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AFOEV: SERVING VARIABLE-STAR OBSERVERS SINCE 1921 – AN INTERVIEW WITH ÉMILE SCHWEITZER

Abstract. In this interview, Émile Schweitzer[1] recalls the history and the current activities of the "Association Française des Observateurs d'Étoiles Variables" (AFOEV[2]) [French Association of Variable-Star Observers] that started in 1921 to collect magnitude estimates from observers in France and abroad. The data, entirely published, are put – free of charge and without prior request – at the disposal of professional astronomers using them and proposing collaborative programs to the members of the association.

Editor (Ed.): Monsieur Schweitzer, we should probably start with a bit of history and recall how the AFOEV was born.

Émile Schweitzer (ES): The association was founded in 1921 at Lyons Observatory, but the touch of destiny leading to its creation goes back to the beginning of the 20^{th} century.

Ed.: So this interview could be a kind of centenary tribute?

ES: Very much so indeed since, in 1901, a young primary-school teacher from the Bourbonnais[3] countryside became an enthusiastic amateur astronomer after reading books from Camille Flammarion during his studies at the École Normale [teachers' school] of Moulins. In the Spring, he could also observe Nova GK Per. This was the beginning of the vocation and the long career of Antoine Brun (1881-1978) as a variabilist.

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[2]`http://cdsweb.u-strasbg.fr/afoev/`
[3]Old province of central France, with Moulins as main city. Moulins is today the *Préfecture* of the Allier *département*.

Ed.: He spanned himself almost a full century ...

ES: In 1907, he sent his first observations – of R And, R UMa and χ Cyg – to Flammarion who forwarded them for assessment to Michel Luizet (1866-1918) at Lyons Observatory, then the only French professional astronomer interested in variable stars. This was the start of a long correspondence. Brun did not stop observing in the trenches of World War I (1914-1918) where he was wounded. Luck would have it that he was treated at Lyons hospital. He was then able to visit the Observatory during his convalescence. There he met Luizet in person and was introduced to the Observatory Director, Jean Mascart (1872-1935). After Luizet's death, Brun stayed in touch with Lyons Observatory where the tradition of observing variable stars was continued by Henri Grouiller (1889-1943).

Ed.: But when did the association itself took shape?

ES: The idea of a French variabilist association was in the air after the foundation of the British (1901) and of the American (1911) ones. It took hape at a meeting organized on 16 April 1921 at Lyons Observatory with AAVSO[4] Vice President S.C. Hunter in attendance. The first name retained was "Groupement Français d'Observateurs d'Étoiles Variables" [French Group of Variable-Star Observers]. The first observations were published in May 1921. However the official birth, ratified by the entry in the "Registre des Associations" [Register of Associations], took place only in 1927.

Ed.: And how were the first years?

ES: The AFOEV quickly spread, not only in France and French-speaking areas, but also in numerous foreign countries. In 1930, its observers were belonging to some twenty countries in all continents. But World War II (1939-1945) brutally stopped the activities then in full expansion. AFOEV's General Secretary Grouiller died prematurely during the war. At the end of the conflict, most observers were disbanded or had disappeared. In spite of attempts by a number of devoted officers, it is only towards the end of the 1960s that the AFOEV resumed expansion under the leadership of Maurice-Victor Duruy (1894-1984) and Patrick de Saevsky.

Ed.: When did yourself become involved with the association?

[4]American Association of Variable Star Observers.

Figure 1. Émile Schweitzer (b. 1924), preparing for public release sets of observational data on variable stars. (photograph A. Heck)

ES: Well, perhaps should I start by explaining how I got interested into astronomy. I was an amateur photographer and cinematographer and, at the beginning of the 1960s, several converging tracks led me to astronomy. First, back in 1961, that was that terrestrial refracting telescope of my father-in-law. When testing it on a nearby hill and pointing it on Strasbourg Cathedral, I realized it could be used also to observe the sky and in particular those two brights spots shining then over our heads. This was to be my first contact with Jupiter and Saturn. There was also that total solar eclipse visible in Southern France on 15 February 1961. My photographic magazine was giving indications for filming the event and, among other things, it was providing the address of the Société Astronomique de France (SAF). I wrote to them, got a couple of complimentary copies of their journal *l'Astronomie* and there it was: a paper by Brun (1962) on what could do an amateur astronomer in terms of variable-star observing.

Ed.: And you got hooked ...

ES: Of course, consistent with my hobby of the time, I started by observing photographically the variable stars, following advices from Roger Weber who was an amateur astrophotographer with about 250 photographic discoveries of variable stars. My own first plate was the field of R Leo.

Ed.: When did you start observing visually?

ES: Only in 1971. And my first target was then Z Cyg. The charts used were the old AFOEV ones from Brun that I was visiting annually.

Ed.: When did you become an AFOEV officer?

ES: I became Vice President in 1969. According to the old statutes, the President was, *ex officio*, the Director of Lyons Observatory who was then Joseph-Henry Bigay (1910-1982, ill from 1973 on).

Ed.: And when did you start taking care of the association Bulletin?

ES: In 1973, de Saevsky left the association, so I took over the edition, publication, and distribution of the Bulletin. The next step took place in 1986 when the association was re-founded with new statutes relocating the head office at Strasbourg Observatory and removing the *ex officio* presidency from the Director of Lyons Observatory. I became then also AFOEV's President and held that position until Year 2000. Currently Michel Verdenet has taken over the presidency, as well as the publication of the Bulletin, but I am still in charge of receiving the observations, of sorting them out and checking them, and of putting them on the web site.

Ed.: How large is the Bulletin circulation?

ES: The circulation of the Bulletin is not very large: some 120 copies. As you can imagine, today our visibility is mainly via the World-Wide Web. And so it goes too for the usage of our data.

Ed.: And actually how big is the association?

ES: It is not very big: about hundred members, not only from France, but also from quite a few other countries, European ones, but also African and Asiatic ones. Interestingly, we count perhaps only fifteen active observers within the association membership. If all members are welcome since their

Figure 2. Schweitzer's azimuthal telescope, one of the many instruments round the world contributing to the wealth of observational data available on variable stars. (courtesy E. Schweitzer)

yearly fees cover the expenses, our strength comes from the fact that we publish all data sent to us, from members and non-members alike.

Ed.: And your coverage is really impressive, internationally speaking.

ES: Beyond data from individual observers world-wide, we receive indeed the observational data from several foreign associations such as the Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne eV (BAV) [German Working Group on Variable Stars], the variable-star section of the Magyar Csillagászati Egyesület (MCSE) [Hungarian Astronomical Association], the working group on variable stars from the Nederlandse Vereniging voor Weer- en Sterrenkunde (NVWS) [Dutch Association for Meteorology and Astronomy], the Astronomisk Selskab [Astronomical Society] from Denmark, etc. Quite recently, the Variable Stars Section of the Royal As-

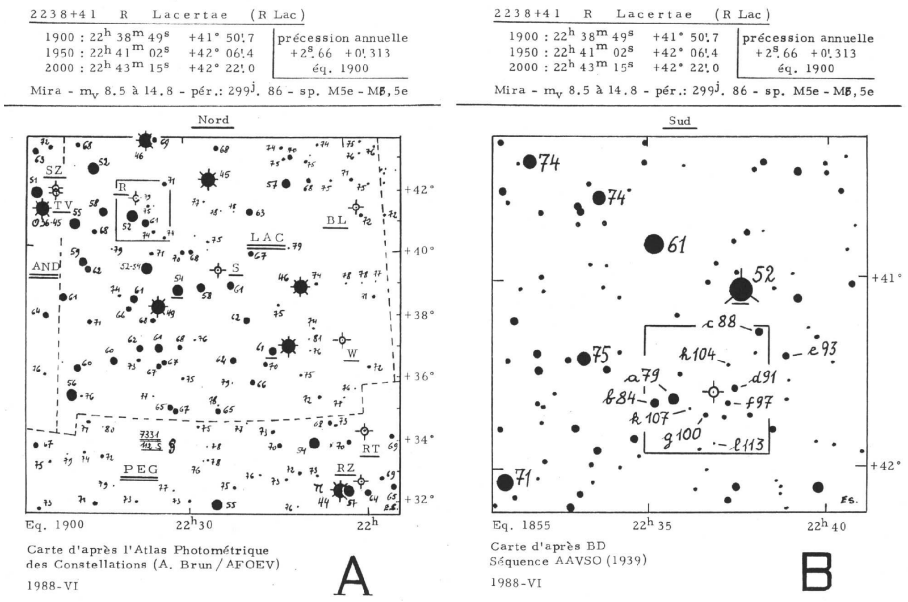

Figure 3. Example of finding charts provided by the AFOEV: the two first charts needed to observe R Lac.

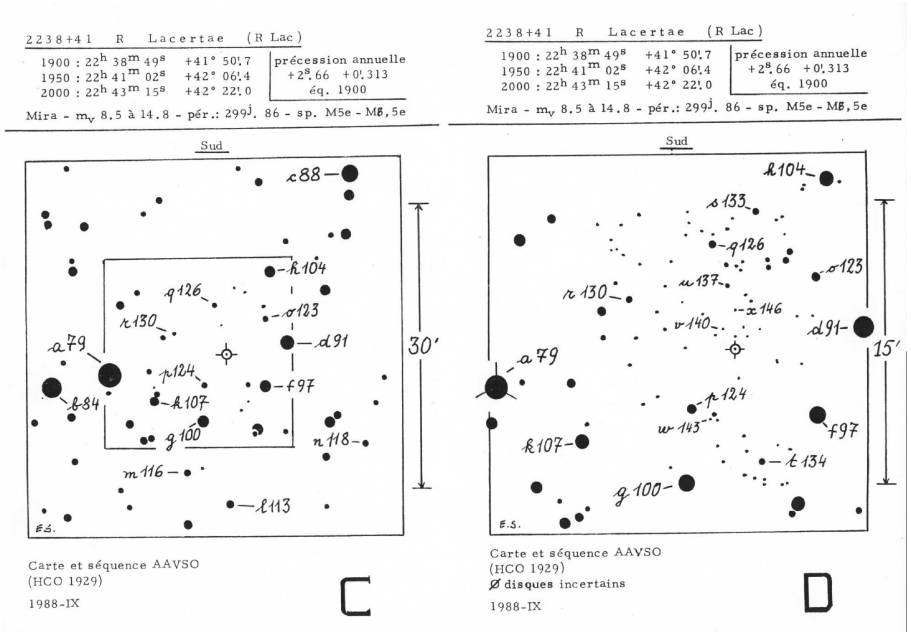

Figure 4. The fainter magnitude and field of R Lac are such that two more charts are needed to properly observe the star. More difficult objects require larger sets of charts. (courtesy AFOEV)

tronomical Society of New Zealand sent us, for inclusion in our database, some 1 500 000 observations carried out since May 1927 by 717 observers. Our database includes also, with their agreement, observations and photoelectric measurements obtained by professional astronomers, as well as observations extracted from old astronomical periodicals, always with the agreement of the authors or of the current editors of those publications.

Ed.: The overall figures must be huge.

ES: I have here statistics performed on 30 September 2004. To that date, there were 2793 observers who contributed to the archives. All observations have been digitized and they sum up to about 5 millions, exactly 4 713 353 on 30 September 2004.

Ed.: And what about the publications of the association?

ES: The very first observations were published, from 1921 to 1930, in the *Bulletin de l'Observatoire de Lyon* [Lyons Observatory Bulletin]. Then the AFOEV had its own bulletin, abbreviated as BAF[5] until WWII. As mentioned earlier, the association was in really poor shape after the conflict and observations were occasionally published in the *Journal des Observateurs* from 1945 to 1969. Then a proper AFOEV Bulletin was resumed when the association was refounded in 1969 and it has been produced flawlessly to this day.

Ed.: But you are also producing your own finding charts, isn't it?

ES: There are hundreds of them. Many were designed by Brun himself, using also AAVSO sequences. Bright stars such as G Her need only one chart, others two charts like R Sct. But fainter objects or difficult fields require more charts. For instance, five charts are needed to observe BL Lac.

Ed.: When you are getting those observations from all over the world, what are you doing with them?

ES: First of all, when they are not delivered under our format, I have to standardize their presentation to the AFOEV format. Then I am checking all of them by comparing them to a lightcurve when available. If one observation deviates too much, then it is discarded. So-called 'negative' observations are also eliminated, *i.e.* if someone says a specific object is fainter

[5] *Bulletin de l'Association Française* [Bulletin of the French Association].

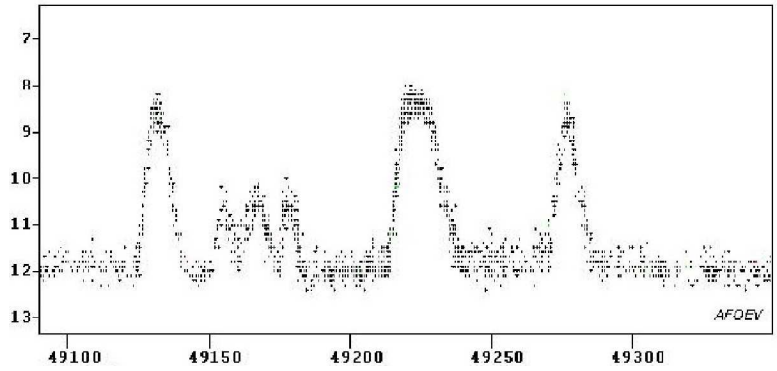

Figure 5. Lightcurve of SS Cyg, from 15 April to 29 December 1993 (2015 magnitude estimates from 83 observers), displaying two short bursts separated by three mini-bursts and a longer eruption. (courtesy AFOEV)

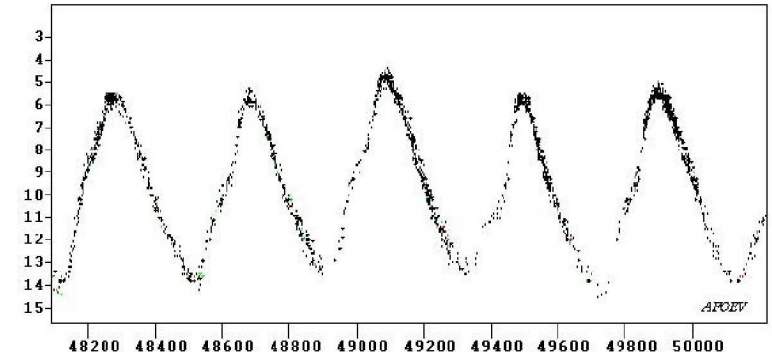

Figure 6. Lightcurve of χ Cyg from 15 July 1990 to 17 May 1996 (2554 magnitude estimates from 162 observers). (courtesy AFOEV)

than 9 and that someone else has seen the same object at, say, magnitude 14, it is obvious that the first observation (fainter than 9) is bringing no useful information. It is then discarded too.

Ed.: Then comes the work for public release.

ES: Observations are grouped by trimester and then published in the quarterly bulletin. Earlier observations delivered with delay are not anymore included in the Bulletin, but made available via our web site. CCD observations – we have about five 'CCD observers' – are not made available on paper either, but they are available also via the Internet.

Ed.: So the web site is really what interested people should visit.

ES: Definitely. It must be said again here that we are the only ones to provide all individual raw data. They are directly accessible, free of charge, and without prior request. Lightcurves are also visible on the web site and links are provided to various resources of the Strasbourg Astronomical Data Center[6].

Ed.: One is really impressed by the amount of work all this represents, essentially to the benefit of the professional astronomers.

ES: We have had and still have numerous collaborations with professional astronomers that it would be too long to detail here. It is impossible to keep track of all of them, but I have here a list gathering together several hundreds of papers from the professional literature using our data. Yourself and some of your collaborators, when you were operating the International Ultraviolet Explorer (IUE), contacted us several times for objects such as R CrB, RR Tel, V348 Sgr, and others. Once again, I encourage interested people to visit our web site and/or to refer to some papers published on our activities[7].

Ed.: Brun observed until the age of 97 and Duruy, until being 90. Frank Bateson from the Variable Star Section of the Royal Astronomical Society of New Zealand had to stop observing only very recently at 95 because his eyesight was failing. It seems variabilists are heading for a long life!

ES: Well, at 81, I certainly hope to remain active as long as possible! The 1000+ photographic fields I took between March 1962 and October 1980 have been recently digitized and I am now looking forward to reduce all of them.

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[6] `http://cdsweb.u-strasbg.fr/CDS.html`
[7] See the bibliographical section.