

EUGENIO MENDOZA, A PORTRAIT

Good evening ladies and gentlemen:

At 7:15 am on the 19th of August, 1927, Eugenio Emilio Mendoza Villarreal saw first light in Coyoacán, Mexico City. He is the son of Mrs. Aurelia Villarreal Salazar from the industrious northern city of Monterrey and of the businessman Eugenio Fernando Mendoza Sarmiento from Mexico City. His paternal grandfather, Eugenio Félix Mendoza, was also a businessman of Mexico City and his grandmother Amalia Sarmiento came from Seville (Spain). His maternal grandparents are Aureliano Villarreal and Josefa Salazar.

Eugenio has been associated with the National Autonomous University of Mexico (UNAM, the acronym of its name in Spanish) for 50 years. After finishing elementary school he took part in a special UNAM program then called the "University Initiation", where he finished his "bachillerato" (equivalent to our present "preparatoria" or to an American high school). He always liked astronomy, and as a high school student he went to the Faculty of Engineering located at the Palacio de Minería to ask where he could study astronomy; at that time he was not aware of the existence of the brand new Faculty of Science. By chance, he entered a classroom which belonged to the Institute of Mathematics, where a teacher was gathering his books and notes after a class. This mathematician, Félix Recillas, happened to be married to an astronomer who is well-known and loved by us all, Paris Pismis, and was himself acquainted with astronomy, since he had spent one year as an astronomy graduate student at Harvard. Following Recillas' advice he entered the Faculty of Science in 1949. Let me remark here that at the early age of 13 years and, as well as going to school, Eugenio had to work at the chinaware manufacturing company "El Anfora" for his living. This is a probable explanation for his late entry to university. He formed himself only with the help of his school and university teachers. His early classmate and friend, the physicist Juan Manuel Lozano, still impressed after so many years says "he is a person who learned from listening only once without studying (or taking notes)". This quality of Eugenio was an advantage to the students of Science of the University of Puebla in the early 50's, since he would share with them what he had heard a week before at the UNAM.

He formally studied mathematics before becoming an astronomer. This explains why he has given so many courses in mathematics at the UNAM's Faculty of Science and elsewhere. In the late 40's he became President of the Students' Society of his School, and as such he actively helped to collect the ten million pesos needed to finish the new campus of the university in south Mexico City. The University was then dispersed over the center of the city, occupying historical and buildings like the Palacio de Minería.

In April 1949, he got a job as research assistant at the National Astronomical Observatory of Tacubaya. Among the many appointments he has had, I wish to mention two: to my knowledge, he has been the only Vice Director of the National Astronomical Observatory of Mexico and the only astronomer appointed Geographer (category "H") by the Ministry of Education. The first official record of Eugenio observing was at Tonantzintla in April 1951, together with Enrique Chavira and the late Braulio Iriarte. For this trip he even received a grant for traveling expenses of 25 pesos from the Instituto Nacional de la Investigación Científica (INIC, the precursor to the Mexican Science Foundation, now known as CONACYT)! This was made possible by the personal relationship of Guillermo Haro with the Coordinator of INIC, Nabor Carrillo. Many trips to Tonantzintla were financed in this way. In those days, Arcadio Poveda, Braulio Iriarte, Enrique Chavira and Eugenio Mendoza were tutored by Guillermo Haro and Lauro Herrera on the use of the Tonantzintla Schmidt Camera, the instrument with which the astronomy carried out in Mexico gained international recognition in the late 40's and early 50's. It was during this time that Eugenio started teaching together with other students of the Tacubaya Observatory at the Faculty of Sciences of the University of Puebla, following an invitation from its Dean, Luis Rivera Terrazas. His hobbies in those days included wrestling, javeline throwing, mathematical puzzles and applied statistics. He is an excellent chess and billard player. His mathematics teacher of the early university years, Gonzalo Zubieta, complained that Mendoza would always ask "difficult questions" and would bring those "horrible mathematical puzzles". But his teachers with whom I talked, including Zubieta, have a high opinion of him. As a student he showed a great interest in mathematical logic and astronomy. In those days

he wanted to master mathematics in order to solve astronomical problems, but life was playing tricks to him. He became a highly competent, dedicated and very persistent observer. Only a person with such qualifications could have discovered the infrared excesses in T Tauri stars in those days. I personally tried to use the same near IR photometer that he used for his "Herbig's level I" discovery. After unsuccessfully attempting to observe a bright star for about half an hour, I went to report to Harold L. Johnson about the malfunctioning of his equipment. He asked what my integration time was: one needed to observe effectively for 4 hours (!) in order to obtain a useful measurement of that star.

Another phrase I have often heard referring to his person is that "Eugenio **always** experiments by breaking the established rules". Let me give you an example: Guillermo Haro was very strict about anything concerning the Schmidt Camera, and gave "clear" instructions to his students regarding the handling and hypersensitization of the photographic plates to be used with it. Disobeying Haro's recommendations, Eugenio experimented with the plates and found a better method to hypersensitize and dry the plates increasing their sensitivity by about 10 times.

As many of you know from the first announcement of this meeting, Eugenio carried out his graduate studies at the Yerkes Observatory of the University of Chicago under the guidance of well-known scientists such as W.W. Morgan, S. Chandrasekhar, B. Strömberg, G.P. Kuiper and A. Blaauw. One of his teachers, Nancy G. Roman, is here among us. He undertook a post-doctoral position at the University of Cambridge (U.K.) with Fred Hoyle. Besides these famous colleagues he has coauthored many articles with people like G. Haro, H.L. Johnson, J. Stock, H. Moreno, E. Chavira, D.L. Crawford, G.H. Herbig, P. van de Kamp, E. Hardie, M. Jaschek, C. Jaschek, K. Henize, C. Imhoff, S. Hacyan, L.F. Rodríguez, A. Andrillat, A. Rolland, and others. Eugenio also has met many interesting people. Just to mention a few of the latter by name, he met people like Enrico Fermi, Albert Einstein, Paul A. M. Dirac and Jan Hendrik Oort. Those of you I have omitted, please forgive my inexperience and ignorance.

His "Herbig's level I discovery" of the infrared flux excesses in T Tauri stars almost did not happen. After applying for the observational run to study T Tauri stars with the UBVRI and IR photometers and the 28 and 60 inch telescopes of the Lunar and Planetary Laboratory of the University of Arizona, the Telescope Time Allocating Committee considered his program "not feasible". Only because of the strong influence of Harold L. Johnson at the university and his interest in the project was the program allocated observing time.

It is not my intention to give you a full relation of his contributions to astronomy. Let me mention the following: His first published work in astronomy was together with Enrique Chavira and deals with stellar radial velocities in the double cluster of Perseus (1952, Bol. Observatorios Tacubaya y Tonantzintla 1, 10). He has worked with many well-known colleagues and on many themes, for example, his article about the I Geminorum association with David Crawford (1955, ApJ 121, 24) and about Wolf-Rayet stars in the VI Cygni association with George Herbig (1960, Bol. Observatorios Tacubaya y Tonantzintla 2, 21), both of them present here today, or his classical work on the IR excesses of T Tauri stars (1966 & 1968, ApJ 143 & 151, respectively). I personally like his spectroscopic and photometric work on Be stars (1958, ApJ 128, 207) and his spectroscopy of stars in the Pleiades (1956, ApJ 123, 54). He also discovered the IR excesses of the Carbon stars together with Harold Johnson (1965, ApJ 141, 161). We are all aware of his multicolor photometric observations of stellar aggregates, where he reports the photometry of thousands of stars. Much of his work was published in the prestigious Boletín de los Observatorios de Tacubaya y Tonantzintla, a Mexican astronomical journal refereed by his editor only. Of course, he has also published in other important journals like ApJ, A&A, RMA&A and MNRAS, and others. He was on the Board of Directors of ASP and he has been referee to many other journals, besides the ones I have mentioned to you. But in his interest in the stars, he has developed instruments: the nebular spectrograph for the 1m telescope of Tonantzintla, his α ,A photometric system, the α ,A and HeI λ 10830 Å spectrophotometer, just to mention a few, and to my knowledge, he is a pioneer in digital image processing in Mexico. He has continued to be active in mathematics all these years. He has been visiting astronomer in many countries all over the world (e.g., U.S.S.R., Spain, France, Chile, Argentina, U.S.A.). Last, but not least, he initiated moving the National Astronomical Observatory from Tonantzintla to the Sierra de San Pedro Mártir, the site he discovered. Because of the light pollution of México City, the National Astronomical Observatory of Tacubaya moved in the early 60's to an observing station in Tonantzintla equipped with a 40 inch Cassegrain telescope, task in which he took a very active part.

Indeed, we can count his contributions to astronomy in hundreds, citations to his work are as many as the stars he has observed (in thousands), he has been the thesis adviser of many students. Several of them are present here tonight. In recognition of his work he has received 44 prizes, among them the highest given by the Mexican Academy of Sciences and the National Autonomous University of México. He has been honored with

prized scholarships. He has been researcher for 44 years and teacher at the UNAM for 36 years. Formally he retired last year, but he still continues doing astronomy. Let me finish here by saying that any of us who have tried to work in astronomy in our country knows about the formidable tasks one has to deal with in order to get things moving. I want to thank Professor Eugenio Mendoza for giving our astronomy a name elsewhere.

Today we are here to honor this man. What can I tell you Eugenio? Just that I am very happy to be here at this meeting with you, and we hope to have you with us for a very long time. Thank you very much.

Carlos Chavarría-K.