

A Symposium on Active Galactic Nuclei - One Astronomer's View

This could be any symposium but it was one in which I was particularly involved in mind, body and emotion. So perhaps this presents a rare opportunity to relate together the scientific and human factors which operate in research. I can only relate what I felt personally and, of course, others who attended International Astronomical Union Symposium 194 in Yerevan, Armenia, August 1998 might tell it quite differently - almost oppositely.

First we should say that Viktor Ambartsumian was an astrophysicist from Armenia who became world renowned for his work on radiation transfer and stellar dynamics. But for some astronomers he was the one who, simply by looking at pictures of galaxies on photographic surveys, deduced that galaxies were born by ejection from nuclei of larger active galaxies. In spite of the fact that this directly contradicted the Big Bang theory that all galaxies condensed out of a primeval medium he was still elected President of the IAU and was a respected representative from the U.S.S.R. Academy of Sciences.

In 1998, two years after his death, Armenia was suffering economically from the dissolution of the Soviet Union and war with its neighbor Azerjebahn. When I heard from from an Armenian friend and colleague that he wanted to arrange an international symposium in honor of Viktor Ambartsumian I understood that this influx of several hundred visitors from the affluent western world would be of some help to the country - though not to the accustomed luxury of the participants. Nevertheless Ambartsumian was a hero of actually learning from observations and someone I felt should be honored enormously. With some misgivings I agreed to be on the Organizing Committee.

The usual names of influential astronomers (many of whom did not attend in the end) enabled the Symposium to be officially recognized and financially supported. In this committee there were about three organizers who had been connected with Ambartsumian in his innovative discoveries while the rest had only contact on conventional projects. There were two among the latter, however, who quickly started to preempt the conclave by filling the available speaking time with researchers concerned with fashionable topics. There then ensued a considerable struggle to invite at least some speakers who would represent Ambartsumian's courageous origination of the politically incorrect idea of young galaxies.

A few of the latter found support and came, some even via the precarious agency of Aeroflot. And I, who had been savoring the high mountain idyll of vacation, took a taxi across the alps from Briancon to Turin, thence to London and British Airways to Yerevan. The plane load of weary participants had to wait hours while they searched for my bag. The BA representative could not open their office because someone had flown back to London with the key. My bag only arrived as I was leaving, so I spent the whole hot, gritty week in the clothes in which I arrived. But that was a only a minor discomfort compared to what awaited after each morning's hour long bus ride to the conference rooms at the Byurakan Observatory.

Every conventional aspect of "Active Galactic Nuclei and Related Phenomena" had to be reviewed by the same reviewers as in all preceding symposia . I writhed under the drumming of assumptions which I felt had been disproved more than 30 years ago. An opening ceremony had been held in the city for officials and the Academy of Science to honor Ambartsumian (1908 - 1996) It was clear that no one was going to review his

monumental, his unique contribution to science. I volunteered - well, rather pressed - to share my view of his greatest insight with the gathering. My talk can be found discretely tucked away in the very last pages of the published proceedings of the Symposium. (The volume is published as IAU 194, by the Astronomical Society of the Pacific).

As the conference wended its way from paper to paper the final day approached when some of the the discordant observations were to be presented. But by then everyone was enormously sick. A symposium banquet had been held in town and most participants had contracted severe stomach and intestinal distress. I attended one lunch at the acting director's house where his wife served an elaborate meal which most of the six guests could not eat. One just lay on the couch. So by the time I came to give my paper, I and the other attendees in the session were not in top form. I felt, however, that really all I needed to do was to show a number of pictures of galaxies known to be ejecting matter *with lines and pairs of high redshift quasars coming out of their active centers*. Also the sample of active galaxies which demonstrated the physical association of x-ray quasars at the 1 in 10 million chance of being an accident. This paper, called "Redshifts of New Galaxies" [CLICK HERE] can also be viewed on the web at <http://xxx.lanl.gov/abs/astro-ph/9812144>. Since it is simplified and condensed so that the professional astronomers can readily understand it, I would recommend it to anyone interested in this controversy.

The reaction of most of the audience was nil. As usual younger astronomers were frightened for their careers. The established astronomers were inured to disregarding observational proofs from certain pariahs which would invalidate the assumptions on which they had built their careers. Some local researchers afterwards showed me privately some evidence that they had uncovered. But there was no one to encourage and shelter them so nothing more has been heard from them. The two protectors of the orthodoxy on the organizing committee, however, felt obliged to supply some reasons why the observations should be disregarded. The first and third of the questions and answers below show how they approached this mission. [CLICK HERE on IAU194discuss.ps.]

These questions and answers were collected on pieces of paper and were supposed to be printed after each lecture in the Symposium. Although those who appointed themselves editors of the Symposium Volume were the principle questioners here, these interchanges were never printed in the final volume. Neither after this or any of the other lectures. I give them here for the first time as important testimony as to how discordant observations are dealt with in conventional symposia.

Well that was about the end of it. I collected my suitcase on the way back to London and went back to what was left of my vacation in the French Alps. I felt ill in body and spirit and when I got back to Munich my doctor told me I had a Salmonella infection and treated me with antibiotics. What I had learned was that professional Symposia were not for me. However, a few months later I read in Science Magazine an account of the conference which stated in its beginning that Arp had presented his usual discordant evidence but that no one had believed it. I sent Science a letter indicating that if this self appointed organizer had checked with the rest of the organizing committee before writing this report he would have gotten some opposing opinions. But Science did not answer and I guess that I have learned that magazine is no longer for me either.

Halton Arp

November 2000