces between men and women.
- Really?
- Yes.
- Is it Analysis?
- No.
- Is it Geometry?

- No.
- Is it Algebra?
- Not either.
- Are you sure that this is mathematics?
- Yes, I prove theorems ...

Little by little I realized that I had a problem, and then I talked to David and told him about my worries. David looked at me and said:

- I had already to deal with this kind of problem also. Do you like what you are doing?
- Yes. I like it very much.
- Then, don't worry. That is what matters. The label is not important.

I then understood that the work of a Scientist goes far beyond his/her contribution for the already established and known theories. A new, powerful and elegant mathematical theory was emerging since the seminal paper of Gale and Shapley. Even though I had no idea of the repercussion of our results at that time, I could feel proud because I was collaborating with David Gale for the development of that scientific theory.

Today, twenty three years latter, the matching theory is established as a branch of game theory. It is taught in many Universities and has attracted the interest of a great number of authors. Over the years the stable matching problem has been generalized to several two-sided matching models, which have been widely modeled and analysed under the cooperative and non-cooperative game theoretic approaches. Through these models a variety of matching markets has been better understood, which has considerably contributed to their organization. At every opportunity I have, I use to tell my students about the conversation I had with David Gale and then they understand why I have been working on matchings for so long time.

David, for all you have taught to me, for your special friendship I thank you. Congratulations on your 85th birthday!

**Speech during the dinner:**

It was a great honor and responsibility for me to have been invited to organize this day of activities in honor of David Gale. I want to thank Yair, Pradeep and Richard for the local support. I also would like to thank Jose and Elena for their administrative support. My special thanks to all the participants of Gale's Feast.

David

This event is the result of the efforts of all of us, your friends, who came here to congratulate you for your birthday and to tell simply that you are special for us and that we will always be proud of you.

As you know, I'm the guest editor of a special issue in your honor, to be published by the International Journal of Game Theory. It consists of original contributions of 17 authors among students, collaborators and friends of yours. My part is already finished and I want to thank publicly all the referees and authors who supported me in this project. I was planning to split the papers into two volumes and was expecting to have the first one printed on this occasion. However, the chief Editor preferred to have all the papers printed in one single volume but the paper of one of the authors was sent to the publisher only one month ago. For this reason, I took the initiative to collect the papers in this preliminary, independent and unique issue, printed in Brazil, and I am offering it to you as a symbolic gift, from me and the authors. Congratulations again for your birthday.

**Open speech:**

We will start the activities of Gale's Feast. A day in honor of the 85<sup>th</sup> birthday of David Gale, which is a satellite meeting of the 18<sup>th</sup> Conference on Game theory and Economic Applications. We will begin with the presentation of Robert Aumann, followed by the plenary talks of Gale, Joel Sobel, Gabrielle Demange, me and Abraham Neyman. The commemoration will continue tonight through the traditional reception dinner to be served at 7 p.m. and will finish tomorrow at 12:40. I welcome all of you and wish that you enjoy the Feast. Just a reminder to all plenarists: you will have 45 minutes for your presentation. Five minutes are left for discussions.

Now, I would like to call Robert Aumann to make the formal presentation of David Gale.

