V.P. TSESEVICH AND MOSCOW VARIABLE-STAR ASTRONOMERS

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ABSTRACT. This paper is a brief account of the variety of ties between V.P. Tsesevich and the Moscow variable-star team: publications in co-authorship (mainly in the form of collective monographs), Tsesevich's work in the Moscow plate stacks, conferences, Tsesevich's contribution to the General Catalogue of Variable Stars, etc.

Key words: Astronomy: history, stars: variable.

1. Introduction. My personal contacts with Tsesevich

For the Moscow variable-star team, Prof. V.P. Tsesevich is a brilliant example of a science enthusiast, a really independent scientist who respected his well-known colleagues but was critical and never simply followed them and thus was able to create a world-recognized scientific school of his own. Moreover, being not born in Odessa, he is an excellent example of the real Odessa spirit in every aspect of his life.

Like many astronomers of my generation, who entered astronomy in the 1960s or 1970s, my first acquaintance with Tsesevich was through his famous book "What and How to Observe on the Sky", which I had first read still being a schoolboy. For me, it was my first really serious popular-science book on astronomy, not only telling its readers about scientific achievements but also explaining what they can see themselves and how they can contribute to astronomy. With P.G. Kulikovsky's "Handbook of an Amateur Astronomer", it became my favorite reference book for many years.

I believe that the first time I saw Tsesevich was over black-and-white TV, in a live program from Odessa featuring a local KVN game[1], still of the period before the KVN program was closed. Tsesevich was in the KVN jury, thus officially recognized by Odessa people as an expert in the most Odessa-like field of activity, humor.

Then, about 1969, at Sternberg Institute, in the study of Prof. P.N. Kholopov, my scientific advisor at that time, I was discussing some problems of my student variable-star research when a scientist, a stranger for me, had appeared, asked Kholopov a question, and left. I remember quite vividly Kholopov's very respectful tone: "Do you know who is this? The famous Tsesevich!" and my deep impression of the first encounter with a great scientist.

In 1974, during the Moscow IAU Symposium on variable stars and stellar evolution, Tsesevich was very actively helping the organizers, and I, still a post-graduate student, had a mission, rather important for a young person, as the head of a team of astronomers who helped with translation and interpreting during the conference. My contacts with Tsesevich at the conference were, for the first time, very close. It has been a surprise for me when, preparing this paper, I found that Tsesevich was not in the official list of the organizing committee. However, he participated in the inofficial party of the organizers after the symposium, and it was on that day when I heard my first joke told by Tsesevich — and, as I learned later, he was famous for knowing hundreds of jokes and telling them in a brilliant manner. The joke told in 1974 shows, among other things, the outstanding Tsesevich's capability of self-irony: the joke told of a man who married for the second time, after divorce, and was punished by God for foolishness, and Tsesevich, as far as I remember, was in his third divorce at that time. Since then, I had many possibilities to see Tsesevich not only in Moscow

[1] KVN is a very popular program, still existing, a TV club featuring young people competing in jokes, songs, funny performances. It was founded more than 40 years ago but was closed for two decades during the late Soviet era.

but, luckily, also in Odessa, where his individuality was best felt by everyone.

2. Tsesevich in Publications with Moscow Co-authors

After Tsesevich's death in 1983, I was asked by Dr. N.B. Grigoryeva to write a paper about Tsesevich for "Istoriko-Astronomicheskiye Issledovaniya"[2]. My paper "V.P. Tsesevich, Never to Be Forgotten" was published several years later (Samus, 1988). Reading this paper now, I find it quite incomplete and not free of mistakes, but I am very proud to be the first author of a biographic publication about Tsesevich (and, frankly, feel that I did not deserve the honor at that time). I mention in the paper that I had an experience of being Tsesevich's coauthor only once (Tsesevich et al., 1979), I was somewhat ashamed of the fact of only a single co-authorship paper when writing about it. Now I know that Tsesevich was never active in publishing journal papers in co-authorship, and a single paper with Tsesevich, as in my case, is quite a good result for a Moscow astronomer. Actually, using ADS[3] and Russian bibliographic journals, I have not been able to find any other Tsesevich's journal paper in co-authorship with Moscow variable-star scientists. His paper with the brilliant Moscow variable-star researcher who perished in the Moscow battle of the World War II, Nikolai Florya, on brightness variations of the minor planet Eros (Zessewitch and Florja, 1931) is no exception: Florya worked in Leningrad, not in Moscow, at that time. Even journal papers with Odessa co-authors are not numerous. Odessa colleagues tell me that Tsesevich often refused to become a co-author considering (often too modestly) his personal contribution minor and used to recommend his collaborators to publish their results in single-author papers.

However, searching outside the ADS, we easily find several major Tsesevich's publications with Moscow co-authors. These are very serious *books* on variable stars written by Tsesevich together with his Moscow friends. In such books, each author would write his own chapter, with minimal interaction with the other authors. An excellent example is Zverev et al. (1947), a multi-author monograph where Tsesevich was the author of five chapters (157 book pages, with numerous formulas and tables) on techniques of studies of eclipsing variable stars. Actually, this is Volume III (the last one) of the series of books on variable stars, started before the World War II but finished only after its end. We do not find Tsesevich's name among the authors of the first two volumes.

Some 20 years later, a new, five-volume series of books on variable stars was initiated, mainly by Moscow astronomers but with participation of several well-known Soviet scientists from other cities. The editorial board of the series, its first volume published in 1969, contains many famous names (such as the Moscow scientists B.V. Kukarkin, D.Ya. Martynov, P.N. Kholopov, and also such prominent figures of our astronomy as V.A. Ambartsumian, A.A. Boyarchuk — a Crimean astronomer at that time, and others), and Tsesevich is one of them. He published several chapters in different volumes of the series (I would like to mention a very informative chapter on RR Lyrae variables in the volume devoted to pulsating stars) and, most important, was the sole editor of the volume on eclipsing variable stars (Tsesevich, 1974).

3. Tsesevich and the Moscow Plate Stacks

During the whole period of my personal acquaintance with Tsesevich, he would appear in Moscow from time to time and make many eye estimates of sky photographs of the Sternberg Institute's rich plate collection. Like all of us, he strongly preferred high-quality plates taken at the "Hoffmeister" 40-cm astrograph. These plates, 30 by 30 cm in size, cover a $10^\circ \times 10^\circ$ field and have a typical plate limit of $17^m - 18^m B$. The telescope was made in the 1930s for the Sonneberg Observatory (Germany), C. Hoffmeister started his deep-sky studies with it, and eventually became the world's most successful variable-star discoverer of the classical photographic era. After World War II, the astrograph was taken from Germany (on B.V. Kukarkin's initiative) as a part of Soviet reparations, first installed in Simeiz (Crimea), then moved to the Sternberg Institute's station in Kuchino near Moscow, and finally, to the same Institute's Crimean Laboratory in Nauchny; it is still in a good working condition. Along with many plates from different observatories he studied, Tsesevich made several thousand estimates of variable stars on Moscow plates. Many of his estimates can be found published in Tsesevich's books on different types of variable stars or on variable stars in different selected fields of the sky.

The leaders of the Moscow variable-star team of that time, B.V. Kukarkin and P.N. Kholopov, were always glad to greet Tsesevich during such visits to Moscow. Quite often, he spent days and nights in the plate collection and slept on a sofa in Kukarkin's study at Sternberg Institute. He was the only person whom Kukarkin permitted to smoke in the rooms of the variable star department. I personally witnessed occasions when Kukarkin had guessed Tsessevich's arrival by the smell of tobacco smoke in the offices.

Not only did Tsesevich use Moscow archival plates to study stars of his interest. He suggested fields to be

[2] "Studies in the History of Astronomy", a Russian edition.

[3] It is not easy to use ADS looking for Tsesevich's publications because of numerous versions of Latin-alphabet spelling of his name (Tsesevich, Tsessevich, Zessevich, Zessewitsch...); some references can be easily overlooked.

photographed using different telescopes of the Sternberg Institute. The above-cited paper, Tsesevich et al. (1979), is a result of Tsesevich's suggestion to use the Cassegrain focus of the Moscow 70-cm reflector to take photographs of the dwarf nova EF Peg, with the result that an outburst was observed at a good angular resolution, proving that a faint star rather than its brighter close neighbor experienced outbursts.

Rather unusual for active plate users, Tsesevich was not very interested in variable-star search on photographic plates. He did make several discoveries by chance but, as far as I know, never worked on discoveries of variable stars systematically. I remember that, on an occasion when he wanted to use the Sternberg Institute's Karl Zeiss blink comparator, of the design most common at Soviet observatories of that time, Tsesevich asked help from local staff — and found that the "additional" star he had noticed was a minor planet. It seems like he felt he already had enough interesting variable stars to study, a feeling quite common among astronomers today.

Figure 1: V. Tsesevich, B. Firmanyuk, Yu. Romanov, M. Skulsky, V. Oskanyan at the Odessa conference of 1980.

4. Tsesevich and Moscow: Conferences and Dissertations

In my opinion, one of the most important Tsesevich's contributions to the current style of variable-star research in the countries of the former Soviet Union is his initiative to organize regular conferences on variable stars in Odessa. The group photograph from the All-Union Variable-Star conference in Chernomorka (the southern suburb of Odessa) in 1980 is well known. It should be reminded that 1980 was the year of the Moscow Summer Olympics, with much tumult at that time and immediately after it, and probably some people had different thoughts in September, 1980 than visiting conferences. Nevertheless, I found more than 20 Moscow astronomers on that photograph; the number of participants from Moscow at our conference in 2007, though considerable, is much lower. The conference of 1980 was very large, it lasted for almost two weeks. After that, our meeting in Odessa became very regular, and this tradition is still quite alive and useful.

I already mentioned Tsesevich's great contribution to the success of the Moscow IAU Symposium of 1974. My knowledge of his activity at other meetings together with Moscow variable-star astronomers is too limited for presenting any additional details here, but I am sure this was always an important field of contacts and cooperation.

It was also a tradition that Tsesevich had often been invited as a reviewer of variable-star dissertations by Moscow researchers — and the famous Moscow variable-star experts had been invited to review dissertations written by Tsesevich's disciples. In this field, Tsesevich was always a very responsible and attentive reviewer. If he did not like a dissertation, the well-known name of its supervisor was no help.

5. Tsesevich and the GCVS

It is well known that the most important project of the Moscow team of variable-star researchers after the World War II is the General Catalogue of Variable Stars (GCVS), regularly prepared and published by astronomers of Moscow University and the Russian Academy of Science on behalf of the IAU. Tsesevich's name is one of those most frequently cited in the GCVS list of references — the GCVS (fourth edition, 1985–1995) contains about 150 references to different papers by Tsesevich. Moreover, one of these references belongs to those used for the largest numbers of stars: this is the atlas of finding charts by Tsesevich and Kazanasmas (1971). The atlas consists of hand-plotted charts of different scale and different quality; it is now very easy to prepare a better chart if you know your star's correct coordinates. The main importance of the atlas follows from the fact that it was, by the time of its publication, the only reliable source of identification for many variable stars discovered in the beginning of the 20th century at Harvard Observatory and announced with rough coordinates and no finding charts provided by the discoverers. Tsesevich spent a long time at Harvard Observatory studying discoverers' notebooks, original plates with discoverers' ink marks and was able to find a large number of old Harvard variables. This line of study was much later, in 1999–2005, continued by Martha Hazen (1931–2006) who prepared several thousand new finding charts for Harvard variables upon request from the GCVS team.

Tsesevich's knowledge of variable stars was vast and impressive. My friend and colleague M.S. Frolov

(1937–2006) used to tell me stories about Tsesevich's memory concerning his favorite RR Lyrae stars. Tsesevich was able, from his memory, to answer questions on period variations (the year and amount of the abrupt period change) for almost any star. Of course, the GCVS team used to address Tsesevich for information in difficult cases. The story of the eclipsing star YY Dra[4] was described in detail in Samus (1988): Tsesevich remembered the field of the variable nearly 50 years after he had studied it but died before he could mark the correct star on a good plate sent him from Moscow.

6. Concluding remarks

Figure 2: The grave of the singer Platon Tsesevich in Moscow.

I think I have been able to give you an impression, though definitely incomplete, of the many-sided contacts, cooperation, and friendship (despite unavoidable conflicts of brilliant personalities that also happened and were described by Tsesevich in his reminiscences) between V.P. Tsesevich and the Moscow team of variable-star researchers.

Moscow is also related to Tsesevich's memory in another important aspect. The grave of Tsesevich's father, the outstanding opera basso, is in Moscow, at the Novodevichye Cemetery, among graves of the most well-known actors, writers, artists, politicians. Another famous Moscow cemetery, Vagankovskoe, keeps graves of several other Tsesevich's close relatives.

[4]YY Dra was never observed by anyone else after Tsesevich's discovery in 1934, no finding chart is available. Almost half a century later, a much fainter dwarf nova was discovered in the field, and some authors use to call the dwarf nova YY Dra. The GCVS uses the name DO Dra for the dwarf nova instead.

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