

## AFTER-BANQUET REMARKS

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The following remarks were made by Dr. Willem J. Luyten after the 75th Anniversary Banquet, which was held at Pound Hall of Harvard University Law School, Cambridge, Massachusetts, on Saturday, August 9, 1986. Dr. Luyten has been a member of the AAVSO since 1917. He is the only living Charter Member of the Association.

I'm going to begin with a slightly different salutation from the Romans: "Friends, astronomers, and countrymen."

The AAVSO was the first scientific society I joined, and I have always enjoyed it. I am afraid I have not been a very active member the last 70 years, 'though. When I joined it, I was 15 years old; I had a one-and-a-half inch telescope which I bought with the proceeds from my stamp collection which I had made in Java, where I was born. Of course, in the beginning, the only thing we could observe really was the long period variables. We did occasionally do the old stand-bys - alpha Cephei and Algol - but in 1914 it was very difficult to get the exact times that you need for eclipsing variables, but the exciting thing, of course, was that we heard all about it. Today, or yesterday, SS Cygni went up at least two magnitudes, or R Coronae Borealis fell off the deep end, and disappeared completely. And of course, it was spectacular, to me, at least, to know that Nova Aquilae in 1918 was brighter than first magnitude for several weeks.

I have always been very partial to the AAVSO because it was possible for me to use the observations I had made when I was still in high school for my Ph.D. thesis. The way this happened was as follows: I got my BA at Amsterdam in 1918, and then Professor de Sitter asked me to come to Leiden. I was really interested in astronomy but Amsterdam had no astronomy. The day I arrived in Leiden, the Senior Professor of Astronomy died and de Sitter had to go to Switzerland to a TB sanitorium and I never saw him again, not while I was a student in Leiden. So, here is an astronomer who never took a course in astronomy anyplace, anywhere.

During the summer I managed to go to England. De Sitter had fixed me up with a letter of introduction to Sir Frank Dyson, the Astronomer Royal, and I went to the old Greenwich Observatory which was still in Greenwich then, and Sir Frank Dyson and P. Melotte, who was the one who discovered Jupiter VIII, gave me thorough training in what were then large telescopes to use, the 28" visual refractor, the 26" photographic refractor, and the 30" reflector.

The difficult thing with the situation in Leiden was that I could take courses in mathematics and physics, and while I had been in England I had met W. W. Campbell of the Lick Observatory, and suddenly in April 1921 I received a telegram from Campbell offering me a fellowship to Lick Observatory. Well, the University at Leiden at that time would close about the 10th or 13th of June, so I had six weeks if I wanted to get a Ph.D. I had passed what in this country you would call the prelims, so all I needed was to write a thesis. But how to write a thesis? In those days we had to get them printed in hard cover - the students had to do this. Now I went to the University officials and told them that either I would have to come back after a few years and would probably have to take a lot of courses again which I would have forgotten by that time, or I would have to try to do it at Berkeley, where I am sure they wouldn't give me credit for all the

courses I had taken at Leiden. So, was it possible to use my variable star observations for my thesis? Well, they didn't like it but they gave in, and I did get my Ph.D. in six weeks' time. I'm going to leave this copy of my thesis with Janet Mattei, because this is probably the only Ph.D. thesis largely made up from observations made in high school.

The time in Leiden was not completely wasted otherwise; I took a lot of courses in mathematics and physics, and we had one very unusual professor of physics - Ehrenfest - and he did what at that time was unheard of in Europe - he invited his students over to his house. Because of that, from 1918 to 1921 I was probably at his house a couple dozen times. Quite often, in very small groups of perhaps eight or nine people, I met the people he had at his house, including Einstein. I saw Einstein probably a dozen times in groups of only about eight people. Once I actually took a picture of Einstein and Ehrenfest together. **Physics Today** printed it two or three years ago, I think. Niels Bohr came quite often, and so did Kramers, Heike Kamerlingh Onnes, the one who first liquified helium, and H. A. Lorenz.

That same kind of luck continued because later, when I was in London, going to the Greenwich Observatory, with a friend of mine we once decided to see if we could find Bernard Shaw. So, being young and brash, we went to his apartment and rang the bell, and by golly, Bernard Shaw himself opened the door! He asked us in and gave us tea. It took him about five minutes to see through us, but we had seen him. Later on, when I was in South Africa in 1929 - the British Association for the Advancement of Science held its usual meeting every three or five years in one of the dominions and held it in South Africa - again, in a group of about five or six people, we had a whole afternoon with Field Marshal Jan Smuts.

I cannot help thinking of our former colleague Joel Stebbins, who has done astronomy at the University of Wisconsin, who in the late '40's was President of the American Astronomical Society, and when he retired and gave his Presidential address, he entitled it, "Famous Men Who Have Known Me." It is also told that one afternoon, about the middle or late September, about a week or so before the University would open for the fall term, he came home from his office and his wife said, "Oh, Joel, our neighbors who have been in Europe all summer, I saw them come home today." He replied, "Let's call them tonight. Before their slides come back we'll go there."

Janet mentioned the 2400 variable stars I am supposed to have discovered. Now, when I finished the Bruce Proper Motion Survey - because after I came to this country my interest changed somewhat from variable stars to stellar motions - when I finished the Bruce Proper Motion Survey on Harvard plates I published this catalogue of some 2400 variable stars. We thought they were all new in the southern hemisphere, but later on it turned out that one of them was the asteroid Pallas! What happened was this. You see, the old Harvard plates were all one-hour exposures, so we felt pretty sure that an asteroid, which practically always made a little trail, could never be mistaken for a variable star, but on that one plate, as luck would have it, we had got the asteroid Pallas just exactly at the stationary point, so it looked like an eighth-magnitude nova. Well, it's still there.

Even though I changed my main interest to stellar motions, I never really foresook variable stars, because while I was still at Harvard I found the first nova in the Large Magellanic Cloud (and we heard it mentioned again today). When I went to the University of Arizona in Tucson to make follow-up observations, we were lucky enough to get on one plate with a multiple exposure the first real proof of a flare star. The first image was faint, and then all of a sudden it was two

magnitudes brighter, and then it went down. This was UV Ceti, and we were so excited about it that I sent a copy of the print to the Eastman Kodak Company - I always got my specially prepared plates from Mr. Swann - and Kodak used that photo several times for almost a whole year in their ads. They had a special name for that star - the "occasional flasher."

Now, in these 75 years since I began being an astronomer, I have seen many changes. I think perhaps the greatest, the most fundamental, has been that until the 1950's, astronomy was purely an observational science. Now, it is an experimental science as well. Now, we have had Man on the Moon who has brought back moon rocks for us to analyze. We have sent probes into the atmospheres of Mars and Venus; we have sent probes through the satellite systems, and they have photographed the volcanoes of Jupiter's satellites and have found any number of new satellites around Jupiter, Saturn, and Uranus. And, as you remember from earlier this year, we even sent a probe in to make contact with the nucleus of Halley's Comet. So this is a great change that has taken place. I have also seen some rather unfortunate changes that do not bode well for the future, which I think are dangerous. I think since 1950 what you might call the ethics of the professional astronomers have somewhat and in some cases rather seriously deteriorated. My motto has always been, "The only ethical principle that has made science possible is that the truth shall be told all the time. If we do not penalize false statements made in error, we open up the way for false statements made by intention." This was not said by a scientist or astronomer. This was said by Lord Peter Wimsey in Dorothy Sayer's **Gaudy Night** of English scholarly study.

But let me add on a more positive note, I think it was here in Cambridge that Arthur D. Little, who coined the term, "the fifth estate," for the scientists, gave this definition of what I still think is the best I've ever seen of what we should try to be: "The fifth estate - one who has the simplicity to wonder, the ability to question, the power to generalize, and the capacity to apply."