

VARIABLE STAR OBSERVERS IN LEIDEN

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Abstract

A description is given of the meeting between Dutch and Belgian variable star observers and representatives of the AAVSO which was held at Leiden Observatory on June 27, 1987. Also described are the activities of the Dutch and Belgian variable star observing organizations.

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1. Introduction

After the successful Paris conference (IAU Colloquium No. 98), the Leiden Observatory was a meeting point for variable star observers from Belgium and the Netherlands on Saturday, 27 June 1987. This meeting was also attended by AAVSO members Dr. Janet Mattei and Thomas Williams from the United States and Jan Hers from South Africa. The meeting was organized by the Variable Star Section of the Dutch Society for Astronomy and Meteorology (NVWS, de Nederlandse Vereniging voor Weer-en Sterrenkunde). After a word of welcome from the chairman, Georg Comello, Dr. J. O. Luurs, the national chairman, addressed a special welcome to the AAVSO:

"I welcome you to Holland, more especially to Leiden, and even more especially here to this observatory, where we are together with the members of the Working Group Variable Stars [and we] will spend this day as good friends. It is for us a pleasure and a privilege to have you here among our Dutch and Belgian friends. For more than one reason it was a splendid idea to meet here in Leiden in this observatory.

"First, because we are here as the guests of another working group, called the Leidse Sterrenwacht (Leids Observatory), the chairman of which is Mr. Peter Serne. [This] working group is nowadays in charge of the care of the astronomical instruments here in the former professional Leiden Observatory.

"Second, because this building belongs to Leiden University, which is the oldest University of the Netherlands, founded in 1575 by order of the Prince of Orange, the leader of the Dutch rebellions against the Spanish, to commemorate the brave resistance of the starving population of Leiden during the year 1754.

"Third and most important of all, because it was [in] this building that since the beginning of this century a number of famous scholars took an outstanding place in the development of astronomy. Founded in 1633, it was the first University observatory in Europe. The first instrument [here] was the sextant of Snellius.

"Modern astronomy [at Leiden] began in 1826 under the direction of Frederik Kaiser, with positional astronomy and the observation of variable stars. In the twentieth century, famous astronomers like de Sitter, Hertzsprung, Oort, and v. d. Hulst worked here in this building

and discussed here their theories on stellar evolution, galaxies, and cosmology. Prof. Kapteyn worked here, and many students studied here, who later had or now have leading positions in astronomy. Oosterhoff, Walraven, Kuiper, Bart Bok, Peter v. d Kamp, Adriaan van Maanen, Lukas Plaut, and last but not least Maarten Schmidt studied in the rooms of this building. In the last years many female astronomers have found their way to the US: Jacqueline van Gorcum (VLA), Patricia Vader (Yale), Imke de Pater (University of California), and Ewine van Dishoek (Harvard).

"Dear friends, I have told you something about this building and its history. I hope you will keep this day in your memory as a pleasant day."

2. Plaut's Initiative

After Dr. Luurs' interesting talk on the Leiden Observatory's impressive history, Georg Comello told everyone something of the history of the Dutch Variable Star Section. One of the first Dutch observers was Prof. Nijland from Utrecht. At the beginning of the century, he published the Section's observations in the **Bulletin of the Royal Academy of Sciences in the Netherlands**. Before the Dutch Variable Star Section was established, some observers sent their observations to Jean Meeus in Belgium.

But in 1960, on an initiative from Prof. Plaut at the Kapteyn Astronomical Institute in Groningen, a Dutch group was started. The observations were published in the so-called **Reports**. In cooperation with the Observation Recorders Mak (now an honorary member), Veerkamp, and Feijth, the Kapteyn Astronomical Institute published the Reports until 1981. Since then, the observations have been sent to the AAVSO. Nowadays, in the computer era, we are able to produce our own Reports at low cost, and so we do, because the feedback to the observers is important, as the AAVSO agrees. Our chairman presented **Report No. 36**, containing observations from 1981 to 1986, to Dr. Janet Mattei.

In the years since 1961, our group has made approximately 150,000 observations. In October of last year our Observation Recorder Henk Feijth made his 50,000th estimate, a milestone in his career as an amateur astronomer.

3. Belgian Activity

As illness prevented the Belgian Variable Star Section President, Ludwig Cluyse, from attending, Paul Roggemans gave a review of the Belgian activities. In contrast to the Dutch, the Belgians observe photoelectrically as well as visually. Roggemans showed some good light curves. To reduce their observations, the Belgians use a Commodore VIC-20 computer. They publish a journal, **Varial**, six times a year. It contains observations and abstracts on variable star research from the major astronomical journals.

An interesting activity the Belgians participate in is the inspection of old photographic plates from the Ukkel Observatory. Belgian amateur astronomers are checking these for suspected variables.

A lot of the observations are made from outside light-polluted Belgium, in Haute-Provence, Pic-du-Midi, and Switzerland. Roggemans expects that due to financial cuts, the amateur astronomer will grow into the role of "freelance astronomer."

4. Mira Observations

Henk Feijth told us about the constraints the Dutch climate puts on the observing program - we cannot observe a star when we want, but

only when the weather allows us so to do. As a result, the Dutch observe mainly Mira stars (82%), making about 8000 observations a year. They do not observe eclipsing binaries because of the poor climate and conflicts with daily activities. However, there is an interest in setting up an observation program for this kind of star because it could be stimulating to young observers. The Recorder showed a list of complaints about AAVSO finding charts: poor sequences, discs not corresponding with brightnesses, plotting errors, sequences not being wide enough, and position angle error. Feijth also described how to estimate the limiting magnitude of a telescope. In a comment on his talk, Dr. Janet Mattei indicated that she is aware of the problems mentioned by Feijth about AAVSO finding charts. She also complimented the Dutch on having the good fortune to have an excellent Recorder like Feijth.

5. Computers

Theo Jurriens, Secretary of the Dutch section, gave a review of the use of the computer in the working group. The computer is used for scheduling observing programs, calculating maxima and minima of Mira variables, and the storage of the observations. The observers send in their observations on a simple audio cassette which contains a computer program in the form of data statements made up of the observations. The tape is written and read by Atari, Commodore, IBM, or Sinclair computers, and is created using BASICODE, a kind of universal BASIC developed by the Dutch broadcasting company NOS for transmitting computer programs on the radio. (Information on BASICODE is available from the author.) The observers send in a tape each month. From these tapes the Observation Recorder creates a monthly file sorted by Harvard designation and Julian Date, and simulated AAVSO observation report sheets, which are sent to the AAVSO.

Every three months we publish a report on observations in our journal, *Variabilia*, which is also prepared by computer. On request we are able to send data in several diskette formats. We send our yearly data on IBM diskette to Dr. Jaschek at the CSD in Strasbourg. Before the end of 1987, our group will have all its observations made since 1961 in computer-readable form.

In a final word, Jurriens expressed the hope that the AAVSO would use the fruits of our computer experiences to save time and money and to increase the knowledge on our favorites in the sky, the variable stars.

6. AAVSO

Thomas Williams, President of the AAVSO, described in brief the organization's history, including the important role of the AAVSO in the astronomical community and the great astronomers who have led the AAVSO. Williams referred to the special edition of the *Journal of the AAVSO* which appeared on the occasion of the AAVSO's 75th anniversary. He also described the difficult but essential task of finding funds for the AAVSO. Director Janet Mattei gave a review of the scientific work of the Association, and she described the route the data take from observation to publication. For the observers present at Leiden Mattei's was a clear and stimulating talk, for until then, the AAVSO had been a kind of black box, sometimes even a black hole, because the AAVSO didn't react to our observers. Her talk was inspiring to our observers, and showed the vital role that we observers play in variable star astronomy.

After the talks there was a more informal tour of the instruments in the Leiden Observatory. Wim Nobel and Peter Serne showed us the 10-inch Repsold refractor with a Clark lens, the 6-inch Merz, and the impressive 46-cm Zunderman reflector (Cassegrain-Coude). A few of us

also saw the so-called double photographic refractor. These instruments are now used by Dutch amateur astronomers, who contribute to the care of the old astronomical instruments. Our observers Nobel, Serne, and Kerkvliet use the equipment for observing variable stars.

A traditional pancake (in Dutch pannekeek) dinner - not held in honor of Prof. Pannekoek as Tom Williams thought - was the end of a pleasant day which was not only a milestone in the history of the Dutch Variable Star Section, but also a day which strengthened the relationship between the AAVSO and Dutch and Belgian observers. Maybe this Leiden meeting will lead to an AAVSO symposium in Europe in the near future.



Photograph 1. The participants of Variable Star Day on the front steps of Leiden Observatory. From left to right, top row: Theo Jurriens, George Beekman, Jan Hers, Peter Kerkvliet, Gauke Kuipers, Reinder Bouma, D. Middelkoop, Henk Feijth, Wim Nobel, Georg Comello, Aad van der Brugge, Paul Roggemans, J. der Kinderen, Arle Mak, not identified, H. Verheijen, Peter Serne, M. L. Puttmann, Henk Bulder, Erwin van Ballegoy, Maarten Roos (?); front row: Anna Fay Williams, Thomas Williams, Janet A. Mattei, Jan Luurs. Photo by Janet A. Mattei.