

The 0'th PEPM Event: October 1987 – and Andrei Petrovich Ershov: 1977–1988. Invited paper

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Abstract

An attempt is made to record events leading up to the The 0'th PEPM Event: the October 1987 *Partial Evaluation and Mixed Computation* IFIP TC2 Working Conference at Gl. Av-ernæs, Denmark.

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Neil Deaton Jones
22 March 1941 – 27 March 2023
In Memoriam

1 Preamble

1.1 Reading Two Ershov Papers

In late 1977 I came across two papers by Andre Petrovich Ershov: [2–4]. I rewrote the (I remember it was Algol 68) formulas into a simplest version of a function program, i.e., VDM. The properties claimed by Ershov, I thought, stood out more clearly without the verbiage of Algol 68. And sent it off to Siberia!

Ershov was, as always, very kind, and replied to my letter.

1.2 Visits to Akademgorodok

1.2.1 First Visit. I visited Ershov in Akademgorodok, for a week. I flew in from Japan: first from Niigata to Khabarovsk; stayed there 3–4 hours.

Anecdote 1: *The Intourist guide took me to their upstairs lounge. Having nothing else to do, but reading my Brothers Karamazow, I thought, why not see the town. Asked the Intourist lady. Oh now, not possible. I faked a visit to the rest*

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room. Went down to the main entrance of the airport. Hailed a taxi, flashing a US \$ 20 note – asking the driver, a lady, to take me down to the Amur river. Saw Chinese soldiers over there, on an island in the river! Went back and told the nervous Intourist lady: the toilet flush did not work!

Then I flew onto Irkutsk. Stayed overnight there. Next day to Novosibirsk, was met by, I think, Vadim Kotov. Stayed at the [old] Hotel Ob, now, it seems, the River Park hotel. By the river.

Was whisked every day to and from the Institute, 30kms south. Talked with Ershov and his colleagues. And gave lectures.

Anecdote 2: *One evening, during dinner at he hotel, a Danish couple (I am Danish), walked by my table. So we had dinner together. I had a bottle of Japanese Whiskey to get rid of. So I invited them to my room. While we were drinking some of the whiskey the room telephone rang. I answered it. Yes, the person calling said, Do You need a woman tonight? Oh, no, thank You! A minute or so later the room door bell rang and I quickly flung the door open. There we were: three in my room. All properly dressed. Sitting in each our chair. They had expected something else. I told about the event at the end of my lecture the next day. Nobody smiled or laughed.*

1.2.2 Second Visit. I revisited Akademgorok around October 1st two years after.

Flew in from Moscow this time. Spent a week. And was to fly out via Irkutsk and Khabarovsk to Japan.

Had lunch a couple of times with Ershov at the “Faculty Club”. The snow covered the ground, early October. The club was in a nice, homely villa.

Anecdote 3: *I checked in to my flight – eventually to Japan – at around 9pm Thursday evening, October 2 (1980). Once registered, I was told that the flight was 10 hours delayed! So I would miss my connections at Irkutsk and Khabarovsk to Japan. Once I got to the Intourist lounge I asked the guide for a time table for flights out of Moscow, to Japan. Well, not possible, but a US \$ 20 note solved that problem. Then I asked her to buy me a one-way ticket on Aeroflot the next morning at 8am. A US \$ 100 note solved that problem. Landed at Domodedovo, where we landed at, of course, 8am! There I got Intourist to get me a taxi to Sheremetyevo airport. Arrived there. Went to the front desk in its huge departure hall. Asked to speak with the Lufthansa Agent! What do You want? To speak with the Lufthansa Agent! What do You want? So it went on a*

couple of more times. Slightly increasing the sound level of my voice. At the fourth Mr. Hans Klein, the Lufthansa Station Manager stood next to me. I asked him, do You have a single, one-way business class ticket to Tokyo today, at 4pm. Yes, we have. So via the Intourist office I paid some US 1400 cash to get onward. Then I told him about my hotel that night – I needed a bath. Well. He solved the problem: The 4th floor Ladies Rest Rooms were seldomly used. So he stationed one of his Russian lady staff outside the 4th floor Ladies Rest Room while I changed underwear and washed. Afterwards the Lufthansa hosted my lunch at the same floor splendid restaurant: Caviar, blinis, Zakuska, fish and fine Georgian white wines. At check-in Mr. Klein served my: a first class boarding pass. Yet another splendid meal. And the next morning I woke up to the captain and his staff singing Happy Birthday to me. It was my 43rd birthday!

1.3 Conferences in Central Europe

1.3.1 Štrbské Pleso, Slovakia. We met in Bratislava, I with our car, and drove him to Štrbské Pleso. On the way there Ershov spotted a church. Asked me to stop and have a photograph taken: of him and the church. At the conference was the Polish mathematician *Helena Rasiowa* and the Polish-American mathematician *Samuel Eilenberg*. Ershov literally lay at their foot when listening to their presentations.

1.3.2 Bad Tölz, Bavaria, Germany, April 1986. At an IFIP TC 2/WG 2.1 Working Conference/Meeting in Bad Tölz, April 1986, I met Ershov again. He was visibly ill. As always he was accompanied by a colleague. This time it was Prof. Sabelfeld. Early during the week Ershov asked me whether I could arrange an IFIP TC 2 Working Conference on the topic of Mixed Computation. I, immediately, said, yes, of course. Made a number of telephone calls. And could then ask him whether a week, mid-October the following year, 1987, would be OK? Yes. So I could tell him that a nice, residential conference center, *Gl. Avernæs*, with some 65 guest rooms, was available for a Sunday afternoon to Saturday morning event. And he could return home, happy, mission accomplished!

2 Preparation

Upon returning home I contacted Neil Jones and Yoshihiko Futamura. To enlist them as co-organizers etc. I suggested a list on people to explicitly invite: 11 Americans, 5 Japanese, and 7 from the then Soviet Union. Jones and Futamura accepted. Eventually all invitees kindly accepted. I managed to get funding to cover the local expenses of the 7 USSR scientists. A general invitation was sent out and we urged early replies in order to ensure full capacity. 65 people signed up!

A month or so before the event I faxed and telexed the 11+5+7 to kindly bring a bottle each of their local brew: Bourbon, Saké and Vodka. Most did.

3 Execution

The conference was then held 18-24 Oct., 1987. Ershov, now clearly very ill, was accompanied, this time by Alexander Zamulin. Got the bedroom closest to the conference room.

In the evenings, after dinner, we enjoyed the Bourbon, Saké and Vodka.

The conference dinner was held at the countryside *Faldsled Inn*. A two Michelin star restaurant.



Figure 1. Gl. Avernæs

4 Aftermath

4.1 Saturday, October 25, Dinner

Anecdote 4: *My wife and I invited 5 Americans, the 5 Japanese and the 7 USSR participants to dinner at our home. Nikolaj, our 17 year old son, was late, having bicycled across Denmark that day, so got seat last. At one end of a table, sitting between Yoshihiko Futamura, whom he had met 3 years earlier in Tokyo, Japan, and John McCarthy. After having greeted Futamura he turned to McCarthy and asked, and, so who are You then? He was immediately kicked over his feet by Futamura who whispered: John McCarthy – which prompted Nikolaj's next sentence: And how is the FUNARG problem doing these days? And McCarthy replied – in kind! Nikolaj, 5 years later, followed McCarthy's last course on Elephant – and they, sort of, became friends!*

4.2 Leningrad, June 1988

Anecdote 5: *In June 1988 my wife and I traveled to Moscow, Riga, Tallinn and Leningrad. Ershov was in an academy sanatorium away from Moscow. So we did not meet then. But, on our first day in the last city, Leningrad, on our tour, the telephone rang, in the afternoon. It was Ershov. He informed us that he was taking the night train from Moscow to Leningrad and that an academy car would fetch us from our hotel, meet him at the train station and that we would spend the day together. We did. Together we visited the Peterhof, the Catherine, the Alexander Palaces and the Paul and Peter Fortress. Ershov took a noon nap in our room, and we saw him off on the train back to Moscow. He passed away 6 months later. A great man.*

5 Photo of Participants

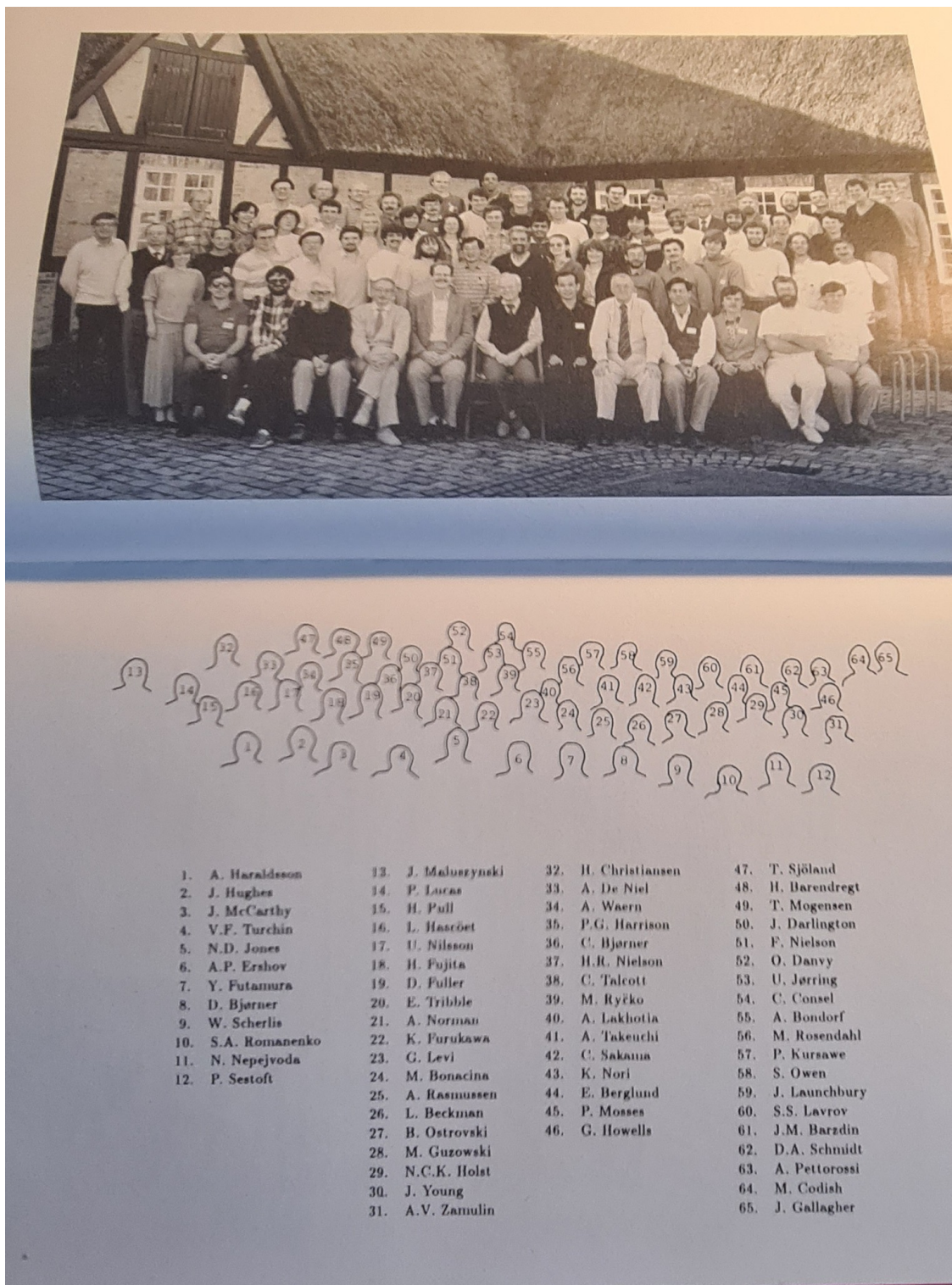


Figure 2. 65 Participants: Pages xxx-xxxi of [1]

6 Publications

The 1987 event resulted in two publications. The proceedings, [1], and a special issue of the Japanese/Springer journal *New Generation Computing* [5]. The latter represents a subset of the proceedings papers and represent Logic Programming-oriented papers.

The proceedings volume is, in a sense, noteworthy also for the following reasons: (i) *A Scientific Foreword*, pages vii–x, by Neil D. Jones; (ii) *Two Characterizations of Partial Evaluation and Mixed Computation*, pages xv–xxi, by Andrei P. Ershov and Neil D. Jones; (iii) *An Opening Key-note Speech*, pages xxiii–xxix, by Andrei P. Ershov; (iv) *A Terminology*, pages 583–588, by Torben Mogensen and Carsten Kehler Holst; and (v) *An Annotated Bibliography on Partial Evaluation and Mixed Computation*, edited by Peter Sestoft and Alexander V. Zamulin.

References

- [1] Dines Bjørner, Andrei Petrovich Ershov, and Neil Deaton Jones (Eds.). 1988. *Partial Evaluation and Mixed Computation. Proceedings of the IFIP TC2 Workshop, Gammel Avernæs, Denmark, October 1987*. North-Holland. 625 pages.
- [2] A.P. Ershov. 1977. On the Essence of Translation. *Programmirovaniye* nk, 5 (1977), 21–39. (In Russian).
- [3] A.P. Ershov. 1977. On the Partial Computation Principle. *Inform. Process. Lett.* 6, 2 (April 1977), 38–41.
- [4] A.P. Ershov. 1978. On the Essence of Compilation. In *Formal Description of Programming Concepts*, E.J. Neuhold (Ed.). North-Holland, 391–420. English version of [2].
- [5] A.P. Ershov, Dines Bjørner, Y. Futamura, K. Furukawa, A. Haraldson, and W. Scherlis (Eds.). 1988. *Special Issue: Selected Papers from the Workshop on Partial Evaluation and Mixed Computation, 1987 (New Generation Computing, vol. 6, nos. 2,3)*. Ohmsha Ltd. and Springer.

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